

Part 2

Ethics, principles, and debates



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Introduction

Questions of justice are becoming central political discourses in a world characterised by growing inequality. Currently, governments and intergovernmental organisations formulate goals and set priorities for action with the aim to address justice issues on a global scale. For example, three of the recently adopted Sustainable Development Goals (SDGs) focus explicitly on reducing inequalities within and across countries (Goal 10), promoting gender equality (Goal 5), and peace and justice (Goal 16). In addition, private actors like businesses and civil society organisations (e.g. the Ethical Trading Initiative and the Fairtrade Labelling Organization) are creating institutions that rely on market forces to generate “fair” distribution of environmental or social goods. Likewise, activist and grassroots networks such as Global Justice Now are engaged with justice concerns around the globe.

Despite these efforts to address inequalities in the world today, the very concept of justice is elusive and means different things to different people. Justice is typically associated with allocation, or “the process of allocating or sharing out something” (Oxford Dictionary). Yet, justice as a broader term is also understood in its colloquial use as “the quality of being fair and reasonable” (Oxford Dictionary) as “fairness in the way people are dealt with” (Cambridge Dictionary) or as “the principle of fairness that like cases should be treated alike” (Collins Dictionary). Also, different disciplines tend to refer to justice differently. While economists emphasise allocation, lawyers adopt a language of rights, resource analysts of access, political scientists of fairness in representation and access, and sociologists of social justice (Biermann et al. 2009; Gupta and Lebel 2010). Likewise, political philosophers have developed different theories of justice. For example, in the socialist tradition the central requirement for justice is culminated in the phrase: “from each according to his ability, to each according to his needs” (Marx 1875). In contrast, liberal egalitarian theorists would stress “fair distribution” of various goods and resources resulting from the fairness of procedures (e.g. Rawls 1971, 1999). Capabilities theorists would propose to evaluate how these goods or resources are transformed into the capacity of individuals to function in lives of their own choosing (e.g. Sen 1999, 2009; Nussbaum 2000). Cosmopolitan theorists would extend liberal egalitarian concerns at the global level (e.g. Beitz 1999; Caney 2005; Beck 2006). And others would deny the possibility of global justice entirely (e.g. Nagel 2005).

In view of this complexity, this chapter asks: how can we systematically compare and evaluate justice claims or demands for justice in global sustainability governance research? We propose that a justice lens would need to clarify the subjects, principles, mechanisms and instruments for justice, as well as the consequences of just societies. We discuss these various elements in some greater detail below.

The subjects of justice

According to political philosopher Thomas Nagel “we do not live in a just world” (Nagel 2005). The fact that this proposition is uncontroversial does not mean that the concept of justice is uncontested nor that it is clear what it should entail. But before examining what a system of justice covers, any approach to justice needs to clarify who the subjects of justice – or else the units of moral concern – are. For the purpose of global sustainability governance research, we find it useful to conceptualise the subjects of justice in four dimensions (Jerneck et al. 2011): intergenerational (between generations; see also Lawrence this volume), international (between states and regions; see also Okereke this volume), intersectional (between groups/categories in society), and interspecies (between humans and other species).

Justice between generations

Intergenerational justice is core to environmental concerns for both natural and social reasons (Gündling 1990; Weiss 1990). The inertia of many natural systems and phenomena is one obvious reason why intergenerational considerations are essential. For example, greenhouse gases are persistent over several generations, while the atmosphere responding to these gases interacts with oceans and icecaps operating at time scales of decades and millennia. Extraction of finite resources like oil, coal, or minerals is fundamentally a matter of intergenerational justice. The generation of long-lived hazardous materials, such as nuclear waste where one generation reaps the benefits of nuclear power while hundreds of generations will live with the waste and the potential use of nuclear arms also raises intergenerational issues. Finally, irreversible processes, such as extinction of species or permanent depletion of resources, are of intergenerational importance. Accordingly, intergenerational justice brings to the fore questions of responsibility (Birnbacher 2006; Pellizzoni this volume) of present generations to the future together with questions of representation and voice. We provide some examples of the latter in the section of “mechanisms for justice” below, but for a more extended discussion see Lawrence (this volume).

Justice between states and regions

International justice has a long tradition of research and scholarship in global sustainability governance (Toth 2013), often from the point of view of international relations and international law. As Okereke (this volume) highlights there has been no significant environmental summit, multilateral agreement, or global environmental institution that has not been severely challenged by issues of North-South inequity and justice since the 1972 United Nations Conference on the Human Environment (UNCHE), when sustainability was first introduced as a focus for international governance. Many of our most pressing environmental challenges have explicit and implicit international implications and drivers. Climate change, in particular, is to a large extent caused by industrialised countries over many decades (and thereby seen as an intergenerational justice issue) but will have much

more severe negative impacts on countries in the global South (Field et al. 2014). Many of the policies and mechanisms for addressing climate change are initiated by the global North but with significant implications for energy security and energy resilience for people in the global South (Scobie 2019). Many value chains benefitting affluent societies are based on exploitation of natural resources and repression of people elsewhere, for example, phosphorus for agriculture and rare earth minerals for computers and telephones. Similar observations extend to loss of biodiversity, marine pollution, overfishing, or depletion of water resources (Scobie 2013).

Justice between groups in society

Intersectional justice relates to expressing the multiple dimensions and modalities of social relations and subject formations we belong to (McCall 2005). In sustainability governance, intersectional justice can be understood in relation to multiple deprivations at context-specific intersections of age, class, caste, (dis)ability, gender, indigeneity, and race. Examples of intersectional (in)justice are rife in regards to climate change impacts as well as impacts of climate change policies (Kaijser and Kronsell 2014; Olsson et al. 2014). However, intersectional justice also has an emancipatory perspective and is used by activist groups who want to overcome a more narrow-focused politics addressing singular justice concerns and move towards a more strategic and relational vision of environmental and social issues. Examples of this include women activists who link environmental and feminist concerns (Di Chiro 2008), alliances between voices who are usually marginalised in the political agenda (Kaijser and Kronsell 2014), and more just and equitable planning, preparedness, response, and recovery activities in response to environmental disasters (Ryder 2017).

Justice between species

Environmental ethics approaches emphasise the need to extend justice considerations beyond humans towards non-human species and the natural world (Donaldson and Kymlicka 2011; Benton 2018; see also Gumbert, this volume). Such an ecocentric view on justice requires moving away from an instrumentalist perspective of the non-human world (e.g. as one that provides satisfaction of basic needs and human flourishing) towards one that acknowledges the independent intrinsic value of nature. This would require recognising and respecting other ways of life as equal to humans. Similar to intergenerational justice, however, this approach is also contested. The main criticisms include the convincingness of moral arguments of equality among species (Cooper 2018), our limits to fully understand and know what is good for other species (Soper 2018), and the appropriateness of a discourse of justice for capturing humans' ethical relationships to other species (Hay 2018). As a way around these challenges, some scholars argue for interspecies justice from the perspective of stewardship, care (Hay 2018), and solidarity (Hayward 2018).

Principles of justice

Principles of justice are moral propositions that serve as the foundation of all actions and institutions that aim to achieve just outcomes. Below we identify three main principles of relevance to the current literature of environmental justice and global sustainability governance research.

Distribution

Distribution as a principle of justice evaluates how and to what end a just society allocates the costs and benefits of social cooperation (Rawls 1971). This perspective emphasises that justice fundamentally concerns the basic structure of society and how this defines and regulates social, economic, and environmental equality and inequality. For sustainability governance, distributive justice would pay attention to the institutions that are responsible for distributing such costs and benefits across different generations, among jurisdictions and other regions, and among different groups in societies worldwide. There is no widespread consensus on what is considered just distribution, however (Luterbacher and Sprinz 2001). To illustrate, utilitarians accept as just the distribution that, on average, produces more benefits than costs. Scholars in the liberal egalitarian tradition, in contrast, adopt a (global) “difference principle” whereby inequality in the distribution of costs and benefits is acceptable as long as this benefits the least advantaged members of society (Beitz 1979; Caney 2001, 2005; Moellendorf 2002). Environmental justice advocates focus on access to resources, environmental rights and duties, and the fairness of their distribution among geographical, ethnic, economic, social, and other communities (Bullard 1994). Still others advocate a needs-based minimum floor principle whereby basic needs should be satisfied first before any distribution is considered (Brock 2009). The plurality of distributive justice principles invites sustainability scholars to clarify and unravel the principles that underline the multiple governance processes in which decisions regarding “who gets what and why” are being negotiated and disputed.

Recognition

Recognition as a principle of justice contends that, if a group or individual lacks recognition in the social or political structures within a society, it will contribute to maldistribution (Young 1990; Fraser 1997, 2001). Lack of recognition occurs when people are devalued, dominated, or disrespected due to their identity or status. Recognition and distribution are two distinct experiences of justice, but are intrinsically linked. Misrecognition manifests in the structures, practices, rules norms, and language. In turn, it is within this context that the maldistribution is instigated (Fraser 1997). Recognition can be achieved when individuals are free of physical threats, offered complete and equal political rights, and have distinguishing cultural traditions free from various forms of disparagement (Honneth 2001). This perspective of justice invites scholars to contemplate who is being recognised or misrecognised as a subject of justice in global sustainability governance processes.

Representation

Representation or procedural justice describes democratic, fair, and equitable processes in decision-making (Schlosberg 2007). It demands that all groups, especially those most affected, are fully provided the opportunity to participate in the decision-making process, and the decision-making should be shared. It also requires that all (affected) actors participate in an impartial way and ensure full disclosure of the content of information, how it is provided, if it is provided in a timely manner, and to whom it is given, so as to facilitate effective participation. In other words, representation emphasises the importance of the political process through which existing injustices in distribution and recognition can be addressed (Young 1990). For global sustainability governance research, representation requires evaluating, for instance, the democratic character of the processes through which decisions affect the

distribution of environmental costs and benefits, as well as the economic costs and benefits of proposed solutions. It further entails questioning who are considered and recognised as legitimate participants and beneficiaries of cooperation along with those who are not considered like certain nation-states, social groups, different generations, and non-human species.

Mechanisms and instruments for justice

How – if at all – do sustainability governance institutions organise themselves to address injustice? Below we discuss existing and potential mechanisms and instruments to foster justice with varying demands and ambitions which reflect and inform global sustainability governance research.

Legal rights

In international forums, legal and human rights are seen as one path to advance equity claims of disadvantaged and underserved peoples and nations. The Common but Differentiated Responsibility (CBDR) and capability principle, for instance, is the main legal justice norm addressing North–South injustices. It has enabled countries to maintain cooperation in climate, biodiversity, and other environmental concerns even though there remain important differences over how to interpret and operationalise CBDR in practice (see Okereke this volume).

Human rights to water are considered to have enormous mobilising potential and may help redress the imbalance between the have and have-nots in water allocation and use (Sultana and Loftus 2012). In those countries that have institutionalised the human right to water in their constitutions or national legislation, it may serve as a moral articulation and as a basis for legal challenges, even if there are limitations in terms of implementation (Gerlak and Wilder 2012; Baer and Gerlak 2018). Among other things, access to systems of implementation and justice at national and international levels is needed to ensure implementation of those rights for the poorest and most vulnerable (Gupta and Lebel 2010), and proper recognition is afforded. An example of combining the human right to water with the environmental right to water, for instance, is South Africa’s Free Basic Water policy, which institutionalised the idea that water used for necessities is free, but above that level it needs to be paid for (Muller 2008).

Today also a variety of institutional and legal efforts to represent future generations can be identified (see also Lawrence, this volume). At the national level, a number of countries have made progress towards institutionally recognising future generations such as the Canadian Commissioner of the Environment and Sustainable Development, the Finnish Committee for the Future, the Parliamentary Advisory Council for Sustainable Development in Germany, and the Parliamentary Commissioner for Future Generations and Deputy Ombudsperson for Future Generations in Hungary. Internationally, although proposals for a United Nations High Commissioner for Future Generations (UNHCFG) have not yet materialised, the concept of intergenerational equity has arguably influenced the decision to include a more ambitious temperature goal of 1.5°C (United Nations Joint Framework Initiative on Children Youth and Climate Change 2010).

Another application of legal rights is to non-human entities. Although this idea is not entirely new (Salmond 1947; Stone 1972) it has only recently begun to be implemented (O’Donnell and Talbot-Jones 2018). Examples include the granting of constitutional rights to nature in Ecuador in 2008 (Constitution of the Republic of Ecuador 2008, articles 71–74), the creation of legal rights for nature in Bolivia in 2010 (“the Law of Mother Earth”), and the

attribution of legal status of persons to rivers in 2017 (the Whanganui River in New Zealand, and the Ganges and Yamuna rivers in India). Although it is too soon to evaluate the effects of such legal approaches, scholars underline their importance as complementary to existing legal frameworks to address complex cultural, environmental, and economic issues to the extent that there is the financial and institutional capacity to support them (O'Donnell and Talbot-Jones 2018).

Democratic processes

Legitimate and transparent democratic processes permit societies and communities to choose equitable policies to address environmental problems (Biermann et al. 2012) and is part of procedural justice. Justice can be achieved through public participation in decision-making, by empowering communities, and seeking equitable distribution (Anand 2004). Governance architectures (Biermann et al. 2009) have the potential to challenge injustices if adequately inclusive in their construction and provide systems for rule making, monitoring, and enforcement in matters of the global commons (Andersson and Agrawal 2011; see however Blühdorn and Deflorian, this volume, on challenges to this potential). If not, these architectures risk locking in existing injustices. In this context, democratic governance systems that seek to distribute power amongst citizens in ways that curtail the power of any single individual or interest group can potentially reduce inequalities amongst individuals and groups.

Accordingly, mobilising the agency of local communities, indigenous peoples, and non-governmental organisations to help shift towards more mutual learning and capacity building approaches at different governance levels is considered to be a key part of promoting democracy in sustainability governance (Dryzek and Stevenson 2011), and illustrates representative or procedural justice (see, however, Litfin, this volume, for a critical view on initiatives limited to the local level). New alternative discourses and social movements are often necessary to promote a re-allocation of resources and shift to more just and equitable patterns of use (Gupta and Lebel 2010). The widespread anti-privatisation movement around water in Latin America over the past two decades illustrates the power of social movements to protect marginalised populations and reverse neoliberal water reforms at national and local levels (Bustamante et al. 2012). The debates supporting privatisation of marine genetic resources obtained from areas beyond national jurisdiction via patenting show that justice challenges continue (Scovazzi 2016). Increasingly, climate justice activists and movements are also relying on the local experience of increasing vulnerability to climate change and adaptive responses to climate change helping to shift beyond traditional distributive justice approaches to addressing injustice (Schlosberg 2013). Simultaneously, deliberative democracy processes are supposed to facilitate the inclusion of the voices of those not present such as future generations and the non-human world (Dryzek and Stevenson 2011).

Economic tools

Intergenerational justice is at the core of macro-economic analyses and policy advice through the practice of discounting the future. Mainstream economic models often discount the welfare of future generations by adding the utilities of all people of the current generation, and adding the weighted (by a discount rate) utilities of all people of future generations. The choice of discount rate explains why the Stern Review (using a very low discount rate of 0.1%) concluded that early mitigation of climate change is a priority in order to achieve a stabilisation of the climate at about 2°C (Stern 2007), while William Nordhaus (using a

discount rate of 6%) concluded that the social optimum of mitigation is a mere 11% below business as usual (Nordhaus 1992).

Economic tools typically focus on distributive justice. For example, some scholars advocate stronger financial support for poorer countries, through direct support payments for climate change mitigation and adaptation programmes based on international agreements or through international market mechanisms, like global emissions markets (Biermann et al. 2010) or more recently through payments for loss and damage caused by climate change through the United Nations Framework Convention on Climate Change (Darren 2016). Carefully designed and monitored market mechanisms for climate change mitigation and technology transfers can help to address inequalities between industrialised and developing countries (Dryzek and Stevenson 2011; Rode et al. 2015). However, fossil fuel subsidies, long seen as a tool of redistributive justice in some developing states, are being removed with pressure from climate lobbies, and the challenge is to find more efficient redistributive mechanisms to help the energy poor (Scobie 2017).

Internationally, labelling strategies and financial instruments like tradable certificates or taxes have been promoted to better inform consumers, producers, and institutions about water usage and ultimately, to shift the financial burden to customers of water-intensive products (Hoff 2009). However, private standards and certification schemes are also criticised as mechanisms for delivering justice and have been questioned in terms of delivering environmental benefits (see Ebeling and Yasué 2009). First, standards are products and extensions of broader political and socio-economic structures, such as the neoliberalisation of policies worldwide, designed to strengthen market independence from government regulation while providing market alternatives rather than addressing structural inequalities and injustices. Research underlines the use of such instruments to open up new spaces for material control, social legitimation, political power, and environmental management, particularly for transnational corporations (Kalfagianni 2014). Second, in contrast to command and control regulation that nominally forces all to abide by a set of constraints, voluntary economic tools enable economic actors to pay compensation to continue environmentally damaging behaviour (Guthman 2007). As a result, environmental and social sustainability becomes subject to the highest bidder (Busch 2011) or lacks strong enough governance with highly uneven effects (Ebling and Yasué 2009).

Consequences of just societies

Several of the key conceptual elements discussed earlier are also part of the global sustainable development agenda and the UN 2030 SDGs. As mentioned earlier, Goal 5 aims to “*Achieve gender equality and empower all women and girls.*” Goal 10 aims to “*Reduce inequality within and among countries.*” Goal 16 is designed to “*Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.*” These SDGs depend upon humanity being able to achieve intergenerational, international, intersectional, and interspecies justice (Linklater 1999; Levy and Scobie 2015; Stevens and Kanie 2016; Zhang et al. 2016). Further, the SDGs related to food and nutritional security (Patrick, Syme, and Horwitz 2014; Shingirai and Happy 2017), health, education, job security, fair access to land, sustainable agriculture (van Bommel et al. 2016), fair access to genetic resources, sustainable resource use (Jaeckel, Gjerde, and Ardron 2017), fair access to technology and to energy (Wolf et al. 2016) and fair and sustainable systems of trade (Scobie 2013) all face the challenge of being dependent on or creating robust justice systems (Levy and Scobie 2015).

The governance of complex global economic and environmental systems requires strong social, economic, and legal institutions that are multilevel and hybrid in terms of the actors, sectors, spaces, and forms of relationships (Boehmelt, Koubi, and Bernauer 2014; Kalfagianni 2014; Ramos 2015; Nunes, Rajão, and Soares-Filho 2016; Stratoudakis et al. 2016). They should also be context-specific, flexible, participatory, representative, inclusive, accountable (Donald and Way 2016), transparent, resilient, and effective (Bracking 2015; van Bommel et al. 2016).

Just and non-discriminatory legal and regulatory systems and institutional frameworks can serve to reduce human suffering. They can resolve conflicts and are indispensable for promoting and maintaining peaceful societies, the fair distribution of environmental rights to goods and services (Griggs et al. 2014; Paloniemi et al. 2015; Scovazzi 2016), risks (Thaler and Hartmann 2016), duties (including positive duties of care or negative duties to refrain from harming the environment) (Barrett 2011; Duus-Otterström and Jagers 2012; Saarinen 2013; Norstrom et al. 2014; Asmelash 2015), and preserving delicate physical environmental systems including genetic, historical, and cultural assets.

Finally, religious and ethical worldviews (Dash 2014; Esquivel and Mallimaci 2017; see also Glaab this volume) have the potential to form the overarching delivery framework and contexts for partnerships for ending poverty and inequality (Feygina 2013), for sustainable financing, capacity building, technology sharing and transfer, and for quick responses to environmental shocks and crisis situations at national or local scales. Indeed, religious and ethical worldviews are often the drivers of global solidarity but also of subsidiarity, supporting local and community-scaled initiatives and solutions that are outside centralised political governance and that directly redress economic and environmental inequity and poverty. This is crucial as subsidiarity is especially important in sustainability governance in that it favours solution brokering wherever possible at local scales and in areas that are directly impacted by improvements.

Conclusion and looking forward

Experts contend that justice needs to become an explicit topic of academic research (Klinsky et al. 2017), as no institutional framework for sustainable development will be effective and legitimate in the long run unless it has justice and fairness concerns at its core (Pritchard 1969; Adger et al. 2005; Bierman et al. 2012). In this chapter, we argued that a justice lens for global sustainability governance research would need to clarify the subjects, principles, mechanisms and instruments for justice, and consequences of just societies.

Scholars of critical sustainability governance, in particular, need to embrace a broad range of subjects of justice including future generations and the non-human world. In addition, such scholarship needs to advance an encompassing understanding of principles of justice. Distributive, procedural, and recognition principles can both reinforce and undermine each other. For example, fair procedures cannot materialise unless actors are recognised as subjects worthy of participation and representation in them. Likewise, fair distribution can be undermined by unfair procedures when deciding what is at stake and who should get what and why. Regarding mechanisms of justice, these are currently both underdeveloped and tend to rely too much on voluntary economic instruments. We are sceptical that reliance on such instruments alone will deliver the more progressive and encompassing forms of justice that are necessary today. Instead, we find encouraging the legal and institutional innovations specifically towards the recognition of subjects of justice across generations and across species.

However, we also wish to underline that contextual conditions matter for justice. Indeed, the way justice is operationalised and the hierarchy of and relationships between principles and instruments to be applied depends on the nature of the injustices and of the limited resources that are to be apportioned. A one size fits all model in applying principles and instruments may result in injustices. Scholars of critical sustainability governance would need to include historical and future, economic, political, social, and environmental contexts and the impact of these on human and non-human actors in any analysis of the way justice should be operationalised for fair sustainability outcomes.

To conclude, in order to advance a research agenda on justice, we propose that future research should take into account the following aspects.

First, there is a need for more interdisciplinary approaches to better understand the outcomes associated with mechanisms to advance justice and how best to understand success in achieving it. The integration of theoretical constructs and methodologies from diverse disciplines can allow us to better understand the most fruitful governance pathways for addressing injustices in distribution, recognition, or representation of the various subjects of justice.

Second, we argue that it is necessary to examine which new demands for justice, fairness, and allocation are emerging in a world where “planetary boundaries” are being crossed (Rockström et al. 2009; Steffen et al. 2015), where the Anthropocene (Crutzen 2006) confronts us with our ability to change the entire earth system, and where global inequalities are ever increasing.

Finally, determining which types of steering have been helpful and not helpful to channel personal, regional, national, and global worldviews towards more sustainable approaches to environmental rights and duties is of the utmost importance. Sustainable outcomes are a consequence of the willingness of peoples and groups to “live more simply so that others may simply live,” but achieving this is anything but simple. Global sustainability governance science can help discover the triggers, drivers, and types of agency that can be scaled up to support just outcomes, making both intellectual and policy contributions towards a more sustainable world.

Note

- 1 A version of this chapter is available online as part of the Earth System Governance Science and Implementation Plan 2018: www.earthsystemgovernance.org/wp-content/uploads/2018/11/Earth-System-Governance-Science-Plan-2018.pdf.

References

- Adger, W. N., K. Brown and M. Hulme. (2005). Redefining global environmental change (editorial). *Global Environmental Change: Human and Policy Dimensions* 15(1): 1–4.
- Anand, R. (2004). *International Environmental Justice: A North-South Dimension*. Aldershot: Ashgate Publishing.
- Andersson, K. and A. Agrawal. (2011). Inequalities, institutions, and forest commons. *Global Environmental Change* 21(3): 866–875.
- Asmelash, H. B. (2015). Energy subsidies and WTO dispute settlement: Why only renewable energy subsidies are challenged. *Journal of International Economic Law* 18(2): 261–285.
- Baer, M. and A. K. Gerlak. (2015). Implementing the human right to water and sanitation: A study of global and local discourses. *Third World Quarterly* 36(8): 1527–1545.
- Barrett, S. (2011). Rethinking climate change governance and its relationship to the world trading system. *World Economy*, 34(11): 1863–1882.
- Beck, U. (2006). *Cosmopolitan Vision*. Cambridge: Polity Press.
- Beitz, C. (1979). *Political Theory and International Relations*. Princeton, NJ: Princeton University Press.

- Benton, T. (2018, 2nd Edition). Ecology, community and justice. In: T. Hayward and J. O’Neil (eds.). *Justice, Property and the Environment: Social and Legal Perspectives*. London: Routledge.
- Biermann, F., M. M. Betsill, J. Gupta, N. Kanie, L. Lebel, D. Liverman, H. Schroeder and B. Siebenhüner with contributions from K. Conca, L. da Costa Ferreira, B. Desai, S. Tay and R. Zondervan. (2009). *Earth System Governance: People, Places and the Planet. Science and Implementation Plan of the Earth System Governance Project*. Earth System Governance Report 1, IHDP Report 20. Bonn, IHDP: The Earth System Governance Project.
- Biermann, F., et al. (2012). Navigating the Anthropocene: Improving earth system governance. *Science* 335(6074): 1306–1307.
- Birnbacher, D. (2006). Responsibility for future generations: Scope and limits. In: J. C. Tremmel (ed.). *Handbook of Intergenerational Justice*. Cheltenham: Edward Elgar.
- Boehmelt, T., V. Koubi and T. Bernauer (2014). Civil society participation in global governance: Insights from climate politics. *European Journal of Political Research* 53(1): 18–36. doi: 10.1111/1475-6765.12016
- Bracking, S. (2015). The anti-politics of climate finance: The creation and performativity of the Green Climate Fund. *Antipode* 47(2): 281–302. doi: 10.1111/anti.12123
- Brock, G. (2009). *Global Justice: A Cosmopolitan Account*. Oxford: Oxford University Press.
- Busch, L. (2011). The private governance of food: Equitable exchange or bizarre bazaar? *Agriculture and Human Values* 28(3): 345–352.
- Bustamante, R., C. Crespo and A. M. Walnycki. (2012). Seeing through the concept of water as a human right in Bolivia. In: F. Sultana and A. Loftus (eds.). *The Right to Water: Politics, Governance and Social Struggles*. London: Routledge, pp. 223–240.
- Caney, S. (2001). International distributive justice. *Political Studies* 49(5): 974–997.
- Caney, S. (2005). *Justice Beyond Borders*. Oxford: Oxford University Press.
- Cooper, D. E. (2018). Justice, consistency and ‘non-human’ ethics. In: T. Hayward and J. O’Neil (eds.). *Justice, Property and the Environment: Social and Legal Perspectives*. London: Routledge.
- Crutzen, P. J. (2006). The “Anthropocene”. In: E. Ehlers and T. Kraft (eds.). *Earth System Science in the Anthropocene*. Berlin: Springer, pp. 13–18.
- Dash, A. (2014). The moral basis of sustainable society: The Gandhian concept of ecological citizenship. *International Review of Sociology*, 1–11. doi: 10.1080/03906701.2014.894343
- Di Chiro, G. (2008). Living environmentalisms: Coalition politics, social reproduction and environmental justice. *Environmental Politics* 17(2): 276–298.
- Donald, K. and S. A. Way. (2016). Accountability for the sustainable development goals: A lost opportunity? *Ethics & International Affairs* 30(2): 201–213.
- Donaldson, S. and W. Kymlicka. (2011). *Zoopolis: A Political Theory of Animal Rights*. Oxford: Oxford University Press.
- Dryzek, J. S. and H. Stevenson. (2011). Global democracy and earth system governance. *Ecological Economics* 70: 1865–1874.
- Duus–Otterstrom, G. and S. C. Jagers. (2012). Identifying burdens of coping with climate change: A typology of the duties of climate justice. *Global Environmental Change–Human and Policy Dimensions* 22(3): 746–753. doi: 10.1016/j.gloenvcha.2012.04.005
- Ebeling, J. and M. Yasué. (2009). The Effectiveness of market-based conservation in the tropics: Forest certification in Ecuador and Bolivia. *Journal of Environmental Management* 90(2): 1145–1153.
- ESG (Earth System Governance). (2009). Science and Implementation Plan of the Earth System Governance Project, IHDP Report No. 20.
- Esquivel, J. C. and F. Mallimaci. (2017). Religión, medioambiente y desarrollo sustentable: la integralidad en la cosmología católica. [Religion, environment and sustainable development: Integrality in Catholic cosmology]. *Revista de Estudios Sociales* 60: 72–86.
- Feygina, I. (2013). Social justice and the human–environment relationship: Common systemic, ideological, and psychological roots and processes. *Social Justice Research* 26(3): 363–381. doi: 10.1007/s11211-013-0189-8
- Fraser, N. (1997). *Justice Interruptus: Critical Reflections on the ‘Postsocialist’ Condition*. New York: Routledge.
- Fraser, N. (2001). Recognition without ethics? *Theory, Culture, and Society* 18: 21–42.
- Gerlak, A. K., M. Baer and P. Lopes. (2018). Taking stock of human right to water. *International Journal of Water Governance* 6: 108–134.
- Gerlak, A. K. and M. Wilder. (2012). Exploring the textured landscape of water insecurity and the human right to water. *Environment: Science and Policy for Sustainable Development* 54(2): 4–17.

- Griggs, D., M. S. Smith, J. Rockstrom, M. C. Ohman, O. Gaffney, G. Glaser, ... P. Shyamsundar. (2014). An integrated framework for sustainable development goals. *Ecology and Society* 19(4): 24.
- Gündling, L. (1990). Our responsibility to future generations. *American Journal of International Law* 84(1): 207–212.
- Gupta, J. and L. Lebel. (2010). Access and allocation in earth system governance: Water and climate change compared. *International Environ Agreements* 10: 377–395.
- Guthman, J. (2007). The Polanyian way? Voluntary food labels as neoliberal governance. *Antipode* 39(3): 456–478.
- Hayward, T. (2018). Interspecies solidarity: Care operated upon justice. In: T. Hayward and J. O’Neil (eds.). *Justice, Property and the Environment: Social and Legal Perspectives*. London: Routledge.
- Hoff, H. (2009). Global water resources and their management. *Current Opinion in Environmental Sustainability* 1: 141–147.
- Honneth, A. (2001). Recognition or redistribution: Changing perspectives on the moral order of society. *Theory, Culture, and Society* 18(2–3): 43–55.
- Jaeckel, A., K. M. Gjerde and J. A. Ardron. (2017). Conserving the common heritage of humankind – Options for the deep-seabed mining regime. *Marine Policy* 78: 150–157. doi: 10.1016/j.marpol.2017.01.019
- Jerneck, A., L. Olsson, B. Ness, S. Anderberg, M. Baier, E. Clark, ... J. Persson. (2011). Structuring sustainability science. *Sustainability Science* 6(1): 69–82.
- Kaijser, A. and A. Kronsell. (2014). Climate change through the lens of intersectionality. *Environmental Politics*, 23(3): 417–433.
- Kalfagianni, A. (2014). Addressing the global sustainability challenge: The potential and pitfalls of private governance from the perspective of human capabilities. *Journal of Business Ethics* 122(2): 307–320.
- Klinsky, S., J. T. Roberts, S. Huq, C. Okereke, P. Newell, P. Dauvergne, K. O’Brien, H. Schroeder, P. Tschakert, J. Clapp, M. Keck, F. Biermann, D. Liverman, J. Gupta, A. Rahman, D. Messner, D. Pellow and S. Bauee. (2017). Why equity is fundamental in climate change. *Global Environmental Change* 44: 170–173.
- Levy, M. and M. Scobie. (2015). Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels. In International Council for Science and International Social Science Council (ed.), *Review of Targets for the Sustainable Development Goals: The Science Perspective* (pp. 73–76). International Council for Science.
- Linklater, A. (1999). The evolving spheres of international justice. *International Affairs* 75(3): 473–482.
- Luterbacher, U. and D. Sprinz. (2001). *International Relations and Global Climate Change*. Cambridge: MIT Press.
- Marx, K. (1875). Critique of the Gotha Program. Retrieved from www.marxists.org/archive/marx/works/download/Marx_Critique_of_the_Gotha_Programme.pdf
- McCall, L. (2005). The complexity of intersectionality. *Signs: Journal of Women in Culture and Society* 30(3): 1771–1800.
- Moellendorf, Darrel. (2002). *Cosmopolitan Justice*. Colorado: Westview Press.
- Muller, M. (2008). Free Basic Water—A sustainable instrument for a sustainable future in South Africa. *Environment and Urbanization* 20(1): 67–87.
- Nagel, T. (2005). The problem of global justice. *Philosophy & Public Affairs* 33(2): 113–147.
- Nordhaus, W. D. (1992). An optimal transition path for controlling greenhouse gases. *Science* 258(5086): 1315–1319.
- Norstrom, A. V., A. Dannenberg, G. McCarney, M. Milkoreit, F. Diekert, G. Engstrom, ... M. Sjostedt. (2014). Three necessary conditions for establishing effective Sustainable Development Goals in the Anthropocene. *Ecology and Society* 19(3): 8. Doi: 10.5751/es-06602-190308
- Nunes, F., R. Rajao and B. Soares. (2016). Boundary work in climate policy making in Brazil: Reflections from the frontlines of the science–policy interface. *Environmental Science & Policy* 59: 85–92.
- Nussbaum, M. C. (2000). Aristotle, politics and human capabilities: A response to Antony Arneson, Charlesworth and Mulgan. *Ethics* 111(1): 102–128.
- O’Donnell, E. and J. Talbot-Jones. (2018). Creating legal rights for rivers: Lessons from Australia, New Zealand and India. *Ecology and Society* 23(1): 7.
- Olsson, L., M. Opondo, P. Tschakert, A. Agrawal, S. H. Eriksen, S. Ma, ... S. A. Zakiideen. (2014). Livelihoods and poverty. In: C. B. Field, V. R. Barros, D. J. Dokken, K. J. Mach, M. D. Mastrandrea, T. E. Bilir, M. Chatterjee, K. L. Ebi, Y. O. Estrada, R. C. Genova, B. Girma, E. S.

- Kissel, A. N. Levy, S. MacCracken, P. R. Mastrandrea and L. L. White (eds.). *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the IPCC*, Cambridge, UK, and New York, NY: Cambridge University Press, pp. 793–832.
- Paloniemi, R., E. Apostolopoulou, J. Cent, D. Bormpoudakis, A. Scott, M. Grodzińska-Jurczak, M., ... J. D. Pantis. (2015). Public Participation and environmental justice in biodiversity governance in Finland, Greece, Poland and the UK. *Environmental Policy and Governance* 25(5): 330–342.
- Patrick, M. J., G. J. Syme and P. Horwitz. (2014). How reframing a water management issue across scales and levels impacts on perceptions of justice and injustice. *Journal of Hydrology* 519, 2475–2482.
- Pritchard, R. D. (1969). Equity theory: A review and critique. *Organizational Behavior and Human Performance* 4(2): 176–211.
- Ramos, H. (2015). Mapping the field of environmental justice: Redistribution, recognition and representation in NGO press advocacy. *Canadian Journal of Sociology-Cahiers Canadiens De Sociologie* 40(3): 355–375.
- Rawls, J. (1971). *A Theory of Justice*. Oxford: Oxford University Press.
- Rawls, J. (1999). *The Law of Peoples*. Cambridge, MA: Harvard University Press.
- Rockström, J., W. Steffen, K. Noone, et al. (2009). A safe operating space for humanity. *Nature* 461: 472–475.
- Rode, J., E. Gómez-Baggethun and T. Krause. (2015). Motivation crowding by economic incentives in conservation policy: A review of the empirical evidence. *Ecological Economics* 117: 270–282.
- Ryder, S. S. (2017). A bridge to challenging environmental inequality: Intersectionality, environmental justice, and disaster vulnerability. *Social Thought & Research* 34: 85–115.
- Saarinen, J. (2013). Critical sustainability: Setting the limits to growth and responsibility in tourism. *Sustainability* 6(1): 1–17.
- Schlosberg, D. (2007). *Defining Environmental Justice*. Oxford: Oxford University Press.
- Schlosberg, D. (2013). Theorising environmental justice: The expanding sphere of a discourse. *Environmental Politics* 22(1): 37–55.
- Scobie, M. (2013). Climate regulation: Implications for trade competitiveness in Caribbean States. In: L. F. Walter, F. Mannke, R. Mohee, V. Schulte and D. Surroop (eds.). *Climate-Smart Technologies Integrating Renewable Energy and Energy Efficiency in Mitigation and Adaptation Responses*, Berlin: Springer Berlin Heidelberg, pp. 33–49.
- Scovazzi, T. (2016). The negotiations for a binding instrument on the conservation and sustainable use of marine biological diversity beyond national jurisdiction. *Marine Policy* 70: 188–191.
- Sen, A. K. (1999). *Development as Freedom*. New York: Knopf Press.
- Sen, A. K. (2009). *The Idea of Justice*. London: Penguin Books.
- Shingirai, S. M. and M. T. Happy. (2017). Climate change: A threat towards achieving ‘Sustainable Development Goal number two’ (end hunger, achieve food security and improved nutrition and promote sustainable agriculture) in South Africa. *Jambá: Journal of Disaster Risk Studies* 9(1): e1–e6.
- Soper, K. (2018). Human needs and natural relations: The dilemmas of ecology. In: T. Hayward and J. O’Neil (eds.). *Justice, Property and the Environment: Social and Legal Perspectives*. London: Routledge.
- Steffen, W., K. Richardson, J. Rockström, et al. (2015). Planetary boundaries: Guiding human development on a changing planet. *Science* 347(6223): 736–746.
- Stern, N. (2007). *The Economics of Climate Change: The Stern Review*. Cambridge: Cambridge University Press.
- Stevens, C. and N. Kanie. (2016). The transformative potential of the Sustainable Development Goals (SDGs). *International Environmental Agreements-Politics Law and Economics* 16(3): 393–396. doi: 10.1007/s10784-016-9324-y
- Stratoudakis, Y., P. McConney, J. Duncan, A. Ghofar, N. Gitonga, K. S. Mohamed, ... L. Bourillon. (2016). Fisheries certification in the developing world: Locks and keys or square pegs in round holes? *Fisheries Research* 182: 39–49.
- Sultana, F. and A. Loftus (eds.). (2012). *The Right to Water: Politics, Governance and Social Struggles*. London: Routledge.
- Thaler, T. and T. Hartmann. (2016). Justice and flood risk management: Reflecting on different approaches to distribute and allocate flood risk management in Europe. *Natural Hazards* 83(1): 129–147.
- Tóth, F. L. (2013). *Fair Weather: Equity Concerns in Climate Change*. London: Routledge.

- United Nations Joint Framework Initiative on Children Youth and Climate Change. (2010). Youth Participation in the UNFCCC Negotiation Process. *UNFCCC*. Retrieved from http://unfccc.int/cc_inet/files/cc_inet/information_pool/application/pdf/unfccc_youthparticipation.pdf
- van Bommel, S., C. Blackmore, N. Foster and J. de Vries. (2016). Performing and orchestrating governance learning for systemic transformation in practice for climate change adaptation. *Outlook on Agriculture* 45(4): 231–237.
- Weiss, E. B. (1990). Our rights and obligations to future generations for the environment. *American Journal of International Law* 84(1): 198–207.
- Wolf, F., D. Surroop, A. Singh and W. Leal. (2016). Energy access and security strategies in Small Island Developing States. *Energy Policy* 98: 663–673.
- Young, I. (1990). *Justice and the Politics of Difference*. Princeton, NJ: Princeton University Press.
- Zhang, Q., C. Prouty, J. B. Zimmerman and J. R. Mihelcic. (2016). Research: More than target 6.3: A systems approach to rethinking Sustainable Development Goals in a resource-scarce world. *Engineering* 2: 481–489.