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Payments for environmental services and control over conservation of natural resources: The role of public and private sectors in the conservation of the Nima watershed, Colombia

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ABSTRACT

In Latin America, payment for environmental services (PES) is a tool for watershed conservation that is becoming increasingly promoted by some government agencies, international development organisations and environmental NGOs. However, in pursuit of conservation, PES initiatives implemented at the watershed level may conceal the environmental impacts on local communities of private actors funding PES initiatives. Drawing on semi-structured interviews, focus groups and archival research in the Cauca Valley, Colombia, we present the case of a PES scheme in which several commercial water users paid for the conservation of the upper part of the Nima watershed as a means of securing the flow of water upon which they rely. We show how the scheme was predicated upon very selective interpretations of degradation and conservation, and the roles of those deemed responsible for them, that were mobilised by those groups paying for environmental services to the detriment of other water users.

1. Introduction

Payments for environmental services (PES) are schemes in which landowners deemed to be 'providers' of environmental services are compensated, in cash or in kind, by the 'users' of such services. In low and middle income countries, PES are increasingly viewed by policy makers, international development organisations and conservation NGOs as an effective way to reconcile development and conservation objectives, by promoting "conservation for development" rather than "conservation versus development" (Folke, 2006), as environmental service providers may receive benefits or income from environmental service users. However, while PES schemes (and analysis of them) tend to concentrate on the pursuit of such conservation objectives, the way in which PES initiatives implemented at the watershed level may reduce public environmental authorities' control over private actors a largely under researched area.

Existing research on the economic and social functioning of PES schemes has primarily focused on: i) identifying the optimal economic and institutional conditions for their implementation (Engel et al., 2008; Smith et al., 2006; Wunder, 2005, 2008), ii) characterising environmental services and assessing the effectiveness of PES initiatives (Pattanayak et al., 2011; Quintero et al., 2009; Wunder, 2007), iii) identifying their contributions to poverty alleviation (Grieg-Gran et al., 2005; Landell-Mills and Porras, 2002; Pagiola et al., 2005; Rosa et al., 2003) and iv) establishing a working definition that captures the varied forms of payment schemes that have been implemented under the label of PES (Muradian et al., 2010; Swallow et al., 2009; Wunder, 2005, 2012). Writing from an environmental economics perspective, Wunder (2012) argues that in order for a conservation project to be defined as a PES scheme, payments to environmental service providers must be conditional on the adoption of particular measures that are deemed conducive to the conservation of the ecosystem service in question. From an ecological economics perspective, Muradian et al. (2010:1205) adopt a broader definition by stating that payments for environmental services (PES) constitute "transfers of resources between social actors, [with the] aim [of] creat[ing] incentives to align individual and/or collective land use decisions with the social interest in the management of natural resources". In this way, these authors move beyond the economic transaction to acknowledge the importance of considering the social contexts (e.g. institutional settings, cultural practices) in which PES schemes are introduced, while acknowledging that the issue of conditionality is, in most of the existing conservation initiatives labelled as PES in Latin America, a theoretical objective rather than a feature that can be observed in most on-the-ground PES applications (see e.g. Muradian et al., 2013).

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A growing number of critical social scientists have expressed scepticism over the environmental, social and cultural implications of "selling nature to save it" (McAfee, 1999) (see e.g., Büscher, 2012; Büscher et al., 2012; Kosoy and Corbera, 2010; McAfee and Shapiro, 2010; Robertson, 2004). An important element of such critiques has been attention to the politics and power relations that determine modes of environmental governance (e.g. enclosure, privatisation and commodification) and how these ensuing modes of environmental governance produce new socio-ecological arrangements, for instance by redefining roles rights and responsibilities for different actors over natural resources (see e.g., Bakker, 2005; Himley, 2009; Milne and Adams, 2012). A fundamental element is thus acknowledgement of the social and political nature of the landscapes and resources in question, frequently disregarded in analyses of PES schemes (see e.g., Echavarría, 2003). In relation to water, these social and political dimensions include the role that water itself plays in different modes of governance and in social struggles (Bakker, 2003; Budds, 2009; Perreault, 2006), the framing of narratives regarding water availability or scarcity (Bakker, 2007; Kaika, 2003) and the pursuit of wider economic interests through control over water (Budds, 2013; Ekers and Loftus, 2008; Swyngedouw, 2007, 2009).

This paper draws on a qualitative case study of one of the longest established and most renowned watershed initiatives described as a PES scheme in Colombia: that implemented in the Nima River within the Cauca Valley since 1992. Under this initiative, large scale private water users (a sugarcane growers association, a water utility, a hydroelectric power company and a cardboard company) and state agencies (the regional public environmental office, the municipality and the departmental government) have collectively paid private landowners upstream to implement ecosystem conservation measures in order to enhance water flows, stabilise discharge during the rainy and dry seasons, and reduce seasonal water scarcity (Blanco et al., 2005; Echavarría, 2002; Goldman-Benner et al., 2012). The paper examines the process of framing of environmental change by the environmental service buyers, their influence on the establishment of conservation goals, and their interactions with upstream communities — particularly community water supply systems[2] — in the Nima watershed. The aim of this paper is to show empirically how a PES initiative for watershed conservation reinforced the differential influence that private actors and local communities had over conservation of natural resources in the watershed, as well as diminished the capacity of the public environmental authority to control private actors funding PES initiatives.

The paper is organised as follows. The first section sets out the theoretical framework used to analyse the Nima PES scheme. The second describes the Nima watershed, the PES scheme and the data collection methods. The fourth section outlines the results, which are discussed in the fifth section. The final section presents the conclusions.

2. Theoretical framework

While much of the existing literature around the theory and practice of PES has focused on the rationale of the concept and its practical implementation and effectiveness (Goldman-Benner et al., 2012; Wunder, 2005, 2012), a political ecology perspective is helpful for approaching the analysis of PES initiatives and outcomes, because it draws attention to the social relations and dynamics implicated in environmental change and policy initiatives.

A fundamental insight from the political ecology tradition is that nature is not given, but socially constructed, that is, i) conceptualised and framed in particular ways (Demeritt, 1998; Robertson, 2006), and ii) socially produced, that is, shaped materially by human practices to a greater or lesser extent (Castree and Braun, 2001). While natural resources and ecosystem services are commonly taken for granted in the analyses of PES, it is important to pay attention to how these are understood, valued and represented among different social actors. For example, while PES designers may regard water as an industrial input that should be rationalised among different users, rural communities may view water as a common good that plays an important role in cultural heritage, ritual practices and social identity (Gómez-Baggethun and de Groot, 2010; Kosoy and Corbera, 2010; Rodríguez-de-Francisco et al., 2013; Sullivan, 2009). These different representations of water are significant because they underpin specific discourses and responses. For instance, approaching water scarcity as a purely physical phenomenon may disregard the ways in which it is assessed and represented, as well as social and political factors that may contribute to its causes. Acting on the existence of scarcity without interrogating its framing and drivers risks privileging technical solutions, such as infrastructure to secure the supply of water or the transfer of water management from the state to the private sector, thereby underestimating the need to improve allocation, management and governance (Bakker, 2000; Kaika, 2003; Linton, 2010; UNDP, 2006). In this way, it is not only control over resources that is important, but the ways in which power relations are embedded in the social construction and production of nature, in the shaping of responses that are proposed and implemented, and in the social and ecological outcomes that ensue from these (Demeritt, 1998).

In drawing attention to social relations and dynamics, a political ecology perspective suggests that environmental management (tools for manipulating nature) and governance (decision-making processes for nature) are not neutral and pragmatic endeavours aimed at a 'greater good', but rather practices that are shaped by and reflect vested interests (Bakker, 2003; Bridge and Perreault, 2009; Bryant and Bailey, 1997; Ekers and Loftus, 2008; Robbins, 2004; Swyngedouw, 1997). The key questions that emerge are: who is using the resources at stake, under which regimes are they being managed and governed, how are such regimes justified and enacted, what changes do they effect to social structures and landscapes, and who stands to benefit, or otherwise, from these? In this way, it is important to consider how natural resource management and conservation initiatives may constitute (material and discursive) struggles between different social actors seeking to gain control over resources (Bakker, 2003; Budds, 2009; Ekers and Loftus, 2008; Swyngedouw, 2004), and with transformative effects over natural resources and landscapes (Boelens and Vos, 2012; Dryzek, 1997; Himley, 2009; Stott and Sullivan, 2008).

A final insight from political ecology is that nature's characteristics and agency play an important role in social relations. PES schemes require ecosystem services to be defined and treated, at least in theory, as tradable commodities (McAfee and Shapiro, 2010). While this may be feasible at the abstract theoretical level, in practice it overlooks that not all types of nature lend themselves to the application of such dynamics (Bakker, 2003, 2010). For instance, Bakker (2003) has convincingly outlined water's 'uncooperativeness' in relation to privatisation, by virtue of its physical properties and symbolic meanings. Environmental services present similar issues as they are difficult to evidence and measure: Information regarding their functioning, boundaries and scales is not always comprehensive, making it difficult to establish cause-effect relationships (Landell-Mills and Porras, 2002). Indeed, the current debate on what are precisely the defining characteristics of PES is illustrative of these difficulties (see Goldman-Benner et al., 2012; Muradian et al., 2010; Swallow et al., 2009; Wunder, 2005, 2012).

In this way, a political ecology perspective brought to bear on an analysis of PES initiatives would focus attention on how they represent ecosystems and their functioning (Robertson, 2004), how they define goals and objectives for conservation (McAfee and Shapiro, 2010), how they regard environmental service providers and incorporate their participation (Milne and Adams, 2012; Muradian et al., 2010; Rodríguez-de-Francisco et al., 2013), and how they measure and interpret outcomes and their desirability (Robertson, 2004).

[2] Community water supply systems (hereafter simply community water systems or CWS) are self-organised and autonomous water supply systems that communities construct and run entirely independently, primarily for drinking water.