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JUSTICE AND EQUITY

Emerging research and policy approaches to address ecosystem service trade-offs

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Introduction

Since the Millennium Ecosystem Assessment (MA, 2005) cemented the popularity of the concept of ecosystem services, ecosystem services studies have increased awareness of the extent to which ecosystems support, and have capacity to continue to support, the wellbeing of humans at multiple scales (Steffen et al., 2015). However, ecosystem service frameworks have been criticised for targeting improvements in aggregate human wellbeing, a utilitarian perspective overlooking precisely which people benefit, where, in what ways, and who may be made worse off and how (Chan et al., 2012; Lele et al., 2013). Specifically, it is important to consider how ecosystem governance driven by objectives of producing regulating ecosystem services, or protecting specific forms of biodiversity for distant stakeholders (both spatially and temporally), may affect the poor or social and cultural minorities locally, particularly in developing countries (Suich et al., 2015). Epistemic communities have thus emerged to address the complex interrelations between social and ecological systems, revealing the diverse ways in which people are affected by ecosystem services (and disservices) and the importance of political factors in mediating whether and how different groups benefit (Fisher et al., 2014). This enhanced picture of the ways in which governance affects different people's wellbeing, and the types of trade–offs which result, reveals the need to approach ecosystem governance as a matter of justice. At a conceptual level, the overarching goal of environmental or ecosystem governance has therefore been articulated as the pursuit of a safe *and just* operating space (Dearing et al., 2014), while acknowledging that ecosystem service-based interventions simultaneously create justices and injustices for different groups of people, including impacts on the rights and basic needs of some of the poorest and most vulnerable people on the planet (Sikor, 2013a).

The growing body of research exploring the social elements of ecosystem service trade-offs has endorsed the relevance of three broad areas of concern that dominate theories of social justice: distribution, procedure and recognition. Regarding distribution, environmental governance determines the distribution of costs and benefits, opportunities and risks between different social groups, influencing who can access ecosystem services and who suffers from disservices. Decisions determining the distribution of access to ecosystem services involve social-ecological trade-offs, such that provision of ecosystem services to one group of stakeholders is often at the expense of other groups, while the poor and vulnerable are disproportionately dependent on access to ecosystem services (Daw et al., 2011). For example, increased forest protection to provide global climate regulation services, to ensure provision of water to downstream users, or to protect species with high potential for tourism, commonly leads to short-term losses of provisioning services for food, fuel and other basic needs to local populations, or increased prevalence of disservices such as to local farmers through crop-raiding animals (Howe et al., 2014).

While most studies have focused on the distributional elements of trade-offs, a small number have also focused on the procedures by which decisions about ecosystem services are made, including the influence of power and the politics of who wins and who loses. Those studies highlight the importance of what information goes into decision making, whose perspectives are represented, and whose and which values influence decision-making processes at various scales (Rival, 2012; Vira et al., 2012). In coastal Kenya, around the Mombasa Marine National Park, multi-stakeholder workshops generated the collaborative understanding necessary to underpin decisions regulating fishing activities, as plans to support at-sea capture methods at the expense of land-based fishing were revealed to affect groups beyond the fishers themselves, including female fish traders, who depended upon the income to support their families yet had no voice in decision making (Galafassi et al., 2017). Research into community-based forest management in Tanzania further reinforces the importance of procedural factors relative to distribution – enhanced local decision making is sufficient motivation to participate in and support forest management, even in the absence of significant material benefits (Gross-Camp, 2017). At higher scales of governance, powerful stakeholders are shown to shape the way social issues are framed in policies, for example leading to contrasting interpretations of Free, Prior and Informed Consent (FPIC) between mining and forestry sectors (Mahanty and McDermott, 2013).

A further area of justice concern is the extent to which those holding different worldviews, often deeply connected to nature, ecosystems and places, are recognised. This line of concern has involved critical scrutiny of the ecosystem services framework itself, asking whether the rudimentary conceptualisation of cultural values and 'siloing' of them from other types of services (inadvertently) promotes a worldview that precludes alternative, possibly more just, ways of knowing nature-society relations (Chan et al., 2016; Martin et al., 2013; Pascual and Howe, this volume). A compromise response to such a critique, staying within the ecosystem

BOX 2.1 THE THREE DIMENSIONS OF ENVIRONMENTAL JUSTICE

Early or 'first generation' environmental justice studies focused on the mal-distribution of environmental externalities from industry in the United States (Walker, 2012). A second approach to environmental justice emerged as an analytical frame in the early 2000s, focusing on three interrelated dimensions: distribution, procedure and recognition, and has since gained global renown and application. This builds on work by Nancy Fraser (Fraser, 1995) and others who initially put forward the same three dimensions to comprise theories of social justice, which were subsequently developed as a theory of environmental justice, notably by David Schlosberg, who further notes the importance of future generations and non-human nature as groups affected by environmental governance (Schlosberg, 2004).

Distribution concerns the different subjects who realise benefits or incur costs and risks, whether material or non-material, objective or subjective (Walker, 2012).

Procedure refers to how decisions are made and by whom, whether formal rules and processes or informal interactions, necessitating attention to unequal power relations and differential ability to assert or oppose different claims (Dawson et al., 2017b).

Recognition revolves around the status afforded to different social and cultural values or identities and to the social groups who hold them (Martin et al., 2016).

Although there is debate over which dimension may be most central, and how they interact, there is wide acknowledgement in ecosystem services scholarship that all three matter, are interrelated and should be given broad, simultaneous consideration when addressing empirically the perspectives of different people on environmental governance and change. Claims about justices and injustices may pertain to any and most likely to all of those dimensions.

The convergence of equity with environmental justice

The idea of 'environmental equity' has taken a similar trajectory to that of 'environmental justice'. In ecosystem service research, recent work has aligned the two concepts such that there is no longer a clear lexical distinction (Schreckenberg et al., 2016). Historically, however, the concepts find their origin in rather different settings. 'Environmental equity' mainly gained prominence in policy circles, and was originally formulated exclusively as a matter of inter- and intra-generational distribution (Pearce et al., 1989). In 1992, the US Environmental Protection Agency established the 'Environmental Equity Workgroup' and published the 'Environmental Equity report', anchoring the

concept in policy-circles. However, the preference for equity within policy-circles has been criticised for ignoring underlying issues of social exclusion, power, race and class in the context of the environment (Gauna, 1995).

'Environmental justice', however, appears to have much more of a grass-roots origin. It emerged through struggles of African-American communities denouncing the inequitable distribution of environmental harm, and its origin is often traced back to the 1978 pollution scandal in Love Canal, New York. The concept gained nationwide attention in 1991, with the adoption of the 'seventeen principles of environmental justice' during the First National People of Colour Environmental Leadership Summit in Washington, DC and led to the adoption of the Environmental Justice Executive Order 12898 in 1994.

Despite the repeated articulation of environmental justice and equity definitions encompassing these three dimensions, the vast majority of studies referring to equity or environmental justice focus very narrowly on issues of material distribution and equality of outcomes, downplaying the importance of decision-making processes and of cultural difference. These narrow definitions are poorly supported by theories of equity and justice (going back as far as Aristotle) and overlook key factors shaping people's experiences of ecosystem governance, or ecosystem service trade-offs.

services framing, is to ensure that research disaggregates social groups and their values (Daw et al., 2011; Díaz et al., 2015). For example, Dawson and Martin (2015) show through analysis of the wellbeing of rural Rwandans, that differences in values and practices relating to land and natural resources, food production and income generation, and the social and political dynamics which marginalise certain groups, are crucial to the way poverty and trade-offs are experienced. In Rwanda, strict regulation over agriculture and forestry practices combine to override the rights and interests of cultural minorities, including the indigenous Twa and others who depend on the use of traditional knowledge, customary land tenure and embedded social practices around sharing and trade of crops.

These three critical concerns of ecosystem governance or management of ecosystem services trade-offs – distribution, procedure and recognition – have been elaborated as three interrelated dimensions of environmental justice (Box 2.1, Figure 2.1). Justice or equity framings essentially focus attention on all three dimensions simultaneously and so offer a holistic exploration, revealing differences between stakeholder perspectives, across multiple values and also scales of space and time (Sikor et al., 2014). For example, one of the more common ways to resolve ecosystem service trade-offs is to employ financial mechanisms such as payments for ecosystem services or compensation. While such distribution-oriented mechanisms are often (though not always) considered legitimate by local communities, they only deal with one dimension of injustice and therefore are often not sufficient to
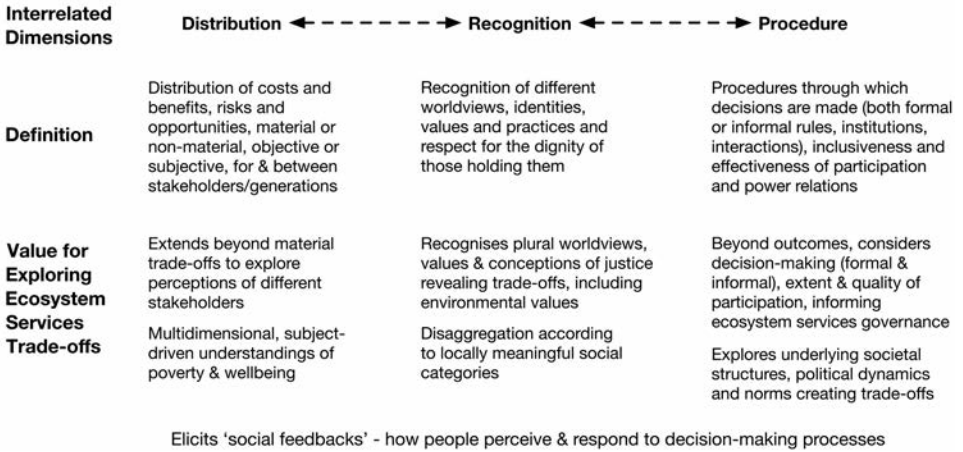
Interrelated Dimensions	Distribution ← – – – – – → Recognition ← – – – – – → Procedure		
Definition	Distribution of costs and benefits, risks and opportunities, material or non-material, objective or subjective, for & between stakeholders/generations	Recognition of different worldviews, identities, values and practices and respect for the dignity of those holding them	Procedures through which decisions are made (both formal or informal rules, institutions, interactions), inclusiveness and effectiveness of participation and power relations
Value for Exploring Ecosystem Services Trade-offs	Extends beyond material trade-offs to explore perceptions of different stakeholders Multidimensional, subject-driven understandings of poverty & wellbeing	Recognises plural worldviews, values & conceptions of justice revealing trade-offs, including environmental values Disaggregation according to locally meaningful social categories	Beyond outcomes, considers decision-making (formal & informal), extent & quality of participation, informing ecosystem services governance Explores underlying societal structures, political dynamics and norms creating trade-offs

Elicits 'social feedbacks' - how people perceive & respond to decision-making processes

FIGURE 2.1 Dimensions of environmental justice or equity and their contribution to the elaboration of ecosystem service trade-offs.

promote justice for all, as they neglect other aspects of justice which may be more important to people, such as having a voice in land-use decisions or gaining recognition of their particular identities and practices (Martin et al., 2013).

The application of equity and justice approaches to ecosystem governance research, and increasingly as policy objectives, is a frontier with great potential impact on the practice of ecosystem governance. However, it is important to note that supporting knowledge of socio-economic status, livelihoods, social difference, cultural values, knowledge systems and impacts of change on people's lives is a necessary foundation for environmental justice research, and can be provided by complementary wellbeing research (Dawson et al., 2017a; Schlosberg and Carruthers, 2010; Coulthard et al., this volume).

In the remainder of this chapter, we first describe the emergence of equity and justice as goals in policy and, through an environmental justice lens, critically assess the framings of justice employed and mechanisms or strategies set out to attain them. Second, we draw on recent studies that have taken a holistic equity or justice framing to explore ecosystem service trade-offs to consider: how to define, assess and operationalise equity or justice for ecosystem governance; the normative barriers and opportunities that exist for promoting equity as a policy goal; and some of the characteristics of equitable or just governance in different contexts and sectors.

Equity and justice in environmental policy

Following the first Earth Summit in 1992, social objectives have gained increasing prominence in global environmental policy. In the context of conservation and ecosystem services, this has led to a shift from a focus on nature preservation alone to solutions that target simultaneous and synergistic social and ecological gains, through

integrating sectors and land uses to produce more holistic, long-term solutions for development and the environment (Rival, 2012). The interrelation between social and ecological systems, policies and outcomes has been intensified through accelerating environmental change, increasing populations, infrastructure proliferation and globalisation processes (Adger and Winkels, 2014). But 'win–win' solutions do not come easily (Howe et al., 2014), and experiences have revealed negative impacts of governance interventions upon local populations, even as a consequence of supposedly 'people-friendly' approaches. Consideration of ecosystem services has been used to support market-based solutions such as payments for ecosystem services, whereby local people cease use of certain provisioning and/or cultural ecosystem services to maintain ecosystem structure and functions, and are compensated by the remote stakeholders who benefit. Such schemes can in principle resolve trade-offs in pro-poor and equitable ways because they involve financial transfers from wealthier to more marginal groups, and in principle do so on the basis of free and informed exchange (Pagiola et al., 2005). Yet such projects have been highly controversial and frequently shown to be inequitable because they are procedurally coercive (Fisher, 2013; McAfee, 2012); fail to distribute benefits to those who suffer the costs (Poudyal et al., 2016), or to marginalised groups (Corbera et al., 2007); and impose a solution framework that fails to recognise alternative values (Martin et al., 2013). Effective and equitable ecosystem services policy therefore requires a more explicit deliberation over justice framings and objectives against which to assess performance. Equity (and to a lesser extent justice) concerns have therefore landed and recently proliferated as terms in policy documents (Table 2.1).

Policy norms related to justice and equity reflect all three dimensions introduced above: distribution (mostly in the form of benefit-sharing arrangements); procedure (norms related to the improvement in participation of local stakeholders, e.g. free prior informed consent); and recognition (often in the form of respect for rights and knowledge of indigenous peoples and local communities). For example, environmental justice has gained global attention in the water sector. Since the 1980s, activists have voiced demands for universal access to water, inspiring global declarations such as the 1992 Dublin Statement on Water and Sustainable Development. This statement highlights the need to involve the full range of affected stakeholders, including women, in management (Principles 2 and 3), and eventual recognition by the United Nations in 2010 of access to clean water and sanitation as a human right (Principle 4) (ICWE, 1992). Some, such as the CBD Aichi Target 11, provide for a wide scope covering multiple dimensions, stating that 'communities should be fully engaged in governing and managing protected areas according to their rights, knowledge, capacities and institutions, should equitably share in the benefits arising from protected areas and should not bear inequitable costs' (CBD, 2010). Most however, do not include a working definition of equity or justice or describe the terms and principles by which justice is framed across different spatial scales, leaving it to states (and other stakeholders where processes allow) to interpret and assess these concepts and whether and how to develop strategies to pursue them. This ambiguity runs the risk of creating inconsistencies between policy

initiatives and of enabling weak interpretations which support the *status quo* and preclude transformative change.

While the inclusion of justice references in policy came about through the proliferation of justice-related claim-making emanating from social movements,

TABLE 2.1 Examples of equity and justice measures and concepts used in selected policy documents (post-2000), and related theoretical concepts

Year	Policy document	Concepts	Environmental justice aspects
2016	IUCN Green List for Protected Areas	Free, prior and informed consent; Rights-holders effectively involved in decision making	Procedure
		Recognise the legitimate rights of Indigenous Peoples and Local Communities (IPLCs)	Recognition
2013	IUCN Instruments for Governance of Protected Areas	Appropriate compensation for the cost of protected areas	Distribution
		Full and effective participation	Procedure
		Respect substantive rights	Recognition
2013	IPBES Conceptual framework	Multidimensional value systems and 'alternative' knowledge systems	Recognition
2012	Sustainable Development Goal 15 (life on land)	Access and Benefit-sharing	Distribution
2012	Sustainable Development Goal 14 (life below water)	Recognizing [. . .] differential treatment for developing and least developed countries	Distribution
2010	CBD Nagoya Protocol	Access and Benefit-sharing	Distribution
		Prior Informed Consent	Procedure
2010	Aichi Biodiversity Targets 11 and 16	Equitable management of protected areas	Distribution Procedure Recognition
2010	UNFCCC REDD+ safeguards (Cancun Agreement)	Respect for the knowledge and rights of IPLCs	Recognition
		The full and effective participation of relevant stakeholders, in particular IPLCs	Procedure
2009	Conservation Initiative on Human Rights	Respect and promote human rights	Recognition
2001	FAO Treaty on Plant Genetic Resources for Food and Agriculture	Access and Benefit-sharing	Distribution

it is unclear how much overlap exists with the principles appearing in the docu-
ments. Indeed, indigenous, land rights, smallholder and other justice movements
perceive that environmental policies, in tandem with development and agricultural
policies, often override customary practices and tenure systems that underpin fair
land allocation, food production and social relations, framing them as reasons for
biodiversity loss rather than part of possible solutions. In other words, a 'justice
gap' exists between the pathways to conservation and development outcomes
envisioned in global (and national) policies and the perspectives of many indigenous
peoples and local communities about how these outcomes should be achieved
(Martin et al., 2016). Bridging this justice gap is not only important for moral reasons,
to avoid adverse impacts and uphold human rights, but there is also increasing
acknowledgement and evidence to suggest that equitable governance is instrumental
in achieving ecological policy goals, rather than contrary to them (Coolsaet, 2015;
Martin, 2017; Oldekop et al., 2016; Schreckenberg et al., 2016). More explicit
framings of justice or equity and transparency around negotiation of terms and
definitions between different interest groups are required to move beyond
ambiguous and inconsistent references in policy. Greater attention to and consensus
about equity and justice definitions could, in turn, inform development of guide-
lines and tools for how to assess and pursue more just, equitable and sustainable
governance at various scales (Lele et al., 2013).

Defining, assessing and operationalising equity or justice for ecosystem services research and governance

Environmental justice frameworks, with a focus on the three interrelated dimensions
of distribution, procedure and recognition, offer minimal guidance as to what justice
issues may exist and how to observe and analyse them. This brevity is both a strength
and a weakness. The breadth of the three dimensions demands attention to a
set of inter-twined issues rather than focusing on a single aspect such as material
distributional outcomes. The absence of a universal definition also enables research
that explores plural justice perspectives, including inquiry into what people consider
to be just or unjust in various contexts, at various spatial and temporal scales of
analysis and through the lens of widely differing worldviews (Schlosberg and
Carruthers, 2010; Box 2.2). On the other hand, the emergence of equity and justice
as policy goals inevitably leads to calls for elaboration of operational principles of
justice, along with suitable, replicable approaches to describe justice outcomes
in various contexts and even standardised and quantifiable indicators and measures
of justice that can be used to assess progress towards achieving the goal (Zafra-
Calvo et al., 2017). Yet, there is limited guidance even for what should be
considered within each dimension and how to elicit understanding about them.
Here we synthesise contemporary scientific literature about how equity and
environmental justice may be defined, assessed and operationalised to take issues
of poverty, rights and trade-offs into account, with or without compromising
attention to pluralism.

BOX 2.2 VALUE OF ENVIRONMENTAL JUSTICE OR EQUITY RESEARCH FOR EXPLORING ECOSYSTEM SERVICES TRADE-OFFS

Research into environmental justice or equity:

- Goes beyond identification of material and economic trade-offs to explore how different individuals and stakeholder groups perceive and feel about these trade-offs.

- Explores not only outcomes, but also the decision-making processes (both formal and informal), the extent and quality of participation for different stakeholders and how they shape perceptions of decisions and their outcomes.

- Recognises plural worldviews, values and conceptions of justice, including those that may be incompatible with an ecosystem services framing, thereby revealing a wider array of trade-offs experienced by different social groups. The absence of detailed, universal definition and conception maintains this flexibility.

- Addresses power relations among different perspectives in the con-ceptualisation and production of knowledge about ecosystem services and their valuation, to better represent worldviews and knowledge systems of marginalised groups.

- Disaggregates the outcomes of trade-offs for human wellbeing according to social categories that are locally relevant and meaningful (e.g. age, indigeneity, gender).

- Attends to major international social justice referents, including human rights declarations, basic needs thresholds and FPIC.

- Adopts a multi-dimensional understanding of poverty and wellbeing beyond standard measures of poverty or material wellbeing, which for example neglect issues recurrently central to local justice concerns such as land tenure security. Such approaches therefore more aligned with relatively holistic approaches to sustainable development such as SDGs.

- Captures how people perceive changes affecting them and respond behaviourally to them – eliciting 'social feedbacks' affecting ecosystems and uncovering implications for governance, looking beyond 'eudaimonic' methodologies focused on trajectories in people's wellbeing.

- Looks beyond the immediate manifestation of inequitable outcomes to explore the underlying societal structures that give rise to these and their drivers across different spatial and temporal scales.

Several studies have proposed options for enhancing the ability of empirical justice research to elicit plural perspectives and explore trade-offs. Sikor et al. (2014) put forward a framework for empirical studies which distinguishes, in addition to the three dimensions, who the various subjects of justice are (e.g. current people, future people, non-human animals) and the criteria which guide their notions of justice, or principles guiding what the various subjects consider to be fair (e.g. individual human rights, aggregate happiness). Others have differentiated between social norms, principles or 'notions' of justice and specific claims made by individuals or groups in response to certain impacts (Dawson et al., 2017a). Martin et al. (2016), in addition to considering the dimensions and subjects of justice, extend their analysis to consider the different types of harms which may constitute injustices (to include psychological harms such as loss of esteem and dignity), the mechanisms through which they are experienced (including unequal status conferred to different social groups) and the types of responses which may be considered to mitigate or counter those harms (such as recognition of difference).

Schreckenberg et al. (2016) go further and propose, in response to Aichi Target 11 of the CBD, a generalised set of principles for equitable ecosystem governance in the context of protected areas, drawing on inputs from existing international policy and law, from academics and practitioner stakeholders and informed by site-level case studies in East Africa. They identify 17 universal principles cutting across the three dimensions. Far from presenting prescriptive or limited approaches to understanding equity, the principles represent widely held norms supporting inclusive multi-stakeholder governance. For recognition, these include respect for human rights, land and resource tenure, both customary and statutory systems, identities, knowledge systems and institutions, and powers to influence. For procedure, the principles cover full and effective participation, clear responsibilities, accountability, access to justice, transparency, and FPIC. Distributional principles include identification of costs, risks and trade-offs, with attempts to mitigate costs and attention to the distributional outcomes for future generations. These principles elaborate important criteria for attaining or moving towards more equitable governance without promoting prescriptive approaches or a single governance form for doing so. Agreement between nation states and civil society representatives on justice-related norms and principles is evident, perhaps most notably through the UN Declaration on Human Rights. Such clear consensus on sets of principles suggests a more universal definition of environmental justice is possible for ecosystem services-related governance or the environment sector more widely. However, persistent political barriers to the adoption and implementation of human rights principles at national and subnational scales illustrate the enormity of the task.

Field studies focused on the perspectives of local inhabitants most affected by ecosystem governance have reiterated the importance of open, exploratory and plural approaches to equity and justice, which may complement the more deductive application of general principles. For example, Dawson et al. (2017b) find, through empirical research at Nam Et-Phou Louey National Protected Area in Laos, that

aspects of governance important to local stakeholders' perceptions of equity include the informal interactions through which land and resource access is negotiated or customary access maintained in the face of formal rules, social and economic changes leading to re-evaluation of costs incurred through protected area management, and place attachments connecting people to locations inside protected area boundaries. Through exploring local priorities and perspectives, these studies highlighted that degazetting part of the protected area for local agricultural use was not seen to be an equitable solution to local claims. Rather, potential synergies between equity and conservation effectiveness were uncovered through more consistent and transparent enforcement of rules, acknowledgement of and reparation for broken promises of livelihood support, provision of development assistance more appropriate to local aspirations, and re-targeting of benefits towards those suffering the greatest costs of conservation restrictions.

ESPA research on justice and water management particularly revolves around the issue of involvement of affected people. Through questions like 'who decides who gets water, when, how and why' or 'who should be involved in the water catchment management', and 'whose knowledge on wastewater counts?' authors try making sense of the inevitable trade-offs, characterised by complex interdependencies between biophysical processes, uses and users, at local or at international level (Karpouzoglou and Zimmer, 2016; Wei et al., 2012; Zeitoun et al., 2014). Interestingly, while these studies have a common interest in the mechanisms of justice – i.e. the 'design features of governance interventions' (Sikor, 2013a: 14) – they focus on different aspects and different scales of the problem, hence highlighting different possible outcomes of more inclusive water management processes. For example, drawing on an experimental social learning platform in Lake Baiyangdian, China, Wei and colleagues (2012) show how the development of a reflexive governance process helps to improve the water catchment system by better apprehending its complexity.

Such features, though crucial for assessing equity and guiding responses, may not be easily captured in cursory top-down assessments or standardised indicators. Rather, the importance of these complex, non-material, procedural and evolving facets to perceptions of equity (and their centrality to the effective conservation of ecosystems) means that attempts to identify and address complex trade-offs must include trust-building and dialogue with all stakeholders, but particularly local communities, including the poor and marginalised among them, and collaborative, adaptive governance processes to respond to evolving issues and opportunities (Galafassi et al., 2017).

Normative boundaries to enhancing equity and addressing injustice

Enduring differences exist regarding the equitability of ecosystem governance, particularly between implementing institutions (at international and national levels) and the indigenous and local communities most affected. The 'justice gap' arises

partly due to difficulties in implementing policies negotiated at the global or state level, but crucially is also caused by normative differences in how ecosystems should be equitably governed (Figure 2.2). In other words, addressing diverse equity concerns from multiple perspectives requires not only financial and human resources to implement equity principles but perhaps, more importantly, a change of thinking allowing dominant discourses to be challenged to the extent that persistent, entrenched injustices may be addressed. Indeed, advances in environmental justice research focus on radical counter-hegemony, including the recognition of different knowledge systems (Pellow, 2016), to better represent worldviews of marginalised groups and the political and social dynamics which cause and perpetuate injustices, particularly in the face of increasing global economic and political influences.

Unequal power between interest groups is a common and persistent feature of environmental management in developing countries (Sikor, 2013a). For example, research into the equity of forest certification schemes has revealed how power inequalities between international companies, timber producers, land owners and local communities tend to reproduce the same social and environmental injustices (McDermott, 2013; Pinto and McDermott, 2013). Zeitoun et al. (2014) consider how a focus on justice can mitigate power asymmetries between states in trans-boundary water arrangements, by providing counter-hegemonic alternatives. By showing how the exposure of poorer urban citizens to untreated wastewater is the result of particular framings of the problems, Karpouzoglou and Zimmer (2016) also look at strategies of counter-hegemony. In each case, the proposed pathway to enhanced justice lies in legitimising 'alternative' knowledge systems by ensuring poorer citizens have greater voice in defining the political agenda of wastewater management.
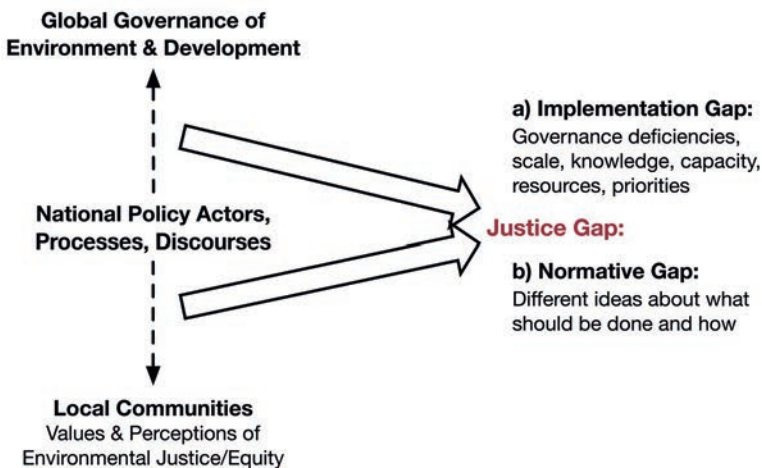

FIGURE 2.2 The justice gap between global and national ecosystem service governance and local communities comprises normative differences and implementation deficiencies.

Research into the framing and implementation of equity in ecosystem governance reveals an emphasis on access restrictions and financial compensation as central elements of governance, while complex issues relating to rights, tenure, cultural practices and participation are compartmentalised and deprioritised as safeguards or principles to be addressed through technocratic exercises comprising minimal monitoring and evaluation or accountability (Sikor, 2013b). Although the policies may refer to aspects of all three dimensions of justice, they commonly fail to deliver processes or outcomes perceived as equitable by local people or significant progress towards ecological goals. Such watering-down of justice issues has been demonstrated for PES projects (Fisher, 2013), Reduced Emissions from Deforestation and Forest Degradation schemes (REDD+) (Ituarte-Lima et al., 2014; Poudyal et al., 2016), biodiversity offsetting (Bidaud et al., 2017), water governance (Lele, 2017) and ecotourism projects (Martin et al., 2013). This cursory attention to, or lack of regard for, local justice framings fails to bring into negotiation the norms and discourses which support exclusionary, centralised approaches and reproduce entrenched injustices. Indeed, in many circumstances those who suffer injustices continue to be viewed as an obstacle to effective management, engaging in backward or even criminal activities (Dawson et al., 2016; Martin, 2017). Research has increasingly shown that granting autonomy to Indigenous Peoples to manage their lands and resources, particularly in the Amazon, leads to enhanced equity and a win-win for forest conservation and wellbeing (Iwamura et al., 2016). However, it remains poorly understood in more complex contexts in other regions, such as Africa and South Asia, what forms of governance achieve conservation goals while also conforming to local values and the wellbeing of local communities, including cultural minorities and the poor (Díaz et al., 2015).

Conclusions

Environmental justice provides an important research approach for detailing social and ecological aspects of ecosystem service trade-offs. The broad focus on procedure and recognition, in addition to distribution, is well suited to: explore multivalency and plural perspectives of diverse stakeholders; consider the political dynamics, which may promote or impede justice; and look across different land uses, sectors and policy arenas to uncover possible adaptations in governance to manage trade-offs. Studies of equity and environmental justice in the context of ecosystem service trade-offs have revealed the persistent gap between policies, programmes and local perspectives, across water, protected area, forest governance and other sectors. They have also uncovered opportunities for moving towards safe and just scenarios in challenging, complex contexts. Most notably, studies consistently reveal hegemony to be the enemy of equitable governance in situations with diverse interest groups and multiple value systems. Embracing broader definitions and framings of equity to support enhanced information, deliberation and mutual understanding of other stakeholders' motivations and experiences tends to

reveal potential opportunities for innovative and synergistic solutions as well as highlighting emerging threats and trade-offs.

Research has a key role in elaborating why local experiences may diverge from policy, and in characterising best practice from countries, stakeholders and sites implementing innovative and progressive governance to inform practice at local to global scales. Areas that have been relatively neglected in environmental justice and equity research in the context of ecosystem services include: analysis of gender-related issues (Brown and Fortnam, this volume); spaces for participation and how they are perceived by different actors (Nunan et al., this volume); analyses comparing the perceived rights and responsibilities of stakeholders across scales ('tele-coupling'); and greater attention to the politics through which equity is framed at different policy scales, and responses designed and implemented. An increasing body of qualitative, quantitative and interdisciplinary evidence is required detailing the mechanisms through which equitable or inequitable circumstances influence people's behaviour and impact ecological outcomes. Studies building on this evidence to further elaborate guidelines and tools for how to assess and operationalise equity can feed into a number of important ongoing debates in various policy arenas. These include negotiations over how to assess ecosystem services at local and national scales, the means to implement increasingly popular landscape approaches, the definition of non-carbon benefits and equity in climate policy, approaches to assess and implement SDGs, and approaches to define, assess and pursue equity in the CBD.

The current political climate represents a crossroads for equity, the term favoured in policy, and justice, that favoured by social movements. Recent global environmental governance and targets for SDGs, climate policy and biodiversity conservation are under negotiation and are soon to be implemented across regions of high poverty and cultural diversity. Where attempts are made to enhance the prioritisation of equity in policy, through a deeper consideration of diverse values, disaggregated social impacts, more inclusive and accountable decision making at all scales and to substantive, accessible procedures to protect the rights of the most vulnerable, we may see those terms converge and a narrowing of the justice gap in practice as in research.

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