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Justice, sustainability, and the diverse values of nature: why they matter for biodiversity conservation☆

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Aiming at just and sustainable futures for biodiversity conservation requires clarity concerning how justice relates to the diverse values of nature. By drawing upon and expanding on the recent Values Assessment of Intergovernmental Platform on Biodiversity and Ecosystem Services, this article discusses the implications of the diverse values of nature for different dimensions of justice. It also addresses how achieving transformative change that protects biodiversity requires the inclusion of diverse values of nature into valuation and decision-making processes, and how this imperative is interconnected with different dimensions of justice.

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Introduction: how justice and sustainability are linked to biodiversity conservation

Successive assessments of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), including the Global Assessment [29] and the Values Assessment (VA) [30], have aligned with the view that addressing the current biodiversity crisis requires transformative change toward more just and sustainable futures. Justice is an end in itself, perhaps even the 'first virtue of social institutions' [51], and demands that we ask of all proposed new social arrangements 'are they just?' [23]. The pursuit of justice can also be considered as a means to an end, for example, by overcoming 'justice barriers' to sustainability [39]. Evidence shows that biodiversity conservation interventions that create inequalities often lead to loss of legitimacy and ultimately to conflicts, reducing their uptake and effectiveness [59,8]. Whether as an end in itself, a means to sustain-

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Table 1

Dimensions of justice.

Dimension of justice	Scope of application	Example of injustice
Distributive justice	Who enjoys access to nature's benefits, who bears the burdens of loss and damage, and who bears the consequences of actions to protect it	Unequal access to and control over nature and its benefits, unequal exposure to the harmful impacts of biodiversity loss, or the socio-economic burdens derived from efforts toward conservation
Procedural (or participatory) justice	How decisions are made concerning nature and nature's benefits, who gets to participate, and what entities are to be represented and on what terms	Limited or no involvement of those most directly affected by the way nature is managed, limited, or no representation of the interests of other-than-human nature
Recognition justice	What status is afforded to relevant actors, in particular the respect for different knowledge traditions, identities, and values across social structures such as gender, ethnicity, or worldviews	Intolerance or disrespect of different worldviews, knowledge traditions, and human-nature relationships, including different ways of knowing and living with nature, status inequalities based on forms of discrimination, including patriarchy, racism, and coloniality

ability, or as a component of sustainability, justice has been part of sustainability discourse at least since the Brundtland formulation of 'sustainable development' [61]. The pursuit of justice is also reflected in the globally negotiated consensus threading through international agreements such as the Sustainable Development Goals (SDGs), placing justice at the heart of transformations to sustainability.

However, the understanding of justice in such documents or in the sustainability arena more generally is often vague [65], and the relationship between justice and the diverse values of nature remains unclear.[1] This undermines the pursuit of just and sustainable futures for biodiversity conservation. In this paper, we explore the interconnections between justice and the diverse values of nature for biodiversity research, policy, and practice aimed at transformative change, building upon the recent IPBES VA [30]. We begin by offering a brief contextual background to the key conceptualizations of environmental justice that influenced the VA. We then critically reflect upon the tensions and opportunities that become apparent through a focus on the role of diverse values of nature for promoting just and sustainable futures. Finally, we explore the implications of the diverse values of nature for the design of transformative pathways for life on earth and for the people on this planet.

[1] The term 'nature' is used in this paper according to the IPBES Glossary definition. It encompasses both the Western understanding of nature as articulated in science and other ways of expressing the other-than-human-world according to diverse knowledge systems, including nondualistic perspectives. See: https://www.ipbes.net/glossary-tag/nature. The term 'biodiversity' is also used in this paper as defined in the Glossary, encompassing variability among all living organisms, including among genetic, phenotypic, phylogenetic, and functional attributes, and alterations to the distribution or abundance of species, biological communities, and ecosystems. See: https://www.ipbes.net/glossary-tag/biodiversity.

Principles and dimensions of justice in the Intergovernmental Platform on Biodiversity and Ecosystem Services Values Assessment

The global sustainability discourse has increasingly acknowledged that achieving sustainability is related to an agenda of justice or equity (often a synonym for justice). Since the Brundtland report [61], most international documents on sustainability have adopted a 'do no harm' principle that environmental protection should not be achieved at the cost of greater social inequalities. Nonetheless, the imperative to enact positive change is increasingly recognized. For instance, 'leaving no one behind' is a core principle of Agenda 2030 and underlies all seventeen Sustainable Development Goals [62]. However, questions about which harms or inequalities need to be reduced, and to what extent, are rarely discussed explicitly. Although certain core characteristics of justice have been identified, the way they are interpreted depends on ontological, epistemological, and ethical assumptions that are contested [58]. For instance, the Intergovernmental Panel on Climate Change [31] recognizes that mitigation measures may affect poverty alleviation, and states that the responsibilities and burdens of climate change mitigation should be distributed among countries based on their responsibility for greenhouse gas emissions as well as their capacity to act. While important, the distribution of environmental benefits and burdens is only one component of justice, and does not reflect the complexity of understandings of justice in the academic literature, nor those of environmental activists and affected communities themselves.

While it is difficult to offer a working definition of the concept of justice that adequately represents its complexity, we present and briefly articulate three core dimensions of justice in the sustainability discourse: *distributive*, *procedural*, and *recognition* justice [56] (Table 1). These articulations build upon yet go beyond the articulations of justice dimensions in the VA.

Distributive justice refers to the fair sharing of benefits and burdens resulting from the use, management, ownership, or conservation of nature. Distributive justice arises within political communities such as nation-states, between nation-states, between the Global North and South, between generations, and across social groups. Much normative literature focuses on the fair distribution of natural resources and ecosystem services [5,10,28,54,57] and the unfair burdens of conservation [6]. There is normative debate about whether such a distribution should be egalitarian [5,28] or should target basic human needs [10,54]. Distributive questions also arise in relation to the variety of material, regulatory, and nonmaterial contributions of nature to people [19], which are increasingly unequally distributed [20]. A related debate is whether sustainability is conditional on (and for) a fair distribution of costs and benefits [34], a view that has gained standing since the Brundtland Report [61]. While the scope of much distributive justice literature is limited to considering fair shares between human beings, there are also arguments to expand the scope to nonhumans [48,56].

Procedural justice refers to the fairness of decision-making processes: how decision-making and conflicts are framed and managed, including who has the formal and effective right to determine governance systems, to participate in decision-making, and on what terms. In this respect, the VA showed that only 1% of valuation studies reported the meaningful involvement of the stakeholders affected by a decision in all the stages of the valuation process. Power asymmetries typically privilege the representation and participation of certain voices in decision-making to the exclusion of others, such as when people directly affected by decisions (such as the location of a landfill site) are marginalized in environmental policymaking, or when anthropocentric discourses prevent the representation of other-than-human nature [3,30].

Recognition justice refers to the status afforded to relevant actors, in particular the acknowledgment of and respect for different conceptions of values, different identities, and diverse knowledge systems and practices. This is the case when people are discriminated against according to identity categories such as gender or race. Recognition injustice may also involve the marginalization of ways of knowing and valuing nature that do not correspond to dominant economic, political, or cultural interests. For example, kinship relationships with other-than-humans, or relations with ancestors and spirits, are often highly valued within Indigenous worldviews, yet are often ignored or suppressed by outside conservation planners [1,30,40,55]. Epistemic injustice [24], which has entered the sustainability discourse more recently [60], refers to the failure to ensure respect and equality of status for diverse knowledge systems. It can be considered as a specification of recognition justice that focuses on discrimination rooted in knowledge. Decolonial approaches to epistemic justice reframe recognition in terms of the active participation of Indigenous peoples and local communities (IPLCs) as *knowledge-holders* speaking for themselves in their own terms and as equal partners in framing the issue and the modalities of valuation — instead of including communities and their knowledge as subjects of study and research led by others [2]. This has resulted in promoting biocultural diversity to complement the understanding of nature reflected in Western science and policy [45].

The three dimensions (distributive, procedural, and recognition) of justice are interlinked and can be difficult to separate in practice [41]. The Environmental Justice movement in the United States of America highlighted the unfair distribution of environmental hazards for people of color and discriminated communities, challenged government procedures that systematically produced these inequities, and analyzed structural causes of injustice relating to race/ethnic background and poverty [13]. Grassroots environmental justice movements worldwide have consistently demanded redistribution of environmental benefits and burdens, for example, concerning the ecological debt of early industrialized countries, along with the need for legitimate participatory processes and recognition of their own justice narratives [42]. When IPLCs claim justice in relation to their territories, such as in the case of the Maasai fighting against 'conservation' land grabs, their struggle cannot be framed in terms of one specific dimension of justice because for them, livelihoods, participation, and identities are inseparable in the context of their relationships with land [37].

Rethinking justice and sustainability in light of the diverse values of nature

The perspective of the diverse values of nature in the VA offers important insights in the discussion about justice and sustainability transformations [3,7]. Within the VA, justice is defined as a broad value, defined as life goals and guiding principles, including what constitutes desirable people–nature relationships. While broad values transcend specific contexts, they are embedded in worldviews. Instead, specific values are judgments regarding the importance of something in a specific context, including biodiversity, ecosystems, people–nature relationships, or human well-being [3,52]. Expressions of specific values (such as the economic value of a particular ecosystem service or the importance of treating a particular species as kin) are not considered as claims of justice, but connect with a more general principle that demands the fair consideration of specific values held by different groups of people.

Three tensions between universal claims of justice and value pluralism

Beyond the context of the VA, justice claims such as the imperative to eradicate poverty, the right to cultural recognition, or the pursuit of sustainability are characterized by an intended universality — they are supposed to apply to all humans. Such a universal understanding of justice can be in tension with perspectives that highlight value pluralism, as in the VA. Concrete justice claims may reflect particular understandings of humans and nature that depend upon context and positionality, and are rooted in particular knowledge systems and practices. While we cannot engage with the philosophical debate concerning ethical universalism here, evidence from the VA shows the need to acknowledge the potential coloniality of universalism that is epistemically 'disembodied': concealing the specific ideological and cultural place from which they arise (i.e. Western science or Christian values), thus confining alternative knowledge systems, values, and practices to merely local and traditional views, or submerging them within a dominant narrative. From a decolonial perspective, claims of justice can be universal (or general) but also remain historically and geographically situated: they address asymmetric power relations and are open to horizontal interepistemic encounters across diverse knowledge systems that mutually recognize each other as equals; and foster coexistence, mutual respect, and cross-fertilization [25].

A second tension between justice and value plurality emerges when distributive justice is limited to use values for human beings, which as we saw above, remains widespread political philosophy, and in neoclassical economics [18]. This assumes a strong anthropocentric worldview (i.e. one that considers nature only in terms of instrumental means to human ends) and ignores other values and people–nature relationships (intrinsic or relational values).[2] This assumption may have severe policy implications, for instance, prioritizing poverty alleviation at the expense of biodiversity conservation [43]. Instead, biocentric and ecocentric worldviews favor extending distributive justice beyond the scope of human beings to protect the interests or flourishing of nonhuman species [9,56,64].

A third tension arises from the inherent normativity of the concept of sustainability, and related concepts, including biodiversity, which are typically implied to be valuable or desirable [47]. The VA acknowledges the legitimacy of diverse perspectives about sustainability and biodiversity, based on the conviction that different individuals and communities have the right to meaningfully participate in conservation policies affecting them — a claim of procedural justice — and a right to speak for themselves in their own terms — a claim of recognition justice [3]. However, openness to value diversity may be in tension with the normative goal of sustainability in the case of values that do not support sustainable outcomes. For example, the values underpinning the extractivist model of economic development may undermine the rights of local communities, future generations, or the concerns of nonhuman entities. This is especially problematic because these values are often held by those with greater decision-making power. Sustainability-adverse outcomes can also occur when culturally significant practices or landscapes are preserved at the expense of biodiversity conservation [3,35].

Justice-related insights from the Intergovernmental Platform on Biodiversity and Ecosystem Services approach to values

Insights from the VA provide responses to these tensions, allowing for richer understandings of justice to be reflected in the context of sustainability transformations. First, the VA goes beyond merely saying that justice is served by recognizing value diversity. It also matters which values are considered, and whose values they actually are. This makes for an irreducibly normative discussion of which values are 'desirable' to foster transformative change, a point acknowledged in sustainability science [46]. Certain broad values (e.g. stewardship or care for nature) associated with human-nature relations or human–human relations were identified as conducive for transformative change toward sustainability, while others obstruct these outcomes (e.g. prosperity through continued material growth) [27]. The implication is that a just transformation to sustainability requires nurturing some positive broad values while seeking to reduce the influence of other values. However, promoting values that align with sustainability and justice is no easy task. This goal entails addressing 'just sustainability', which involves recognizing the expectations and goals of different actors as well as their cognitive modes of relating to nature in all of its different facets [44]. Context-specific approaches to sustainability-aligned values will be needed in alignment with different justice perspectives and priorities. Marginalizing contextual interpretations of sustainability-aligned values would also favor the interests of certain actors over others. For instance, the global conservation movement emphasizes the importance of intrinsic values associated with 'pristine nature', in contrast to instrumental and relational values held by local communities whose sustainable livelihoods depend on multifunctional landscapes [49].

Second, procedural and recognition justice are crucial, interrelated requirements for sustainability

[2] For a definition of strong and weak anthropocentrism see Raymond et al. [52].

Table 2

Value-centered leverage points and examples of justice-oriented actions.

	Distributive justice	Procedural justice	Recognition justice
(i) Undertaking valuation that recognizes the diverse values of nature	Apply valuation methods that explicitly allow for assessing outcomes valued by all relevant actors, and how benefits and burdens are distributed	Ensure the meaningful participation of all relevant actors in every stage of the valuation process, especially marginalized actors	Coproduce methods that assess locally meaningful values and goals in appropriate language and units that reflect diverse ways of seeing, knowing, and inhabiting the world
ii) Embedding valuation into decision-making	Apply valuation findings in decisions in ways that ensure that the diversity of values is considered and that addresses inequitable impacts across different relevant actors	Ensure that all relevant actors understand the implications of being part of valuation processes and that their views are taken into account and reflected in valuation-based decisions	Introduce forms of due diligence to ensure that values held by historically marginalized actors are afforded high status in decision-making, and that diverse values are recognized and respected
iii) Reforming policies and regulations to institutionalize fair treatment of different actors' values	Reform formal policies and other institutions in ways that regularize decision-making that gives fair weighting to different actors' values and that avoids unequal distribution of benefits and burdens, with particular emphasis on those who have traditionally borne disproportionate burdens	Reform decision-making instruments, processes, and spaces (e.g. legislative chambers) to design and implement mechanisms that serve to regularize the full participation and/or representation of all relevant actors	Reform policies and regulations (including laws and systems of accounting) in ways that institutionalize rights and recognition for all relevant actors across different types of knowledge, worldviews, and values
(iv) Shifting underlying societal norms and goals to emphasize the links between justice and sustainability	Promote the inclusion of sustainability goals across sectors and scales that integrate intra- and intergenerational distributive justice dimensions	Confront and reconfigure existing structural and discursive power through actions to secure the participation of actors that represent different worldviews, goals, and visions regarding progress, justice, nature, and sustainability	Encourage inclusive, transparent, intercultural, intergenerational, and intersection dialogs about the norms and goals that shape visions of just and sustainable futures

Source: Adapted from IPBES [30].

transformations. Achieving procedural justice requires that the groups and communities expressing diverse values are involved throughout a valuation or decision-making process. Yet, such participation may be insufficient to ensure meaningful inclusion if the worldviews and value systems do not belong to dominant perspectives, and may even harm community identities [17]. Implementing recognition justice implies acknowledging the status of underrepresented groups and collaborating with them to design methods, institutions, and processes that enable the articulation of diverse values in their own terms, including alternative conceptions of a good life rooted in collective autonomy and self-determination [11]. Lack of recognition can also be evident in the impossibility of expressing grief or loss within a dominant language frame or knowledge system [33], undermining attempts at procedural inclusion. For example, the Southern Resident Orcas in the Salish Sea are considered by the Lummi people to be family members, yet relational values associated with kinship relations cannot be expressed within the dominant language of conservation as intrinsic or instrumental values [26].

Third, the VA suggests fruitful ways of addressing the tension between justice and diverse values of nature, showing how weak anthropocentric worldviews highlight noninstrumental relationships with the natural world, and how relational and noninstrumental values can be interrelated with distributive justice. Distributive justice can be advanced by explicitly incorporating the diverse values of nature, thereby intertwining it more directly with recognition justice. The universal entitlement to a fair distribution can be reframed by replacing the policy focus upon natural resources with an emphasis on capabilities or basic needs that integrate diverse values of nature and human-nature relationships (e.g. [48,56,36]). This would involve showing how relationships with nature or among people through nature are constitutive of collective identities or necessary conditions for a good life (i.e. a dignified and flourishing life) within the community. This would also imply widening the consideration of what counts as a condition for a good life to include, inter alia, right relationships with nature, and the intercultural recognition of conceptions of right relationships. In these ways, the insights from the VA echo call for ethical pluralism in biodiversity conservation [16]. In some contexts, interlinking distributive and recognition justice in the light of the diverse values of nature might also require extending the range of subjects of distributive justice, beyond future generations (commonly accepted in the sustainability discourse) to

include, for example, other species, along with ancestors, spirits, or other forms of being. Further, an interlinking of distributive and recognition justice would challenge the focus on individuals as subjects of harm and extend it to communities. Securing self-determination rights and sovereignty by IPLCs over their territories is a fundamental step to support worldviews and values aimed at improving local livelihoods while sustaining biodiversity [53].

Explicitly recognizing and including the marginalized values of nature into decision-making processes is not only desirable as an end in itself but also means to environmental decision-making that offers better social and ecological outcomes [12,14,66]. Linking recognition (and epistemic), procedural, and distributive justice can help identify the root causes of injustice.

The way forward: value-centered leverage points for just and sustainable futures

The VA identified four value-centered leverage points that would enable the achievement of more just and sustainable futures: (i) undertaking valuation that recognizes the diverse values of nature; ii) embedding valuation into decision-making; iii) reforming policies and regulations to internalize nature's values; and (iv) shifting the underlying societal norms and goals. Activating the most far-reaching leverage points, that is, reforming policies and shifting goals, implies a reconfiguration of power relations among actors prioritizing different relations to and associated values of nature [4,30,40,63], which in turn largely depend on the capacities of actors to mobilize agency, resources, and discourses to change social structures [3,4,32]. Table 2 provides examples of actions that can be taken in relation to the different leverage points to promote distributive, procedural, and recognition justice, acknowledging that power disputes and conflicts would likely emerge when undertaking them.

Enabling transformative change relies on supporting the interdependencies between the three dimensions of justice. The Convention on Biological Diversity addresses distributional justice in conservation interventions by promoting schemes such as fair benefit-sharing, wildlife compensation, relocation schemes, and the provision of 'alternative livelihoods' [15]. However, the use of financial mechanisms rarely compensates for injustices of recognition [38]. For example, compensation payments to a farmer who loses sheep to bears or other predators does not address identity-based harm arising from the farmer's relational values, tied to an identity as a carer for her flock [35]. Conversely, efforts to incorporate IPLCs into existing decision-making processes, when not accompanied by meaningful recognition of their territorial rights, can promote a superficial kind of value recognition that does little to advance procedural or distributive justice for IPLCs, or may even fuel biopiracy and continued exploitation of biocultural resources.

Conclusion

We argue that in addressing the biodiversity crisis, it is essential to acknowledge the many different visions of what constitutes a just and sustainable future. Achieving transformative changes toward living in harmony with nature depends on the consideration of justice and sustainability both as ends and means. Identifying specific actions across the four values-centered leverage points identified by the IPBES VA requires consideration of the different dimensions of justice and their interdependencies. The contentious '30x30 targets' of the Kunming-Montreal Global Biodiversity Framework may serve as an example to illustrate the crucial interlinkages between justice, sustainability, and the diverse values of nature. Target 3 has been questioned by economic interests opposing ambitious conservation efforts, but also by Indigenous communities concerned that the protection of biodiversity in their territories could lead to their displacement or to restrictions on their traditional ways of life. The final agreement does touch upon recognition (e.g. by acknowledging the important role and contributions of IPLCs as custodians of biodiversity), distribution (e.g. by facilitating a significant increasing in sharing benefits from genetic resources), participation (e.g. through participatory-integrated biodiversity-inclusive planning), as well as value pluralism (e.g. the different embodied concepts of Nature and its contributions to people), as a means to achieve the vision of Living in Harmony with Nature. Yet, actually correcting the disproportionate benefits and burdens of protecting (and degrading) nature, acknowledging the diverse values of nature at stake in ways that are fully respectful, and meaningfully incorporating the voices of all relevant actors into decision-making remain as urgent future challenges.

Transforming conservation approaches implies elevating the broad value of justice by honoring the diverse ways in which living in harmony with nature can be conceived. It also implies focusing on the social (institutional, political, and economic) structures that are at the core of the drivers behind biodiversity loss (e.g. material and energy growth in the Global North), the fair distribution of benefits and burdens of changes to the provision of nature's contributions to people, and empowering the marginalized voices into all the phases of goal- setting and the design and operationalization of conservation interventions.

Affirmative action to respect the diversity of values about nature is foundational to putting justice at the

center of any kind of transformative governance model for biodiversity conservation: affording equal status across actors and not making this contingent on the discourses of dominant political and economic actors [21,50]. While aiming at just conservation is normatively desirable, the IPBES VA shows that it is also a means to improve biodiversity-related decision-making (e.g. by bringing more relevant knowledge to the table), and to strengthen cooperation in favor of biodiversity (e.g. by going beyond a narrow set of instrumental motivations for conservation). As long as people perceive that biodiversity policies disregard them and their values, measures taken to protect biodiversity will fail [49]. And as long as powerful sectors of society and institutions continue to oppose sustainability-aligned values, the transformative changes needed to bring about more just and sustainable futures will remain out of reach.

Data Availability

No data were used for the research described in the article.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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- • of special interest
- •• of outstanding interest.

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Chapter 2 of the VA reviews the academic literature as well as contributions from IPLCs presenting Indigenous and Local Knowledge on the topics of the multiple conceptualizations of the values of nature. It explores how diverse values of nature emerge from the different ways people understand, interpret and experience human-nature relationships, expressed in diverse worldviews, languages and knowledge systems.

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