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Design challenges for achieving reduced emissions from deforestation and forest degradation through conservation: Leveraging multiple paradigms at the tropical forest margins

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ABSTRACT

Reduced emissions from deforestation and forest degradation in developing countries (REDD+) is widely accepted as a land use policy objective for mitigating climate change, but the ways through which REDD+ can provide incentives to simultaneously conserve forest and reduce poverty remain uncertain. The experiences of integrated conservation and development projects (ICDPs) have shaped initial pilots of landscape level REDD+ action. Yet, little thought has been given to the design challenges that need to be overcome in multi-scale REDD+ programs, where local shifts of behavior need to be connected to international finance and investment. This paper highlights and discusses emerging design challenges for REDD+ at multiple levels in two distinct circumstances. First, for sub-national REDD+ design where ICDP approaches are employed as a platform for demonstration and project design and implementation. In this case, issues of scale, nesting and leakage are prominent. Secondly, ICDP is used as a strategy for implementation of REDD+ at multiple levels. In the second case, the challenges are about choices or optimal mixes between multiple policies and instruments such as "sparing" and "sharing" for addressing drivers of deforestation and payments, rewards and/or co-investments in the achievement of multiple co-benefits of emission reductions. The paper also explores how combinations of incentive paradigms can be used at the local, sub-national and national scale within a nested approach to REDD+ as derived from distinguishing features of REDD+ such as performance measurements, financial modalities and carbon as a commodity that have not hitherto been part of ICDPs. We posit that a nested land-based Nationally Appropriate Mitigation Actions (NAMAs) approach could overcome design issues with REDD+ frameworks that use additional co-investment for achieving biodiversity goals on a modified ICDP platform.

Introduction

Reduced emission from deforestation and forest degradation (REDD+) as an objective for land use policy of current interest builds on a remarkable history of conceptual and practical attempts at achieving forest conversion and change (Fig. 1, see below). Yet, if this history had been successful at scale, the current land-based emission problems might not exist. Integrated conservation and development projects (ICDPs) stand out as one of the most widely used approaches to address deforestation and forest degradation, with at least some local successes. As a result, several REDD+ pilot and demonstration projects have sought to build on ICDPs as a springboard for REDD+ (Sills et al., 2009; Cerbu et al., 2009, 2011). In December 2007 parties to the UN Framework Convention on Climate Change (UNFCCC) agreed to a 2-year process to determine modalities and procedures for a post-2012 climate agreement that would include approaches to REDD+. REDD+ was conceived as a national scale effort to shift development pathways, with financial transfers based on performance rather than promises. The Bali Decision on REDD+ (Decision 2/CP.13) in 2007 in its preamble, recognized the growing consensus that reducing net emissions could be integrated with enhancing development and protecting biodiversity: three rather than the two goals of ICDP's. The Bali Action plan called for readiness, sub-national pilot and demonstration activities for REDD+, while preparing for national scale REDD+. Since then many states and private sector actors have worked to experiment with and generate methodologies for REDD+. Some of these lessons and methods are included in the decision on REDD+ reached at the COP 16 in Cancun, Mexico (Decision 1/CP.16) and at the COP

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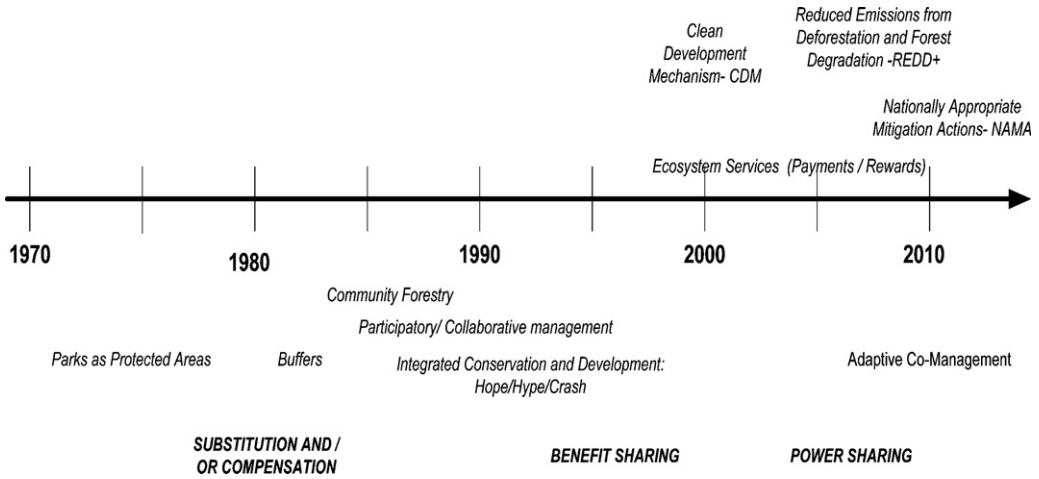

Fig. 1. Evolution of main policies and concepts of conservation and development.

17 in Durban, South Africa (Decision 1/CP.17) in 2010 and 2011 respectively.

Conservation of forest carbon stocks features as one of five key approaches (see Section 2 below) to reducing emissions from deforestation and forest degradation, while biodiversity conservation is one of the key co-benefits that REDD is expected to bring within the current evolving guidelines. There is evidence that protected area management, beyond protected area designation on maps, can be effective in reducing deforestation and forest degradation (Naughton-Treves et al., 2005; Nelson and Chomitz, 2009). Hence, REDD+ practitioners have turned to protected area management approaches such as ICDP as a way of achieving REDD+ objectives. With more than 80 million km^2 of designated protected areas worldwide (Naughton-Treves et al., 2005) the potential for REDD through conservation of protected areas is considered very high.

Establishment of protected areas may, however, increase conversion in its locality, and the scale at which net emission reduction can be properly assessed remains a subject of debate (Dewi et al., 2012). Land use in buffer zones of protected areas has been the long-term target of integrated conservation and development projects (ICDP's), usually including efforts to diversify rural economies beyond dependency on agriculture and collection of forest products. The limited timeframe of 'projects' and the economic and demographic interactions with a wider landscape context have been major challenges for the ICDP concept, epitomizing the struggle to bring together the timeframes and associated discount rates of conservation and development objectives. As a project approach, ICDP has lost its attractiveness to investors, but the REDD+ debate created new opportunities for ICDP proponents to attract investment under a new name and label.

Strong links have been recorded between (former) ICDP implementers and early REDD+ pilot activities (Cerbu et al., 2009; Sills et al., 2009). The literature suggests four dimensions of the potential linkages of ICDPs and REDD+, namely: (1) the use of vast expanses of protected areas and ICDPs as part of REDD+ strategies; (2) the use of REDD+ as a source of finance for forest conservation, hence adapting or adding on carbon or emissions reductions management objectives to current ICDPs; (3) operational modalities, as current REDD+ projects are laden with key ICDP features; and (4) the use of local knowledge and capacity developed through ICDP activities for the MRV (monitoring, reporting and verification) requirements of REDD+. Some project design documents of early REDD projects such as the Ulu Masen Project in Aceh, Indonesia and the Kasigau Corridor REDD project in Kenya are good examples of how these strategies have been used (Gene and Aliadi, 2009; NAD, 2007; WWC, 2008).

Although the opportunistic use of new policy instruments to meet established agendas and modes of implementation is hard to avoid, it may in fact be an effective way to reduce the complexity of learning how to operationalize new objectives. It carries the risk, however, that the agenda gets hijacked and that existing networks provide undue benefits to a subset of the total target groups. Path dependency (Coomes et al., 2011) was recognized as shaping the mode of execution, the networks involved and the perceptions of government roles in payment for environmental services (PES) schemes in Costa Rica (Daniels et al., 2010). Is the association between ICDPs and early REDD+ pilots a good opportunity to provide continuity in forest margin settings, or is a deeper change needed beyond the re-packaging?

When ICDP's lost their "silver bullet" status, direct conservation payments as a form of market based payments for ecosystem services (PES) had been framed as the main alternative (Ferraro and Kiss, 2002). With REDD+ commonly associated with PES and "Carbon Market" approaches, can ICDP designs re-emerge as locally appropriate actions, achieving sustainable international financing via REDD+, performance-based multi-purpose mechanisms?

A fundamental issue for any multi-purpose policy instrument is the Tinbergen principle (Preston, 1974; Aoki, 1975; Hughes-Hallett, 1989), which posits that the number of policy instruments needs to match the number of targets, just as the number of unknowns need to match the number of independent equations solvable without contradictions. Achieving multiple objectives with a single policy instrument is only possible if these objectives are properly aligned and closely correlated at all scales. As attractive as multi-purpose REDD+ policies may seem, they require strong correlations in the real world between targets that may not exist. As carbon stocks and biodiversity in tropical forest margins are only partially related, optimization for reduced C emissions may not result in the same outcomes as optimization for biodiversity conservation, and an additional, corrective policy instrument may be needed. Generic 'safeguards', as discussed on the social and ecological side for REDD+, are not sufficient to achieve multiple targets, although they can reduce the tradeoffs and focus early investment in the cases where the policy objectives align (Corbera et al., 2009). Such alignment, however, may appear to have a cost for efficiency in achieving the primary objective, which may be offset by lower transaction and implementation costs.

This paper seeks to address the design challenges that need to be overcome in order to avoid the recognized failings of ICDPs. It