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Challenges for developing Forest Stewardship Council certification for ecosystem services: How to enhance local adoption?

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ABSTRACT

The rise of ecosystem services (ES) as a conservation and management tool has changed the way forests are conceived, but so far its translation into management actions has been limited. In this paper, we discuss the development of certification of forest ecosystem services (FES) from the perspective of those implementing it at the local level. We focus on the lessons that emerged from applying the Forest Stewardship Council (FSC) certification framework at selected sites in Chile, Indonesia, Nepal and Vietnam.

Our results indicate a clear relationship between local and global levels in the development of FSC FES certification. Although the FSC already had a broad vision of ES, it was only through local-level learning within a specific pilot experiment that the vision evolved and resulted in more formal FES certification becoming part of FSC forest management certification. We also found that those sites where participatory approaches to management and decision-making were applied could work with an undefined vision of the future system, and still successfully design and implement management activities. However, overall the lack of specific vision and detailed information about future FES certification was problematic in attracting market interest in FSC certified ES.

1. Introduction

The benefits that nature provides have long been recognized. Plato had already observed the effects of deforestation on soil erosion and drying of springs in 400 BC (Daily, 1997). Until the late 18th century and the beginning of classical economics, land was seen as a main source of wealth (Gómez-Baggethun et al., 2010). Furthermore, the importance of labor as a source of wealth was emphasized. It was only during the neoclassical period of the past century that economics was decoupled from the physical world. And it wasn't until the late 1970s that nature's value became prominent again leading to the concept of ecosystem services (ES). More than one decade ago the (Millennium Ecosystem Assessment, 2003) drew international attention on the importance of ecosystem processes for human well-being.

Despite the elevation of the ES concept into the public and private sectors, it is yet to transform natural resource use worldwide. In particular, there is a need for improved management and governance of forest resources that acknowledges the value of ES and the necessary actions to minimize their degradation (e.g. Thompson et al., 2013). This will need a system that incorporates environmental values (both tangible and intangible) into markets, institutions, and policy actions (Barbier, 2011). Such transitions are usually rare because of intransigence of social institutions: existing structures are created to preserve the *status quo* and power imbalances are hard to eradicate (Barbier, 2011; Westley et al., 2011). Even when transitions occur, they are still shaped by existing elements and interactions between them (Westley et al., 2013).

One key component of a transition is to change governance systems either by creating new policy instruments or by incorporating innovative ideas. Policy instruments in the context of forest governance stem from the public and private sectors. Those of public origin include command-and-control (e.g. government-sanctioned protected forests and forest concessions, agricultural and forestry policies) as well as those that affect forests indirectly (e.g. international trade and foreign investment policies; (Mather, 2006, as cited in Lambin et al., 2014). In addition, there are market-based, voluntary instruments by non-state actors such as certification

Abbreviations: ES, ecosystem services; FES, forest ecosystem services; ForCES, pilot project: Expanding FSC certification through incorporating additional ecosystem services; FPIC, free, prior and informed consent; FSC, Forest Stewardship Council; NGO, nongovernmental organization; NTFP, non-timber forest products; PES, payment for ecosystem services.

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schemes and commodity roundtables (Auld et al., 2008; Lambin et al., 2014). The evolution of international forest governance from its early focus on sustainability, then to legality, and finally to units of sequestered carbon has also given rise to new instruments such as payments for environmental services (PES) and REDD+[1] mechanism (McDermott, 2014; Wunder et al., 2008). The core of both PES and REDD+ is that avoided forest degradation and deforestation is compensated to those that maintain a set of forest values including the many ES it provides (UN-REDD 2015; Wunder et al., 2008). Although recognition of ES as positive externalities that should be paid for have the potential to improve forest management and conservation, commoditization of ES has risks because of their intrinsic complexity (Muradian and Rival, 2012). These risks include trade-offs and overlaps with other land use decisions and other ES when the management focus is on a single service. In addition, low levels of additionality as well as oversimplification and untested assumptions of the functional linkages between ES and management actions may occur (e.g. Prager et al., 2016).

One potential policy innovation to improve natural resource management, among other arrangements (e.g. "network governance" Provan and Kenis, 2008; Scarlett and McKinney, 2016) is the emerging field of certification of ES (Berg et al., 2013; Polasky et al., 2015). Specifically, here we define certification of forest ecosystem services (FES) as a market-based mechanism that includes activities meant to guarantee that a given forest stand is explicitly managed in a way that maintains or enhances the provision of a specified ES. This may come in some form of direct quantification of the service provided and its quality. The current ES certification standards concentrate on either specific services or bundles of services. For example, the Verified Carbon Standard (VCS, 2014) focuses on carbon sequestration projects; the Climate, Community and Biodiversity Standards (CCBA, 2014) focus on land management projects that deliver net positive benefits for climate change mitigation, local livelihoods and biodiversity.

To move beyond timber, the Forest Stewardship Council (FSC) is currently expanding to include FES in an explicit fashion (ForCES, 2011). This was put to the test through a multi-country pilot project entitled "Expanding FSC certification through incorporating additional ecosystem services" (hereafter ForCES). To date, the provision of FES has been implicit within FSC certification schemes for timber (Romero et al., 2013). However, the provision of FES is most often not directly evaluated during third-party auditing. The FSC pilot approach to FES certification is built around providing new tools for certificate holders to access ES markets or non-monetary benefits, and includes several key features: it targets several ES at once; the potentially certifiable ES are agreed through consultation with local stakeholders; and it includes impact evaluation assessments to ensure that promotional claims are evidence-based (FSC, 2015a). To our knowledge, there is not yet a third-party, voluntary certification scheme that verifies the impact of forest management on the provision of ES and the associated benefits these provide to people.

There are several areas of opportunity for FES certification to become a reality. First, is the recognized value of ES to human well being (Millennium Ecosystem Assessment, 2005; Stern, 2007) which has manifested in the rise of payment for ecosystem services (PES) schemes and national ES accounting schemes, and in corporate interest in natural capital and ES (Boyd and Banzhaf, 2007; Costanza et al., 2006; de Groot, 2011; Stanton et al., 2010; van der Meer et al., 2007; Waage and Kester, 2013). Second, the general lack of safeguards associated with REDD+ projects to protect local communities from potential negative impacts, such as loss of biodiversity, weakened property rights, and unequal distribution of project benefits (Jagger et al., 2012). FSC certification already includes environmental and social standards used globally, with guidance on processes such as free, prior and informed consent (FPIC), which are at the center of REDD+. A third opportunity is that political commitment is moving from "business as usual" to the use of natural resources for the maintenance of ES provision. This is exemplified by the establishment of the Intergovernmental Platform on Biodiversity and Ecosystem Services created to strengthen the science-policy interface for biodiversity and ecosystem service conservation and human well-being (IPBES, 2012). Finally, there is the growing need to manage asymmetric information flows between sellers and buyers in the ES markets to keep the markets both efficient and effective (Ferraro, 2008). Certification of FES could provide the buyer with information about the quality and quantity of the service being delivered, and thus increase both transparency and information flow between parties.

Yet challenges for certification of FES do exist. These include: (1) not large enough markets and reduced consumer demand for bundled FES; (2) complexity associated with the delivery of FES and forest management actions; and (3) potentially high costs of getting certified (Meijaard et al., 2011). To transform a forest governance model focused on timber production towards one both including and directly valuing ES, FES certification needs to not only tackle these challenges but become adopted into public legislation, either as a complementary instrument or through incorporation of the concepts ingrained in the FES certification. For example, verification of certification impacts and FPIC. Here we seek to introduce an operational framework on how such a transition could occur and use it to analyze empirically the development of FES certification through the multicountry ForCES pilot project (see Section 2 below). In the next section we introduce key concepts (niche development and sustainability transitions) in the multi-level perspective framework, before outlining the research questions and research methods. We then examine how different factors have contributed to the development of FES certification through the ForCES project, from an initial vision and to the development of specific certification tools. The paper follows with a discussion on how to enhance local-level adoption of FES certification schemes and after that presents some conclusions.

1.1. Multi-level perspective: An operational framework for understanding niche development and sustainability transitions

The multi-level perspective (MLP) framework, although it originates from the technological transitions literature (Rip and Kemp, 1998), provides a useful approach for understanding sustainability transitions in other contexts. The MLP distinguishes three levels: niches (micro level), regimes (meso level), and exogenous landscape (macro level) (Fig. 1) (Geels and Schot, 2007). Adapting the framework to forest governance, we see that a transition, for example, from timber production towards a new management paradigm can occur through interacting processes within and between the above mentioned levels. In a technological context, niches are where innovations are developed (Schot et al., 1994) but in our adapted model, the niches are used to create and test policy innovations. Earlier research has found that the importance of niches is especially relevant in a sustainability context where markets and user demand may not readily exist (Schot et al., 1994). In the following paragraphs we describe the MLP framework in detail as it relates to our work.

According to the MLP framework, innovation development occurs at two levels simultaneously: local and global (Geels and Raven, 2006). Local projects are often used to test the vision in real-life situations and further develop the innovation as is the case

[1] REDD+ stands for "reducing emissions from deforestation and forest degradation, and enhancing forest carbon stocks in developing countries". REDD+ includes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks through emission reductions (UN-REDD, 2015).