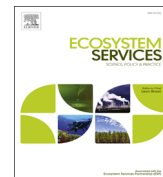




ELSEVIER

Contents lists available at ScienceDirect

## Ecosystem Services

journal homepage: [www.elsevier.com/locate/ecoser](http://www.elsevier.com/locate/ecoser)

# Conservation and livelihood outcomes of payment for ecosystem services in the Ecuadorian Andes: What is the potential for ‘win–win’?



Leah L. Bremer<sup>a,b,\*</sup>, Kathleen A. Farley<sup>a</sup>, David Lopez-Carr<sup>b</sup>, José Romero<sup>c</sup>

<sup>a</sup> Department of Geography, San Diego State University, San Diego, CA 92182-4493, USA

<sup>b</sup> Department of Geography, 1832 Ellison Hall, U.C. Santa Barbara, Santa Barbara, CA, 93106-4060, USA

<sup>c</sup> Naturaleza y Cultura Internacional, Av. Pío Jaramillo A. y Venezuela, Loja, Casilla 1101-332, Ecuador

## ARTICLE INFO

## Article history:

Received 23 November 2013

Received in revised form

21 March 2014

Accepted 29 March 2014

Available online 29 April 2014

## Keywords:

Payment for Ecosystem Services

Conservation

Poverty alleviation

Ecuador

Páramo

SocioPáramo

## ABSTRACT

Payment for ecosystem services programs are being implemented in a wide variety of settings, but whether and in what contexts such programs present ‘win–win’ scenarios that simultaneously improve human well-being and achieve conservation goals remains poorly understood. Based on semi-structured interviews with early program participants enrolling either collectively- or individually-held land, we evaluated whether and how SocioPáramo, a national-scale PES program targeting Ecuadorian Andean grasslands (páramos), has the potential to contribute to local livelihoods (financial, natural, social, human, and physical capital) and sustainable resource management. Low conservation opportunity costs associated with pre-existing constraints on land use and the existence of alternative livelihood options appeared to facilitate largely positive financial capital outcomes, although we found reduced financial capital among some smaller and medium-sized landholders who were required to eliminate burning and grazing. We found the greatest potential for improved social, financial, and natural capital among well-organized community participants enrolling collective land, while greater attention to building capacity of individual smaller landholders could improve outcomes for those participants. These results help fill a gap in knowledge by drawing on empirical data to demonstrate how divergent outcomes have begun to emerge among different groups of SocioPáramo participants, providing lessons for PES program design.

© 2014 Elsevier B.V. All rights reserved.

## 1. Introduction

Despite considerable debate surrounding the efficacy of joint conservation and development initiatives to simultaneously meet biophysical and socio-economic goals (Ferraro and Kiss, 2002, Agrawal and Redford, 2006, Roe et al., 2013), payment or compensation for ecosystem services (PES/CES) initiatives are often advocated as ‘win–win’ opportunities for conservation and poverty alleviation (Luck et al., 2009, Muradian et al., 2013, Ingram et al., 2014). As these programs continue to grow, a number of competing conceptualizations of PES have emerged, each with different expectations regarding the extent to which PES can and should be expected to present such ‘win–win’ scenarios (McAfee and Shapiro, 2010, Muradian et al., 2010, Muradian and Rival, 2012). The first conceptualization, categorized as “conservation efficiency PES” by McAfee and Shapiro (2010: 583), has perhaps become the most mainstream of the three.

It focuses on achieving environmental goals in the most cost-efficient manner, with poverty alleviation and social equity considered potential side benefits rather than primary program goals (Pagiola et al., 2005, Wunder, 2005, Engel et al., 2008, Wunder, 2008). A second conceptualization, particularly prevalent in the developing world, is classified by McAfee and Shapiro (2010: 583) as “pro-market, pro-poor PES”; it strives to combine ecological and social criteria with the goal of creating PES programs that are “win–win mechanisms for both environmental protection and poverty alleviation” (Muradian et al., 2010: 1203). Finally, a third conceptualization, frequently referred to as compensation for ecosystem services, focuses on social inequity as one of the “driving forces of environmental degradation” (Rosa et al., 2003:2) and on the potential of PES to support rural land stewards in areas important for ecosystem services production (Rosa et al., 2003, Rosa et al., 2004).

The conservation efficiency conceptualization of PES has been criticized for its limited on-the-ground application (Martin-Ortega et al., 2013, Sattler and Matzdorf, 2013). A number of researchers have called for a broader, more inclusive PES framework that, among other things, explicitly considers the importance of equity and distribution of benefits (Farley and Costanza, 2010, Muradian et al., 2010, Muradian and Rival, 2012). However, researchers have

\* Corresponding author at: The Natural Capital Project, Stanford University, 371 Serra Mall, Stanford, CA 94305 5020, United States. Tel.: +1 650 725 1783.

E-mail addresses: [lbremer@stanford.edu](mailto:lbremer@stanford.edu) (L.L. Bremer), [kfarley@mail.sdsu.edu](mailto:kfarley@mail.sdsu.edu) (K.A. Farley), [carr@geog.ucsb.edu](mailto:carr@geog.ucsb.edu) (D. Lopez-Carr), [jromero@naturalezaycultura.org](mailto:jromero@naturalezaycultura.org) (J. Romero).

also cautioned against “uncritical commitment” to PES, i.e., the assumption that they always present ‘win–win’ scenarios (Muradian et al., 2013). It has been noted that PES remains subject to the same perils as previous efforts to link conservation and development, many of which have failed to show concrete evidence of success for either objective (Agrawal and Redford, 2006, Muradian et al., 2013). Muradian et al. (2013: 7) point out that whether PES can present ‘win–win’ outcomes depends on the “political, socio-cultural, and institutional contexts in which they operate” and that greater attention should be given to understanding the conditions under which these programs are likely to be most effective.

While theoretical debate about the promise and peril of PES abounds, empirical evidence examining existing programs and their potential contribution to joint social and ecological goals remains limited (Brockington, 2011, Wunder, 2013, Ingram et al., 2014). As stated by Wunder (2013: 9): “Unfortunately, despite... long-term suspicions we still lack solid empirical analyses of real-world PES to move beyond sheer conjectures.” Accordingly, examination of existing PES programs is clearly needed in order to understand the contexts under which these programs have potential to achieve their goals.

Evaluation of the potential of PES to present ‘win–win’ scenarios relies upon empirical evidence of program success in terms of both ecological and social indicators. Measures of social outcomes focus on how accessible and desirable programs are to rural, marginalized landowners and how participation affects livelihoods and social equity among participants (Brown and Corbera, 2003, Kollmair and Rasul, 2010, Krause et al., 2013). Although the degree to which social objectives are prioritized varies, there is widespread agreement that PES programs are unlikely to succeed without obtaining the support of local communities and an equitable distribution of benefits (Landell-Mills and Porras, 2002, Corbera et al., 2007, Corbera and Pascual, 2012, Balderas Torres et al., 2013; Hayes, 2013). At the least, it is widely agreed that PES should represent ‘win–settle’, in that they achieve ecological goals without worsening poverty or other social goals (Barrett et al., 2011, Wunder, 2013).

In this paper, we evaluate social outcomes of SocioPáramo, a national-scale PES program in Ecuador to add empirical evidence to the debate over whether, and under what conditions, PES can contribute to improved livelihoods. Specifically we ask how program participation affects participant livelihoods – in terms of financial, social, human, physical, and natural capital – following enrollment of either collectively-held or privately-held land. We also discuss this in the context of synergies and tradeoffs in achieving conservation goals. We review previous accounts of effects of PES on multiple forms of capital and discuss this in the context of our research with SocioPáramo participants in its first year and a half of operation.

### 1.1. PES and livelihoods

How participation in PES contributes to human well-being and poverty alleviation among participants depends, in part, upon the extent to which livelihoods change as a result of program participation (Landell-Mills and Porras, 2002, Miranda et al., 2003, Grieg-Gran et al., 2005). Participation can directly affect financial capital in two main ways: through changes in land use or management related to participation and through investment of cash flow from incentive payments. Jack et al. (2008) further suggest that PES is most likely to contribute to poverty alleviation when the poorest landowners have the lowest opportunity costs and also the highest potential for service provision. However, for programs to contribute to enhanced financial capital, they would have to compensate landowners substantially more than they could have earned without participation. Some have argued that

PES could potentially “trap” poor landowners if payments are lower than actual or potential earnings from productive land uses (Wunder 2008: 287). Others contend that there is little evidence for this and that, in many cases, whether or not payments strictly match opportunity costs, they are more stable than existing or potential income sources and an important means of income diversification (Grieg-Gran et al., 2005, Wunder et al., 2008, Kollmair and Rasul, 2010). Ferraro and Kiss (2002: 1719) further suggest that direct payments may more effectively contribute to development goals than indirect approaches by allowing landholders to “decide how to best meet their own goals and aspirations, rather than being subsidized to carry out predetermined activities.”

While financial capital remains perhaps the most obvious way to evaluate PES effects on livelihoods, impacts on non-financial assets, particularly natural capital (shifts in land use or management that affect biodiversity and ecosystem goods and services), human capital (health and basic services, access to education and training), and social capital (land tenure, social organization, community institutions and associations, kinship ties) have been identified as important potential motivators for and outcomes of program participation (Grieg-Gran et al., 2005, Zbinden and Lee, 2005). Participation can have an important non-monetary or “intangible” influence on livelihoods, both positive and negative, through, for example, impacts on land tenure, social organization, and natural capital (Miranda et al., 2003, Grieg-Gran et al., 2005, Kosoy et al., 2007a). The importance of intangible benefits in motivating participation in PES has been highlighted as an explanation for why some landowners participate when opportunity costs exceed incentive payments, underscoring the importance of livelihood outcomes beyond financial capital (Kosoy et al., 2007b, Van Hecken et al., 2012, Bremer et al., 2014). Conversely, in Ecuador and elsewhere, researchers have documented opposition to PES based on rejection of neoliberal policies seen as commodifying nature and threatening indigenous sovereignty, and a general fear of land expropriation (Southgate and Wunder, 2009, Reed, 2011, Balvanera et al., 2012, Bremer et al., 2014).

The extent to which costs and benefits of PES are equitably shared among community members when collective land is enrolled and the effects this has on social organization is another concern in evaluating social outcomes (Krause et al., 2013). Wunder (2013: 1) suggests that, “as a highly adaptive management tool, PES are particularly suited for achieving equitable and flexible conservation outcomes.” However, empirical studies are needed to understand if, and under what conditions, this may be true. Some have pointed to the potential of PES to strengthen community-based organizations, inter-institutional coordination, and forest management efforts (Grieg-Gran et al., 2005, Kollmair and Rasul, 2010), while others have noted the potential of such programs to increase inequality, leading to a decrease in social cohesion, and to “crowd out” local rules and social norms (Grieg-Gran et al., 2005, Clements et al., 2010, Muradian et al., 2010). Nevertheless, it has been noted that “‘crowding-in’ is just as possible an outcome of PES as ‘crowding-out,’” and that conditions prior to the implementation of PES can influence these and other social outcomes” (Wunder, 2013:10). Pre-existing political and social capital, in the form of strong institutions, social organization, and landownership and tenure have been suggested as key determinants of program outcomes (Corbera et al., 2007, Jack et al., 2008, Huber-Stearns et al., 2013).

## 2. Background

In this paper, we evaluate near-term livelihood outcomes and perceptions of potential long-term outcomes of participation

Download English Version:

<https://daneshyari.com/en/article/108109>

Download Persian Version:

<https://daneshyari.com/article/108109>

[Daneshyari.com](https://daneshyari.com)