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## Environmental justice and ecosystem services: A disaggregated analysis of community access to forest benefits in Nepal



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#### ABSTRACT

The concept of ecosystem services is influencing how environmental stakeholders pursue dual conservation and community development goals. While rapidly growing in popularity, the ecosystem services approach has been criticized for adopting a homogenous approach to communities and failing to consider social diversity and associated power structures influencing access to benefits. In this paper, we adopt an environmental justice lens to analyse access to ecosystem services in a case study of community forestry in Nepal. Using mixed methods, our disaggregated analysis shows that access to ecosystem services is differentiated by social characteristics such as caste, income and gender with uneven distributive outcomes and participation. High-income groups were able to disproportionately access the benefits despite the social equity provisions built into policy and institutional structures. Our study shows that some of the protections oriented at assisting disadvantaged groups were experienced as onerous and should be amended if they are to have beneficial outcomes. In highlighting entrenched inequities, we argue that the ecosystem services approach needs to make environmental justice more central to avoid further marginalising the marginalized, and have far and just outcomes. The current emphasis on aggregated analysis may contribute little to practically implementing programs that will contribute to sustainable socio-ecological wellbeing.

#### 1. Introduction

Ecosystem services are defined as the benefits humans derive from ecosystems (MEA, 2005). The concept has proved popular by providing a means of reconceptualising and revaluing human dependence on natural processes (Schröter et al., 2014). It has become influential in environmental policy and practice and provides the basis for multilateral conservation initiatives such as The Economics of Ecosystems and Biodiversity (TEEB) and Ecosystem Services for Poverty Alleviation (ESPA) (Chaudhary et al., 2015). Within these frameworks the core principle is that nature, in the form of ecosystems, directly and indirectly, shapes people's wellbeing (Hicks, 2013; MEA, 2005). In doing so ecosystems services provides an anthropocentric rationale for pursuing conservation outcomes.

While popular, the approach has also attracted criticism (Schröter et al., 2014). One of the critiques is its focus on 'aggregated' wellbeing. The problem associated with aggregation is that attention is steered towards the wellbeing of 'undifferentiated populations'. Such approaches assume everyone in a given locality benefits from ecosystems in a similar manner (Hicks, 2013), thus neglecting the social hetero-

geneity of societies where caste, class, ethnicity, wealth, power and many other factors can shape access to benefits (Few, 2013). In focusing on aggregate benefits, most ecosystem services research is inadequate for determining which groups in society actually benefit from particular initiatives and why. As Daw et al. (2011), pg.377 argue there needs to be much more 'explicit recognition of the distributional patterns across groups' within society to explore how ecosystem services come to be accessed. Disregarding the distributional patterns means ignoring questions of justice and raise the troubling prospect that ecosystem service approaches may make societies more uneven, thereby risking development outcomes and associated conservation capacities.

Several researchers have emphasized the importance of conducting disaggregated analyses to analyse ecosystem services in order to address concerns about justice and equity (Bull et al., 2016; Daw et al., 2011; Sikor et al., 2014). Fisher et al. (2014), for example, provide a conceptual framework for analyzing the differentiated contribution of ecosystem services to poverty reduction. Horcea-Milcu et al. (2016) and Lakerveld et al. (2015) focus on factors mediating ecosystem contributions to wellbeing of different social

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groups - recommending a focus on disaggregated benefits and associated justice issues. This not only helps to identify the trade-offs of ecosystem services (Rodríguez et al., 2006), but also sheds light on who and how people benefit from ecosystems (Horcea-Milcu et al., 2016).

In this paper, we extend this work by developing a disaggregated environmental justice framework to analyse how ecosystem services are accessed within a community forestry case study in Nepal. We develop a mixed methods approach oriented at providing rich quantitative and qualitative data that can be disaggregated by gender, caste and income. Our main aim is to understand how and why the ecosystem services generated through community forestry benefit different groups within society. Our key objectives are to:

- 1. Identify the major ecosystem service benefits associated with community forestry in the case study area,
- 2. Identify how access to ecosystem service benefits is differentiated by income, caste and gender, and
- Adopt an environmental justice framework to focus on distribution, participation and recognition in order to identify problems involved in uneven distributive outcomes and to develop policy suggestions.

Community forestry in Nepal makes an interesting case study as Nepal is a member of Intergovernmental Panel on Biodiversity and Ecosystem Services (IPBES) - and a country that is increasingly embracing the ecosystem services concept in science and policy dialogues (ICIMOD, 2016). More importantly, community forestry is one of the most successful and widely accepted forest management programmes in Nepal. Currently, over one million hectares of forests (nearly one third of the total forests of the country) are managed under community forestry, providing a vast array of services (DoF, 2017). Nepal has developed a decentralized community-based forest governance programme oriented at forest management, meeting basic forest needs and improving the welfare of socio-economically disadvantaged groups (Maharjan et al., 2009). Despite these goals community forestry in Nepal has been criticized for elite capture (Yadav et al., 2015; Adhikari, 2005), resulting in uneven access to ecosystem benefits (Pokharel and Tiwari, 2013a). As such the case study can provide interesting insights into how ecosystem service type initiatives are grappling with issues of justice and attempting to steer benefits to marginal groups in society.

The paper is structured into seven sections. Following this introduction, we discuss environmental justice and its relevance to ecosystem services. We introduce the study area in Section 3 and the methods in Section 4. Our results are described in Section 5 and ordered according to the three pillars of environment justice, before a discussion and conclusion in Sections 6 and 7 that focus on the implications of our findings for environmental justice in ecosystem services policy and practice.

#### 2. Theoretical framework

The quest for justice is becoming central to global conservation policies and initiatives (Forsyth and Sikor, 2013). In this paper we adopt the framework of environmental justice which focuses particularly upon the justice issues that emerge from human-environment relations. Environmental justice provides a well-developed lens to focus on fair treatment of all (irrespective of differences in origin, color, caste) with respect to the development, implementation and enforcement of environmental laws, regulations and policies (Schlosberg, 2004). Environmental justice, as a social movement, emerged during 1970s as a response to the unequal distribution of risks associated with industrialization in the United States (Byrne et al., 2002). The movement sought to overcome injustices by ensuring equal distribution of benefits and burdens across the population irrespective of social and economic differences. The struggles were often framed as opposing 'environmental racism' – as environmental injustices were more frequently linked to oppressed or marginalized groups in society – and particularly concentrated amongst people of color (Shrader-Frechette, 2002). Similar movements in the developing world were framed as 'environmentalism of poor'– movements oriented against the disproportionate use of environmental resources by the rich and powerful (Martinez Alier, 2002).

Over the years, environmental justice moved beyond the issue of distribution of environmental goods and bads to also consider issues of participation and recognition. Distribution is important but incomplete without consideration of institutional contexts, rules, and languages that mediate social relations and are the foundation of unjust distributions of environmental benefits. Issues of cultural 'recognition' and political 'participation' then became crucial components in the movement of environmental justice (Schlosberg, 2004). Within the environmental justice literature attention is also directed towards issues of intergenerational justice and interspecies justice (see Lele et al., 2013). However in this paper we focus on intra-community environmental justice issues to tease out the socio-political processes that shape access to ecosystem benefits across existing human populations (Ernstson, 2013).

The environmental justice framework has rarely been applied to ecosystem services discourse however can make an important contribution. Sikor et al. (2014) advocates for an environmental justice framework to avoid unfair trade-offs of ecosystem services between stakeholders (see also Chan and Satterfield, 2013). MEA (2005) framework alludes to justice issues when claiming that 'freedom of choice and action' is important for achieving wellbeing (MEA, 2005, pg.V). However, MEA (2005) addresses justice concern in a superficial way - overlooking social dimensions such as disaggregated access to ecosystem service benefits, the injustices embedded in the trade-offs between ecosystem services, and the inattention devoted to the distribution of disservices (harms and nuisances of ecosystems such as natural disasters, pests, diseases etc) (Lele, 2013). Environmental justice approaches help overcome such oversights and play an important role in informing ecosystem services policy and practice.

In this paper we follow Schlosberg (2004) and Martin et al. (2014a) in positioning distribution, participation and recognition as the three main pillars of environmental justice. In doing so environmental justice provides us with a platform to focus on the distribution of forest services, participation in forest decision-making, and cultural recognition and consideration of different groups in society with respect to implementation and enforcement of community forestry law and policy. Distribution focuses on fair distribution of benefits to different groups of a society. It focuses on the objects to be distributed, the process of distribution, and the resulting distributive outcomes for different groups in society (Schlosberg, 2004). Fair and appropriate distributive outcomes are achieved only through just process. Just processes refers to forms of participation, analyzing who participates in decision-making, on what terms, and how decisions are made for equitable outcomes (Gustavsson et al., 2014). Recognition is the final important component of environmental justice and refers to who or what is recognized in decision-making processes (without necessarily actively participating) in terms of respect for differences and avoiding domination (Bohman, 2007). Without recognition, injustices are much more likely as misrecognition is embedded in the cultural norms of society, and sometimes in the structures of language (Martin et al., 2014a). As an example, the recognition of Indigenous people has been a long fought for identity that has resulted, in some cases, with pro-Indigenous land and environmental policy - even when they may not be actively involved in particular environmental decisions. Recognition requires acknowledging diverse social identities and respecting sociocultural values while addressing marginalization (Sikor et al., 2014). Injustices occur as a result from a lack of recognition or misrecognition of issues related to social categories like caste, class, gender and culture (Fraser, 2000). Applying these three aspects of justice to the case study helps explain why some people are benefiting more than others from

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