Why Should Ecosystem Services Be Governed to Support Poverty Alleviation? Philosophical Perspectives on Positions in the Empirical Literature

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ARTICLE INFO

ABSTRACT

In light of trade-offs related to the allocation of ecosystem services we investigate the prevalent norms that are drawn upon to justify why ecosystem governance should prioritise poverty alleviation. We are specifically concerned with poverty alleviation because we consider this an urgent problem of justice. We review empirical literature on social trade-offs in ecosystem services governance in order to identify the prevalent conceptions of justice that inform scholarly assessments of current practice. We find that empirical studies do present specific notions of justice as desirable benchmarks for ecosystem services governance but that they rarely attempt to spell out the precise meaning of these notions or what makes them desirable. For those notions of justice that we identify in this literature - sufficientarianism, egalitarianism and participatory approaches - we draw on philosophical justice literature in order to better articulate the normative arguments that could support them and to be more precise about the kind of actions and expectations that they invoke. Moreover, we point to some striking normative silences in the ecosystem services literature. We conclude that the ecosystem services justice discourse would benefit from more conceptual clarity and a broader examination of different aspects of justice.

1. Introduction

After the publication of the Millennium Ecosystem Assessment (2005), the idea of ecosystem services has become a key reference point in ecological economics and wider literatures that conceptualise the benefits that nature provides for humans (Gómez-Baggethun et al., 2010). Whilst this conceptualisation is intended to describe any benefit that people can derive from nature, it has particularly emphasised that the livelihoods and wellbeing of the poor are disproportionately dependent on access to ecosystem services. Ecosystem services provide and sustain crucial livelihood assets such as food and fibre and moreover represent an important income generating opportunity through the sale of nature-based products (Millennium Ecosystem Assessment, 2005; see also Reardon and Vosti, 1995; Duraiappah, 1998).

Yet there is also a growing recognition in parts of the ecosystem services literature that ecosystem services are not simply available for everybody but that in one way or another, distribution among potential beneficiaries is being governed. In many instances such distributions involve social-ecological trade-offs, meaning that governing ecosystem services in favour of one group of stakeholders inevitably comes at the expense of other groups (Rodríguez et al., 2006; Coulthard et al., 2011; Daw et al., 2011; Howe et al., 2014; Galafassi et al., 2017). Common trade-offs include human wellbeing versus non-human nature, current versus future generations and the interests of the poor versus the perceived greater good of all humans.

The ecosystem services framework is relatively recent and yet has rapidly gained traction in both research and mainstream environmental decision-making. In this paper we explore the moral reasoning that is apparent in empirical research applications of this highly influential framework. In particular we set out to identify and analyse the reasons the ecosystem services literature offers for why trade-offs should be resolved in favour of the poor. Underlying this research question are two core normative commitments of our own. Firstly, we propose that the resolution of trade-offs requires ethical judgement. If not everybody's needs and/or preferences can be met, sound reasons are required to justify to who or what priority is given. Secondly, we are particularly concerned with the poor because we share the widespread view that avoidable human suffering is unjustifiable. This belief gains particular urgency in situations where the poor are threatened by further marginalisation. Indeed, it has been found that policies designed without

appropriate consideration of trade-offs are more likely to harm poor people (McShane et al., 2011).

We believe that careful attention to ethical reasoning might help the governance of ecosystem services tradeoffs, through the identification of an explicit and defensible case for why the poorest should take priority. In doing this, we do not seek to present our own pre-formed ideas about what such a case should be. Instead we set out to summarise the normative cases that ecosystem services scholars have employed in their empirical studies. We describe these (often implicit) normative cases and analyse them through comparison with established theories of justice. There are currently many calls for increasing attention to human wellbeing concerns in ecosystem services governance for what are ultimately ethical reasons (e.g. Pascual et al., 2014; Suich et al., 2015; Cruz-Garcia et al., 2016). However, our impression is that many of these papers remain vague about the normative principles they espouse. Moreover, we believe that a more precise discussion about different ethical principles and their respective justifications and implications is needed if we want to make a forceful case for the priority of poverty alleviation in the face of trade-offs. To this end, the primary aim of this paper is to clarify the dominant normative stances in the current ecosystem services literature. A secondary aim is to reflect on the limited scope of normative thinking that is found within this subset of academic literature. For example, the ecosystem services framing leans towards concerns with material goods and towards anthropocentrism – thus, it is to be expected that this literature will not reflect a full range of ethical viewpoints. This is important to clarify because conflicts over trade-offs could in large part be described as conflicts between different ethical cases about prioritisation.

To address these aims, we first undertake an audit of the normative pro-poor principles invoked in the literature on poverty and ecosystem services trade-offs. In particular, we identify which are the main arguments used to justify the allocation of ecosystem services in a pro-poor way. As predicted, our review finds wide support for governing ecosystem services for poverty alleviation. However, most of this literature contains little explicit normative reasoning about why this should be the case or about what this means more precisely. For this reason, we draw on theories of justice to identify and discuss the more precise arguments that could be used to bolster the often vague and implicit reasoning that we find in the empirical literature. That is, we put a 'philosophical mirror' up to empirical research and show which more systematic arguments these researchers could draw on to support the principles they espouse. By doing this we hope to illuminate what is behind different justice positions and what requirements for just ecosystem governance they entail.

The remainder of this paper is organised as follows: First we present our method for identifying and analysing the relevant empirical ecosystem services literature. Second, we present the main principles we identify in the literature – a strong focus on sufficientarian and egalitarian outcome oriented principles and a strong emphasis on participation of the poor in determining distributions – and explore these in terms of philosophical underpinnings. Third, we point out some blind spots in the literature, in terms of the limited range of justice thinking that it reflects. We conclude by drawing these findings together and situating our approach in a broader debate about whether it is feasible or appropriate to seek universal standards of justice to shape decisions about ecosystem governance.

2. Methods

The body of work selected for our analysis is composed of peer-reviewed journal articles that address the basic normative challenge set out in the introduction. We limited our material in this way for reasons of feasibility and because peer-reviewed journal articles currently represent the mainstream and most influential sections of the academic discourse. Since our analysis is exclusively based in the Anglophone literature it clearly cannot be fully representative of the discourse

Table 1
Search terms for the analysis.

Ecosystem Service* Environmental Service*	AND	Trade-off*	AND	Poor* Poverty Just* Ethic* Fair* Wellbeing Basic Right* Basic Need* Capabilit* Equit* Equal* Accountab* Responsib* Compensat* Reward*

around justice and ecosystem services governance. However, we are confident that our analysis provides an insight into a very influential segment of this discourse.

We carried out a Web of Science search in late June 2017, using all possible combinations of search terms from each of the three columns of Table 1 below.[1] The search was by "topic" so it would find all articles where the respective search term occurs in the title, abstract or key words.

The choice of search terms is in line with our research question and the three columns in Table 1 reflect the different components we are interested in. First, the field we are interested in is the governance of ecosystem service(s); for this we also include the term environmental service(s) as a recurrent synonym in the discourse. Second, the kinds of situations we are interested in are characterised by trade-off(s) in the allocation of (the proceeds from) ecosystem services. The term 'trade-offs' became prominent after popularisation of the ecosystem services discourse by the Millennium Ecosystem Assessment (e.g. Foley et al., 2005; Rodríguez et al., 2006; Bennett et al., 2009; McShane et al., 2011). Whilst the wider literature on environmental governance continues to employ a range of terms to refer to inter-stakeholder conflicts of interests, trade-offs soon became the standard term used within the literature upon which we focus.

The terms in the third column are intended to capture the normative content we are interested in and this requires a more diverse set of terms to capture the relevant literature. First, the terms poor and poverty reflect the core normative interest of our research question. We add a number of justice-related terms in order to include papers that do not contain poverty-related terms in the title, key words or abstract and in order to capture the normative reasons given by the papers for their stance on ecosystem services trade-offs. In this spirit, we first include terms that refer to the concept of justice in a very general sense (just*, ethic*, fair*, wellbeing). We then add terms that refer to key conceptual questions which theories of justice typically address. Thus, many justice conceptions say something about persons' entitlements, notably whether these draw in a more basic sense on basic needs or basic rights or capabilities or are oriented towards equity or equality. Many justice theories also take into account how distributive outcomes came about and hence include considerations of accountability and responsibility or they reason on the basis of past action who deserves compensation or reward for the current state of affairs. Our overall list of search terms is certainly not conclusive but we are confident that by including key terms associated with a variety of perspectives we are able to provide a reasonably good overview over the state of the focal literature.

This search identified an initial list of 630 papers. We reduced this list in three steps. First, we removed all duplicated papers (because they contained several of the search terms in the first and third column).

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[1] The asterisks were included in order to capture different variants of the same root word; e.g. "equit*" would turn out the term "equitable" as well as "equity".

Second, based on their abstracts, we removed those papers where the connotations of the search terms were clearly unrelated to our research (e.g. references to "poor data quality" or cross references to arguments made "just above"). Third, we read all the remaining (254) abstracts and included those papers that clearly speak to our research question, i.e. they are in some way concerned with the allocation of benefits from ecosystem services to the poor in a context of trade-offs related to the governance of ecosystem services. Overall, we identified a list of 43 papers for analysis (see Appendix A).

The analysis involved reading the whole paper in detail to identify the authors' normative arguments about whether and why ecosystem services governance should give high priority to poverty alleviation. Most papers we read do not engage in explicit normative reasoning but they do apply benchmarks (such as food security) for their assessments of instances of ecosystem governance and we take these standards as indications of underlying normative concerns. As a final step of the empirical analysis, we cluster the papers in our review according to the standards they invoke and this leads us to identify a pattern of dominant arguments for pro-poor ecosystem services governance. We then hold the philosophical mirror up to these dominant arguments. This means that we match the dominant standards we identify in the empirical literature with normative justice theories that support these standards. Finally, we turn the procedure around and on the basis of our own overview of normative justice theories we point out some striking silences in the empirical ecosystem service governance literature.

3. Prevalent Justice Principles in the Ecosystem Services Literature

For the most part, the papers included in our analysis are case studies of local ecosystem services governance in low and middle income countries. Their main concern is with provisioning ecosystem services, that is, with the products that people can derive from ecosystems such as food, fuel or fibre. Whilst few papers are predominantly concerned with identifying people's notions of justice in ecosystem services interventions (Zia et al. 2011; Narloch et al. 2013), many do analyse how interventions have played out in terms of local distributions of costs and benefits. In these cases, normative principles are inferred from the choice of standards that the authors use to guide the empirical analysis. For example, some studies use food security as their standard for evaluating outcomes whilst others assess whether incomes from payments for ecosystem services schemes distribute their costs and benefits equitably. It is on the basis of such implicit normative content that we have identified the following dominant categories of justice and pro-poor arguments in the literature.

3.1. Sufficientarianism

An underlying concern for many papers in our sample is people's access to the basic necessities of life that are derived from ecosystem services. Some authors make this claim in a very general sense, framing their concern in terms of the development opportunities offered by ecosystem services (Gasparatos et al. 2011; Daw et al. 2011; Dawson and Martin 2015; Martin et al., 2015). Others focus on specific human needs that are closely related to ecosystem services, including wild food collection, the provision of fuel wood and drinking water (Cory and Taylor 2017; Derkzen et al. 2017). The most common concern, singled out by many of the papers, is food security (e.g. Cruz-Garcia et al., 2016; Rahman et al. 2016; Salerno et al. 2016; Gao and Bryan 2017). In addition to such tangible livelihood needs, the contribution of ecosystem services to income security is also mentioned by some authors as a crucial element of poverty alleviation (e.g. Willemen et al. 2013; Woollen et al. 2016).

In the language of political philosophy, the normative core of these concerns resonates with a sufficientarian position. This conceives distributive justice in terms of absolute thresholds of material benefits

available to people. In the famous words of Henry Shue this epitomises the idea of a "morality of depth (…) the line beneath which no one is to be allowed to sink" (Shue, 1980, 18; see also Buchanan, 2003, 80; Pogge, 2008, 60). The bottom line of this threshold is conceptualised as everybody having the right to a decent livelihood. If we respect the lives of all human beings as inherently valuable, certain claims to a dignified live are urgent and unavoidable (Reader and Brock, 2004). It is thus important to note that a sufficientarian position does not merely make claims to the material bases needed for survival. Rather, the emphasis on the right to a decent livelihood needs to be taken seriously: instead of merely being able to exist, people should also have at least some opportunity to make and follow their own life plans. This normative conviction moreover seems to attract (near) universal support. For instance, Simon Caney illustrates an overlapping consensus between secular liberalism and major world religions of Christianity, Islam and Buddhism that all endorse a norm of poverty alleviation (Caney, 2010, 539–40).

At the same time, the achievement of decent living for everybody is also the cut-off point beyond which sufficientarian normative approaches do not formulate any further justice requirements. There are two main ways in which the philosophical literature justifies sufficientarianism, neither of which are present in the papers we reviewed. The first justification is that "enough is enough": justice requires no more than that everybody has what is needed for a decent livelihood. The question of how people fare relative to each other is not of moral concern. According to this position, reducing the gap between the rich and the poor does not remove injustice unless it also raises living standards above threshold levels of decency. This is taken as an indication that our actual moral concern is not with inequality per se but with absolute life prospects. If everybody has enough for a decent livelihood, nobody can complain about his or her prospects. How material benefits are distributed once a threshold of decency has been reached is then not a matter of justice any more but could be left to other principles or social forces (Frankfurt, 1987).

The second justification for sufficientarianism is more pragmatic. It argues that distributional equity can be a matter of justice but that it is more important to have a sound normative conception of non-negotiable minimum thresholds for a life of dignity (e.g. Brock, 2009; Nussbaum, 2006; Sen, 2009; Shue, 1980, 19–29). Scholars associated with this justification acknowledge that there might be more ambitious (re-) distributive principles of justice beyond the threshold. Yet they leave the specification of such principles to future discussion as such principles will be much more contested and therefore need much stronger argumentative support. In any distributive situation, people will first of all want to see certain livelihood opportunities guaranteed (Brock, 2009, 50) and only once such thresholds have been reached for everybody should other distributive considerations (such as equality) come to play a role. In that sense, our prime focus should be on people's absolute and not their relative living conditions and sufficientarians attempt to clarify those human claims to livelihood benefits that should have priority over the satisfaction of all other claims that actors may raise.

Yet what would be the content of such a threshold of decency? Sufficientarian arguments are based on the assumption that some material needs are universal, for instance the availability of good shelter or adequate nourishment (Shue, 1980, 23; Sen, 2004, 78; Nussbaum, 2006, 76–78; Pogge, 2008, 42, 55). Empirical support for this assumption comes for example from the Voices of the Poor study, a major study on the wellbeing conceptions of more than 20,000 poor people across 23 countries which has found that participants overwhelmingly agree that material wellbeing includes such crucial aspects as adequate food, access to vital resources such as land and livestock, clothing, health care or education (Narayan et al., 2000, 22–29). More recently scholars of environmental justice and human wellbeing have argued that ecosystem services provide crucial and universal livelihood benefits such as nourishment or medicine and therefore should be governed

in a pro-poor way as an important contribution to enabling persons to have a decent standard of living (Duraiappah, 2004; Schuppert, 2012). These considerations are very much reflected in the subset of papers from our analysis that we have identified as being sufficientarian: their core concern is precisely with key development concerns such as water and food security. Beyond such basic understandings of human needs, the sufficientarian position generally holds that it is up to people in concrete situations to determine what precise form these needs take (e.g. what kind of food is needed) or what other more demanding needs they have (Shue, 1999, 541; Sen, 2004, 77; Nussbaum, 2006, 71; Alkire, 2007, 2).

In summary, we find a strong sufficientarian focus on basic human needs in many of the papers we review. The normative traction of this approach is that it draws our attention to the primary and urgent needs that ought to be guaranteed for people to live a decent life in their respective communities. The distribution of provisioning ecosystem services is a major avenue through which this objective can be reached and is therefore a matter of justice. At the same time, a number of sufficientarian scholars acknowledge that their principles might be complemented with more ambitious distributive principles and indeed we also find these in the literature we review – as we discuss in the ensuing sub-section.

3.2. Egalitarianism

A second major set of papers in our sample makes equity or equality the normative lens through which to look at the governance and management of ecosystem services.[2] The substantive concern of these papers is predominantly with the equality or equity of distribution of wealth or income from ecosystem services and the underlying assumption is that this should work in favour of the poor. Some papers indicate their normative concerns with equity only in very generic terms (Farley and Bremer 2017; Palmer Fry et al. 2017). Most, however, make reference to either of two underlying considerations of an egalitarian distribution. Some ask whether resource management interventions such as payments for ecosystem service schemes lead to an equal distribution of income from the interventions among participants (Gross-Camp et al. 2012; Lansing 2015) or whether there is equal access to ecosystem services (Brauman et al. 2007; Felipe-Lucia et al. 2015). Others ask whether such interventions serve to increase or reduce wealth distribution more generally. For instance, Garcia-Amado et al. (2011) are interested in whether payments for ecosystem services projects can reduce community income disparities (similarly Daw et al. 2011; Bottazzi et al. 2014; Gomes Lopes et al. 2015; Palomo et al. 2016).

In normative theory, the mainstream understanding of egalitarianism is that it requires that people be treated as equals (e.g. see Dworkin, 2000). We can distinguish between two core justifications for an egalitarian position: intrinsic and instrumental reasons (for this distinction see e.g. Barry, 2001, 97; Arneson, 2013). An intrinsic position on egalitarianism attaches value to equality in its own right, that is, the value of equality is seen as important over and above all other values that it might promote. Inequality – someone being worse off than others through no fault of her own – is then seen as inherently unjust (Temkin, 1986, 100). A more widespread position, however, is that equality is important for instrumental reasons, that is material equality is seen as valuable because it fosters other desirable social objectives such as the mitigation of suffering or advancement of freedom or personal fulfilment (Scanlon, 1996). Opportunities for wellbeing, prosperity, freedom and many other values are strongly constrained in

situations of material inequality and this is what instrumental egalitarians condemn morally. The papers in our sample that we label as "egalitarian" mostly fall in this latter instrumental category as they are mostly concerned with how the distribution of ecosystem services affects the opportunities for poverty alleviation and wellbeing (this position is particularly pronounced e.g. in the papers by Garcia-Amado et al. 2011 and Gross-Camp et al. 2012).

An important qualification that is frequently made by egalitarian justice theorists is that justice is a property of broader social structures and not of single policies or measures. In this vein, environmental justice scholars have increasingly underlined that the (distributive) implications of single environmental policy measures need to be assessed in the context of the broader institutional setting they are embedded in (Hayward, 2007, 437; Armstrong, 2013, 60–61). By merely equitably distributing the costs and benefits of a particular ecosystem service governance intervention the relative position of different stakeholder groups is only marginally affected because the absolute material distance between them does not shrink. This understanding is reflected in the substantial number of papers in our sample that inquire into the impacts of ecosystem service management interventions on overall income and wealth distribution (including Daw et al. 2011; Garcia-Amado et al. 2011, Bottazzi et al. 2014; Gomes Lopes et al. 2015; Palomo et al. 2016).

In terms of the content of distributive principles, egalitarianism is a much more diverse theoretical umbrella than sufficientarianism. Whilst there is considerable debate about the precise details of thresholds, sufficientarians do at least agree that the existence of thresholds is what clearly characterises their position. In contrast, egalitarians might not agree about the meaning of 'equally', although they can debate about what is to be distributed equally. Whereas sufficiency is an absolute value, equality is more often seen as a relative value that has to be balanced with other values such as freedom or responsibility. Moreover, equality in one respect often means inequality in others and therefore, egalitarian theories have to be very clear what they seek equality of (Sen, 1979). The answers egalitarian theories have given to this question include equality of opportunity, equal (property) rights, equal effective freedom and equal welfare (for an overview see Arneson, 2013). Indeed the Voices of the Poor study has also found that conceptions of well-being that go beyond basic livelihood benefits diverge significantly across the different contexts in which people live (Narayan et al., 2000, 22–29). These challenges also apply to the area of ecosystem services as exemplified by the difficulties the international community is facing in agreeing on an internationally shared conception of equitable governance, for example in relation to the Convention on Biological Diversity's Aichi Target 11 on the effective and equitable governance of protected areas.[3]

Whilst there might thus be different measures for equality, due to space restrictions we will here only summarise the core philosophical justifications given for the equality of wealth and income as these dominate the egalitarianism-oriented papers in our sample. Whilst attention to income may seem an overly narrow focus for distributional concerns, proponents of this approach argue that money is a universal medium of exchange and therefore monetary income and/or wealth enable people to purchase whatever they need to satisfy their respective needs and preferences (Rawls, 1982, 166). Underlying this is the assumption that justice cannot be determined in terms of a predefined conception of the good. Persons have different long-term objectives and they are satisfied when they have the opportunity to realise their own individual interests (Rawls, 1973, 93, 395–399).

Concluding this section, the egalitarian position supports a pro-poor stance on ecosystem services trade-offs through its requirement that living conditions be equalised – which authors link with improving the conditions of the poor not only above the decency threshold but also

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[2] "Equity" remains a notoriously underspecified term in the papers in our sample. Yet in all papers in our sample it is employed in a manner that signals the authors' concern about (great) social disparities. Some (e.g. Daw et al. 2011) even appear to use the terms equity and equality interchangeably. Therefore we take this as synonymous with the notion of "equality" for the sake of our analysis.

[3] http://bip.web-staging.linode.unep-wcmc.org/ (last access 21 August 2017).

with the intention to create greater equality. Interestingly, many authors also link this principle more closely to the income opportunities from ecosystem services rather than those for subsistence means. However, whilst sufficientarianism and egalitarianism are frequently understood as two distinct schools of thought, there can also be considerable overlaps between the two. Thus some of the papers we analyse reflect a concern with basic development needs whilst also explicitly voicing equity concerns (e.g. Daw et al. 2011; Bottazzi et al. 2014; Dyer and Nijnik 2014). Such a combination is promoted by a number of egalitarian scholars who support the sufficientarian minimum as the basic benchmark that should be guaranteed at any rate before (more) egalitarian distributions should be aimed at (Caney, 2005, 121–125; Moellendorf, 2009).[4] Essentially they argue that decent livelihoods are morally prior to any other distributive objectives but that full justice has to be egalitarian. In that sense, we find that the ecosystem services discussion is strongly shaped by two complementary outcome-oriented principles. Yet their content is rarely specified and this leads us directly to another complementary observation on the role of stakeholder participation in conceptualisations of distributive justice.

3.3. Procedural Approaches

In addition to applying distributive principles, many papers in our sample also highlight the need for stakeholder participation in the governance of ecosystem services. Some authors justify this instrumentally: they highlight that giving stakeholders a voice in ecosystem service management will ensure that their interests are included in distributive decisions which will eventually lead to more just distributive outcomes (Bottazzi et al. 2014; Felipe-Lucia et al. 2015; Derkzen et al. 2017; Palmer Fry et al. 2017). Others do not explicitly make this instrumental link (Hirsch et al. 2011; Robards et al. 2011; Daw et al., 2015), in which case their calls for stakeholder participation might be intrinsically motivated: in that case stakeholders should have a say in ecosystem governance interventions because people deserve to be heard. This is once more an important element of many distributive theories – with influential theories even putting political liberties and self-determination before the achievement of distributive objectives (notably Rawls, 1973). In normative-philosophical terms the justification for the strong role of participation derives from the assumption that it matters to people that they can exert control over their lives. In the words of eminent democratic theorist Iris Marion Young: "If all persons are of equal moral worth, and no one by nature has greater capacity for reason or moral sense, then people ought to decide collectively for themselves the goals and rules that will guide their action" (Young, 1990, 91). Once more the Voices of the Poor study can lend empirical support to such normative argument as it has found that powerlessness, the inability to control what happens in one's life, is consistently felt as the core of a bad life (Narayan et al., 2000).

Participation can take very different forms with very different underlying normative justifications. The papers we analyse mostly remain silent on this question thus basically leaving it to be determined in local contexts what kinds of stakeholder participation are acceptable and workable. A few papers, however make particular calls for deliberative procedures (Robards et al. 2011; Wegner and Pascual 2011; Daw et al., 2015). These papers share an underlying notion that deliberative procedures are particularly important in delicate, value-laden decisions about the governance of ecosystem services in order to ensure that

everybody's values are given due consideration. Robards and colleagues cite examples where deliberative procedures have helped to address disagreement between local and external actors about land tenure or resource management practices (2011, 526). Wegner and Pascual, in their discussion of cost-benefit-analysis of ecosystem services governance, suggest that particularly where heterogeneous groups are involved, deliberative processes should be given preference in order to bridge the divide between competing ideational positions (Wegner and Pascual 2011, 499). The same applies when the issues at stake are particularly high. Thus, "deliberative tools should be used when decisions involve intangible dimensions of human well-being, intrinsic ethics, critical thresholds, scientific uncertainty, significant distributional biases and spatio-temporally extensive ecological impacts" (Wegner and Pascual 2011, 502). They assume that the implementation of deliberative structures will help to give more voice and power to the marginalised whose (material) needs and interests are otherwise frequently overlooked in decisions about ecosystem services governance (Wegner and Pascual 2011, 496). Likewise, Daw et al. (2015, 6953) emphasise the need for deliberation in resolving value conflicts in environmental decision-making.

Theories of deliberation are manifold but in an extensive literature review Jane Mansbridge and colleagues find that they share the requirements that policies should not be determined merely by the aggregation of individual interests (e.g. through majority voting) but that decision-making should be preceded by the exchange of arguments and by the search for common ground. Participants in deliberation ought to treat each other with equal respect and concern by listening to each other, speaking truthfully and giving reasons that they assume others can understand and accept. Any coercive mechanism should be absent from the deliberation. All of this is aimed at identifying fair terms of cooperation in a community of equals (Mansbridge et al. 2010, 65–66). Therefore the outcomes of deliberative processes are often considered to be of particularly high moral quality. Several authors from different cultural backgrounds have moreover highlighted how deliberative elements feature in traditional decision-making procedures around the world, including India (Drèze and Sen, 2013, 258), China (He and Warren, 2011, 276) and some African societies (Wiredu, 2015). There have hence been many fruitful practical experiences with applying deliberative procedures to different kinds of decision-making settings around the world (Fishkin, 2009), notably in the field of biodiversity and ecosystem services (Rask and Worthington, 2015).

Altogether, then, the papers emphasising the need for participatory procedures remain very vague as to the precise link they see between outcome-oriented distributive conceptions for the resolution of ecosystem services trade-offs and the requirement for stakeholder participation. One potential avenue that would bring the two together would be to have stakeholders participate in the determination of relevant local needs and in decisions about which material aspects should be equalised.

4. Aspects Not Reflected in the Literature

Drawing our discussion so far together, we find that arguments for prioritising the poor in the ecosystem services literature are dominated by outcome-oriented sufficientarian and egalitarian principles, sometimes in combination with an acknowledgement of the need to involve local stakeholders in governance decisions. This concentration on a few outcome-related principles means that other perspectives are marginalised. This is somewhat predictable if we accept a key thesis of science studies that epistemological framings of scientific inquiry go hand in hand with normative framings (Jasanoff, 2004). In other words, our framework for producing knowledge about social-ecological systems is inter-twined with the production of normative values. The ecosystem services framework is no exception to this: it is a way of looking at the world that brings particular concerns into focus whilst rendering other ways of thinking invisible (Norgaard, 2010). For example, the

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[4] They thereby reply to the so-called levelling down objection which holds that in principle egalitarianism might be achieved by making the richer people worse off without making the poorer better off. This will especially be a normative problem if egalitarianism comes at the cost of leaving some people below the sufficiency threshold or even increasing the number of those below the sufficiency threshold (Raz, 1986, chapter 9). Such challenges might arise in the governance of ecosystem services when the better offs' opportunities to benefit from ecosystem services are restricted whilst no improvement for the poorest is envisaged.

ecosystem services framework tends towards anthropocentric, apolitical and material values, thus foregrounding notions of justice rooted in distributional principles related to the fair sharing of economic costs and benefits (Martin et al. 2013). Our sample of the ecosystem services literature tends to confirm such an association between scientific and moral framings.

By contrast, there are arguments for pro-poor environmental governance that are absent from our sample of literature that we might expect to see in different literatures. For example, Marxist political ecology framings commonly seek to understand global political economic structuring in order to explain a history of accumulation by the wealthy at the expense of a dispossessed poor (Harvey, 1996; Hornborg, 1998). Such a framing alerts its authors to pro-poor arguments based on ecological debt and restitution (Warlenius et al., 2015), arguments that are absent from our selection of ecosystem services literature.

A further aspect that is largely absent from the papers we analyse relates to the importance of cultural ecosystem services for the poor. Given the focus of our analysis on arguments for poverty alleviation it may not be surprising that all papers in our sample have a strong focus on material, provisioning ecosystem services. However, people are often subject to multiple disadvantages and material deprivation of ecosystem services is frequently related to the deprivation from cultural ecosystem services as well. Seen in that light it may be more surprising that only few papers in our sample even hint at the relevance of cultural ecosystem services for the poor (Brauman et al. 2007; Gasparatos et al. 2011; Farley and Bremer 2017). Only the studies by Martin et al. (2015) and Derkzen et al. (2017) do indeed give significant room to the discussion of people's deprivation from both provisioning and cultural ecosystem services and the extent to which the two coincide in their case studies in Uganda and India respectively.

The cultural importance of the environment in general and cultural ecosystem services more specifically have gained little attention in normative (environmental) justice theorising. But this is changing slowly as theories of recognition are becoming increasingly popular in academic environmental justice discourses. The common core of such theories is that a person is recognised when fellow humans and social institutions not only acknowledge that she has specific characteristics (e.g. that she holds a certain faith) but also positively endorsed these characteristics as being part of her (Iser, 2011, 12). The precise justification for why this is a matter of justice and what action it requires in terms of ecosystem services governance has differing interpretations (for an overview see Martin et al., 2016). However, for our current context we can say that this requires that ecosystem management interventions do not assert dominant ways of relating to nature whilst ignoring or devaluing others. This creates misrecognition, whereby those who are culturally dominated cannot freely and unimpededly live their preferred lives. As the poor are often also the culturally marginalized they are particularly vulnerable to such misrecognition and the theory would hence demand that their value systems deserve particular attention in the assessment whether ecosystem services are governed in a pro-poor way.

5. Conclusion

Our review of normative pro-poor principles in the literature on ecosystem services governance has drawn a picture of the status and focus of normative reasoning in a small but informative selection of the ecosystem services literature.

We find that some of the literature does argue for a pro-poor stance on the governance of ecosystem services, but that only very few authors explicitly spell out their normative case for this. Clearly, we would not and should not expect every empirical paper to engage in sophisticated philosophical discussion and justification of its own normative underpinnings but brief explicit articulations and some degree of reflection about the normative commitments underlying an analysis will help to clarify the terms of the debate.

Despite the lack of explicit moral reasoning, we feel confident that we can infer the main thrust of authors' moral reasoning via, for example the analytical categories they select as the focus of their concern – such as income distribution and food security. In this way we find a strong focus on material and outcome-oriented understandings of justice that mostly support pro-poor ecosystem services governance for reasons of either sufficiency or equity/equality and in some rare cases for a combination of both. Sufficientarianism draws its key justification from the belief that the one thing that each and every person deserves, no matter what, is a decent standard of living that allows her to follow her own basic life plans. An egalitarian ethic holds that as a matter of their equal moral worth people also have a right to roughly equal living conditions. In that sense, some scholars point out that egalitarianism builds on sufficientarianism. However, what sufficientarianism or egalitarianism requires in any specific local context is something that many authors do not want to specify and therefore emphasise the importance of participatory procedures so that stakeholders have a say in the design of ecosystem services governance and its outcomes. Some authors also point to poor people's cultural marginalisation, highlighting how this is often exacerbated by ecosystem service governance, and therefore provides an additional argument for a pro-poor perspective. However, this remains a rather weak concern in the sample of papers we have analysed, reflecting the tendency of the ecosystem services framing to shine its analytical light on the distribution of material provisioning services. We also observe a tendency for our sample of ecosystem services literature to depoliticise questions about trade-offs by considering them as resolvable through distributive planning (such as benefit sharing arrangements) rather than political transformation. More clearly political positions such as accounting for responsibility and restitution for past injustices – or indeed reward for past ecosystem stewardship – hardly feature as ethical arguments for pro-poor ecosystem services governance. Their implications and persuasiveness thus might still need to be tested in the discourse.

Critics of our approach might question whether it really makes sense to push for the inclusion of universal principles of justice to support arguments for pro-poor ecosystem governance. Should we not rather go down the route of those who argue that principles of justice are intractably plural, always need to be grounded in local ethical systems and contexts (for a normative philosophical argument on this see Walzer, 1983) and therefore are best formed through context-specific stakeholder participation? In reply, we do not think that our approach and a commitment to local justice principles need to be mutually exclusive. First, we have explicitly undertaken a review of principles we find in the literature that is already available and influential for ecosystem service governance policies and practice. Through our empirical stocktaking and putting a philosophical mirror to it we merely make implicit justice principles more visible so that they can be better compared and contested by those with practical experience in the field, or by those looking at the problem through different epistemic and normative frameworks. Second, we have highlighted how arguments for broadly universal commitments (such as sufficientarianism) leave room for local and even individual conceptions about the precise content of sufficiency, just as poverty lines are drawn differently from country to country. Thirdly, we also note that commitment to general, action-guiding pre-conceptions of justice (albeit still amenable to local circumstances and ethics) may be appropriate in order to guard against the challenges of local participation. For example, women and other marginalised people have been shown to exhibit 'adaptive preferences' whereby they adjust downwards their expectations in alignment with their second-class status, thereby rendering unsafe local consultation over preferences and satisfaction (Nussbaum, 2003, 34). For these reasons we suggest further analyses of the kind we have presented here including comparative analysis with other bodies of literature and with policy papers of major international development organisations, to gain a better understanding of the normative principles driving their work on ecosystem services in urgent trade-off situations.

Acknowledgements

Funding Sources

Declaration of Interest

We have no conflict of interest to declare.

Appendix A. List of Papers

Bottazzi, Patrick; Crespo, David; Soria, Harry; Dao, Hy; Serrudo, Marcelo; Benavides, Jean Paul; Schwarzer, Stefan; Rist, Stephan, 2014, Carbon Sequestration in Community Forests: Trade-offs, Multiple Outcomes and Institutional Diversity in the Bolivian Amazon, Development and Change 45(1): 105–131.

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