

REDD+ and Community- Controlled Forests in Low- Income Countries

Any Hope for a Linkage?

Randy Bluffstone, Elizabeth Robinson, and Paul Guthiga



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Central America

Research Program in Economics and Environment for Development in Central America
Tropical Agricultural Research and Higher Education Center (CATIE)
Email: efd@catie.ac.cr



China

Environmental Economics Program in China (EEPC)
Peking University
Email: EEPC@pku.edu.cn



Ethiopia

Environmental Economics Policy Forum for Ethiopia (EEPFE)
Ethiopian Development Research Institute (EDRI/AAU)
Email: eeffe@ethionet.et



Kenya

Environment for Development Kenya
Kenya Institute for Public Policy Research and Analysis (KIPPRA)
University of Nairobi
Email: kenya@efdinitiative.org



South Africa

Environmental Economics Policy Research Unit (EPRU)
University of Cape Town
Email: southafrica@efdinitiative.org



Tanzania

Environment for Development Tanzania
University of Dar es Salaam
Email: tanzania@efdinitiative.org



School of Business,
Economics and Law
UNIVERSITY OF GÖTEBORGS



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Abstract

Deforestation and forest degradation are estimated to account for between 12 percent and 20 percent of annual greenhouse gas emissions. These activities, largely in the developing world, released about 5.8 Gt per year in the 1990s, which was more than all forms of transport combined. The idea behind REDD+ is that payments for sequestering carbon can tip the economic balance away from loss of forests and in the process yield climate benefits. Recent analysis has suggested that developing country carbon sequestration can effectively compete with other climate investments as part of a cost-effective climate policy. This paper focuses on opportunities and complications associated with bringing community-controlled forests into REDD+. About 25 percent of developing country forests are community controlled; therefore, it is difficult to envision a successful REDD+ program without coming to terms with community controlled forests. It is widely agreed that REDD+ offers opportunities to bring value to developing country forests, but there are also concerns related to insecure and poorly defined community forest tenure, informed by often long histories of government unwillingness to meaningfully devolve ownership rights to communities. Further, because communities are complicated systems, there is also concern that REDD+ could destabilize existing well-functioning community forestry systems.

Key Words: REDD, community forestry, deforestation, sequestration

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Randy Bluffstone, Elizabeth Robinson, and Paul Guthiga ^{1*}

Introduction

Loss of forest biomass through deforestation and forest degradation has been estimated to account for between 12 and 20 percent of annual greenhouse gas emissions (Saatchi et al., 2011; van der Werf, 2009). Though forests sequester carbon while growing, they release atmospheric greenhouse gases through combustion of forest biomass and decomposition of plant material (Anger and Sathaye, 2008; van der Werf, 2009). It is estimated that deforestation, largely in the developing world, released about 5.8 Gt per year in the 1990s, which is more than all forms of transport combined. Total carbon stored in forests is estimated at 638 Gt (UNFCCC, 2011). About 247 Gt is stored in Latin America, Sub-Saharan Africa, and Southeast Asia and 80 percent of that is above ground (Saatchi et al, 2011).

Since the Framework Convention on Climate Change (FCCC) went into force in March 1994, there have been 17 conferences of the parties, as of March 2012. With the exception perhaps of COP 3 held in Kyoto in 1997, international negotiations are generally considered to have yielded little agreement and fewer results. As a result, atmospheric carbon concentrations and global average temperatures continue to increase and most mitigation activities are regional (Agrawal et al, 2011).

An exception to the norm of limited international agreement has been in the area of reducing emissions from deforestation and forest degradation in developing countries. Beginning with COP 13, held in Bali, Indonesia in 2007, and continuing through COP 16, held in Cancun, Mexico in 2010, there has been an increasing focus on developing country forest-related sequestration and emissions. Resources have also been accumulated to support forest management programs. These include the World Bank Forest Carbon Partnership Facility

^{1*} Randy Bluffstone (corresponding author, bluffsto@pdx.edu), Department of Economics, Portland State University, Portland, Oregon USA; Elizabeth Robinson, School of Agriculture, Policy, and Development, University of Reading, Reading, UK, e.j.robinson@reading.ac.uk; Paul Guthiga, International Livestock Research Institute, p.guthiga@cgiar.org. The authors would like to thank Gothenburg University, Sida and EfD colleagues for input and support related to the development of this paper.

(FCPF) and UN-REDD, which is an initiative funded by the Government of Norway and implemented by the United Nations.

The idea behind REDD (Reduced Emissions from Deforestation and Forest Degradation) is that REDD payments can tip the economic balance away from loss of forests and in favor of sustainable forest management and in the process yield climate benefits. The economic rationale for including REDD in global approaches to reducing climate change comes from recent analyses, which suggest that developing country carbon sequestration can effectively compete with other climate investments as part of a cost-effective climate policy (McKinsey & Company, 2010; Kindermann et al, 2008). Controversy remains, however, as to whether local opportunity costs have been effectively included (Gregorsen et al, 2011).

In this paper, we focus specifically on opportunities and key complications associated with bringing community-controlled forests (CCFs) into REDD. Addressing explicitly this linkage between REDD and CCFs is important for at least three reasons. First, about one-quarter of developing country forests are under some type of community control (World Bank, 2009; Economist, 2010b) and the portion in low-income countries is substantially higher. If forests are indeed such a significant source of greenhouse gas emissions, and CCFs are a large part of world forests, it is difficult to imagine credibly addressing climate change without explicitly addressing the opportunities and challenges associated with bringing CCFs into REDD.

Second, CCFs are critical assets in rural areas of low-income countries, but to date people have not had much success in realizing the full value of their forests, and forest lands have therefore often been converted to other uses (Hyde et al, 1996). A key challenge for developing country forestry is therefore to find avenues for extracting value from forests other than from timber. Addressing this challenge in ways that improve the economic conditions of poor people, while preserving forests that also provide off-site benefits such as erosion and flood control, has proven to be tricky.

Third, in most low-income developing countries, households depend on forests to provide a variety of products that are essential to daily life, including fuelwood, forest fruits and vegetables, building materials, and grazing and fodder for animals (Cooke et al 2008).² Guthiga

² We particularly note the importance of animals for rural livelihoods. In rural areas of low-income countries, households rely on animals as a store of wealth, source of fertilizer, and generator of cash incomes. Typically, most of the nutrients for animal food come from common forest areas.

(2008), for example, estimated grazing and fodder benefits derived by communities relying on the Kakamega Forest in Kenya to be about \$ 33 per hectare per year. Forest benefits are therefore important for villagers.

Implementing REDD in such situations is likely to be tricky, because REDD-related forest restrictions would require that households utilize more expensive and perhaps imported alternatives to locally available forest products. Any efforts to protect forests by excluding local households could therefore harm poor households, who are typically most dependent on forests (Jodha, 1986). Assuring that REDD funding reaches all households affected by access restrictions is therefore of critical importance.

The direct reliance of rural households on forest resources has a number of important climate change implications. For example, over two billion people around the world cook with biomass on a regular basis and most of this comes from nearby forests. In Sub-Saharan Africa, village households typically depend on fuelwood, while charcoal sourced from rural forests often dominates in urban areas. Though fuelwood is in principle carbon neutral, the black carbon from biomass fuels for cooking and heating – particularly in South Asia - is known to be a key contributor to climate change. CO₂ emissions cause 40 percent of anthropogenic climate change, but black carbon comes in second with an 18 percent contribution (Rosenthal, 2009). Smith et al. (2000) find that, depending on the timeline examined, the global warming contribution of a meal cooked using biomass may be higher than for fossil fuels.³

To continue our examination of these issues, we provide a brief introduction in Section 2 to REDD and its successor REDD+. In Section 3, we characterize CCFs and their critical role in low-income countries and particularly in sub-Saharan Africa. In Section 4, we present some contemporary examples illustrating the trend towards decentralization of forest management. Section 5 brings REDD+ and CCFs together and discusses the promise but also the concerns associated with linking these two sets of initiatives. Section 6 concludes by broadening the discussion to include potential funding models and intra-group dynamics.

³ Biogas has by far the lowest global warming contribution, making it a particularly important potential innovation. Household-level biogas digesters have been shown to be effective in China, where about 14 million households use them (Xiaohua et al, 2007; van Groenendaal and Gehua 2010).

REDD+

The goals of REDD are to reduce forest-related climate emissions, sequester more carbon, and financially benefit low-income countries, communities, and forest users. Modalities for achieving these goals are very much under development around the world and detailed research is especially important right now. REDD can be seen as evolving from the clean development mechanism (CDM), an outcome of the 1997 Kyoto COP 3. Though CDM does not include avoided deforestation, it made afforestation and reforestation activities eligible for carbon credits. Few CDM projects relate to forests, though, probably because of complications surrounding leakage, permanence, and additionality, which are discussed below as they pertain to REDD (West, 2010; Dutschke, 2001). While most forest carbon credits (53 percent) come from CDM afforestation and reforestation projects, as of 2008 a full 44 percent involved improved management of existing forests. This represents a substantial increase from previous estimates, which put the share of improved management projects at 13 percent (Katoomba Group et al, 2011).

Very soon after the Bali COP, the focus of REDD was broadened considerably to what has become known as REDD+. REDD+ refers to reducing emissions both from deforestation and forest degradation and incorporates the role of conservation, sustainable forest management, and enhancement of forest carbon stocks in developing countries (UN-REDD, 2010). REDD+ rather than REDD is the focus of the 2010 – 2015 UN-REDD Programme.

The United Nations vision of REDD+ is that “Developing countries have significantly reduced their forest and land-based emissions, as a result of incentives from performance-based REDD+ mechanisms, while achieving national developmental goals in a sustainable and equitable manner.” The mission statement aims to achieve this through “support[ing] countries’ efforts to reduce emissions from deforestation and forest degradation through national REDD+ strategies that transform their forest sectors so as to contribute to human well-being and meet climate change mitigation and adaptation aspirations.” The 2011 – 2015 objective seeks to move toward these long-term goals by promoting the “elaboration and implementation of National REDD+ Strategies to achieve REDD+ readiness, including the transformation of land use and sustainable forest management and performance-based payments” (UN-REDD, 2010, pp.7-8).

REDD+ is an example of a system that provides payments for environmental services (PES). The notion of the environment as providing humans with “ecosystem services” of various types was advanced in the Millennium Ecosystem Assessment (MEA, 2005). Carbon

sequestration by forests is such a service, which contributes to climate stability and offers the potential to more easily and cheaply achieve climate goals.

As discussed in Wunder (2005), PES programs are voluntary transactions for well-defined environmental services or appropriate land use changes that generate environmental improvements. In their overview of a special issue of *Ecological Economics* on PES, Wunder et al (2008) discuss several programs that focus on carbon sequestration. They note a variety of design features, payment modes, and factors affecting efficiency, including leakage, additionality, and permanence of contracts. They point out that most payments are made by governments rather than actual users, which is similar to how REDD is expected to operate (Palmer, 2011), and find that government PES programs tend to have secondary objectives, such as poverty alleviation.

This notion that PES programs should reduce poverty – while seemingly straightforward – is not without controversy. Indeed, Wunder (2008) is concerned that packing too many distributional goals into PES schemes waters down environmental outcomes. On the other hand, Pagiola et al. (2005) and Pagiola et al. (2008) see poverty alleviation as an important role and achievable goal for PES programs.

Wunder (2005) clearly lays out many of the key practical issues in implementing PES schemes such as REDD+. Pattanayak et al. (2010) illuminate some of these issues and note that the challenges include identifying baselines, enforcing additionality, designing appropriate financing mechanisms, and avoiding spillovers. Missing markets and poorly defined property rights in developing countries – often partially addressed through community norms and inter-linkages – can create additional challenges. For example, households may be unused to the market payments that REDD+ could offer, because of past reliance on other institutions such as communities.

As yet, there is limited empirical research on the link between CCFs and carbon sequestration. A partial exception is Chhatre and Agrawal (2010), who examine tradeoffs between climate and forest livelihood benefits. Using a worldwide data set, they conclude that, in general, these goals are complementary. Much more is to be done, however, because forest quality is measured fairly crudely and the CCF design principles used are highly aggregated. This paper is therefore perhaps best considered a very useful initial step. Indeed, one of the key conclusions of the paper is that more detailed microeconomic analysis is needed. More work on REDD+ contracting mechanisms and attributes would be particularly timely.

Community-Controlled Forests

Community controlled forests (CCFs) refer to a type of property right over forests⁴ that is vested in a group of people. The right may be formal, informal, written, or unwritten. For example, in Nepal these groups are formal legal entities called Community Forest User Groups. In some areas in Kenya, forests are co-managed with the government. CCFs can be considered a type of common property regime that is intermediate between private property, where rights and responsibilities are held by individuals, households, and firms, and state property, where rights and responsibilities are vested in governments.

While most developing country forests are government owned on paper, in practice much of this forest is actually controlled to an important degree by communities (Agrawal et al, 2008). About 25 percent of forests, or three times as much as is owned by the private sector, is under community ownership and/or administration. During the period 1997-2008, the area of collective ownership roughly doubled to 250 million hectares (World Bank, 2009).

In many low-income countries, property rights over forests have historically rested with national and colonial governments that often dispossessed indigenous people of their customary rights.⁵ Yet, as the pressure on forests has intensified, state ownership and management of natural forests have become increasingly infeasible, often due to a lack of funds for monitoring and enforcing regulations. In many areas, the result has been degraded forests that offer few livelihood or ecosystem services. For example, in Ethiopia, closed-canopy forest cover is believed to be less than 5 percent and annual deforestation is about 1.0 percent. As a result, devolution policies are actively being pursued (Mekonnen and Bluffstone, 2008b).

Many forests in low income countries are de facto open access, where governments own forests, but do not have funds to protect them. Nearby villagers, on the other hand, have significant de facto control, but do not have the mandate to protect and manage forests. Such systems, of course, can offer few incentives for stewardship, planting, and management (Gordon 1954). Without clear property rights, resources can be degraded, often to the point where they have little value. Sometimes this phenomenon is called the “Tragedy of the Commons” (Hardin 1968) and reflects the idea that valuable resources become degraded when individuals or groups

⁴ Property rights refer to the right to the stream of benefits from forests and also the right to control forests.

⁵ <http://www.forestpeoples.org/sites/fpp/files/publication/2010/05/overviewlandrightsstudy09eng.pdf>

can neither control extraction rates nor benefit from investments.⁶ As Stavins (2011) notes, the so-called “problem of the commons” is at least as important in 2011 as it was in 1911 when Katherine Coman discussed collective action problems in the lead article to the inaugural issue of the *American Economic Review* (Coman, 1911).

Privatization of natural resources such as forests has traditionally been advocated in order to provide appropriate incentives (see for example Demsetz, 1967). In practice, public forests are often governed as concessions (Agrawal, 2008). However, private ownership can create the right incentives for forest management only when there are few conflicts between uses. For example, if trees produce only fuelwood or timber, privatization or forest concessions may be the correct institutional arrangement, because there are few ways that owners of forests can infringe on each others’ property rights. However, because common forests in low-income countries typically produce multiple products, there are often technical barriers (Bluffstone, 1993) and political problems (Jodha, 1986) associated with privatizing forests. Adding in carbon only complicates the property rights picture.⁷ Furthermore, the allocation of forest resources is highly political. Villagers may be deprived of historical rights. Poorer villagers, who often rely much more heavily than the rich on common lands (Jodha 1986), may find themselves worse off than when land access is open.

Establishing and enforcing clear property rights – whether government, private, or common – through appropriate institutional arrangements is perhaps the critical prerequisite to increasing forest rents and tree cover in many low-income countries. Clarifying property rights may not solve all problems, but the economic literature is doubtful that tree cover – or for that matter, any depletable common pool resource - can be sustainably increased without clear property rights (Gordon 1954; Hartwick and Olewiler 1998; Field 2001).

Common property forestry is just one type of social coordination around common resources, but it is a particularly important one in low-income countries. Because forests are critical to local livelihoods and must somehow be shared, coordination is essential despite its difficulty. The nature of CCFs can therefore say a lot about social coordination more generally in rural areas of low-income countries.

⁶ Because it is now recognized that it is not the *common* nature of resources but the openness of access that causes the tragedy, in modern terminology, it would be referred to as the tragedy of open access.

⁷ That said, since 1978 China has actively devolved forest control to the household level. Preliminary results indicate that this approach has improved forest management and increased forest cover (Wang et al, 2004).

Though disciplines other than economics have long examined issues such as trust, social norms, and other-regarding preferences (e.g. affection and altruism) that can be critical to social coordination, the economic literature on the effects of such behaviors is relatively new (Folmer and Johansson-Stenman, 2011). Nevertheless, an increasingly well-developed literature suggests that good things come from social coordination (Bouma et al, 2008). Knack and Keefer (1997) and Zak and Knack (2001) both find that trust yields macroeconomic payoffs such as higher incomes and investment. In developing country settings, using survey data and CCF performance as a measure of social coordination, Bluffstone et al. (2008), Mekonnen and Bluffstone (2008a), and Bluffstone et al. (2012a) find that better forest sector coordination spurs private investments in trees and livestock. Bluffstone et al (2012b) extend the analysis to community level investments in water supply systems and find a strong positive relationship between social coordination and use of piped water rather than uncontrolled sources. These findings are in line with others in the literature that link investments of a variety of types with more effective social coordination (Glaeser et al., 2002; Nyangena, 2011).

As Ostrom (2010) has emphasized, common management is not a panacea and the interdependencies created between community members may result in open access or worse. Community member interdependencies are complex; both good outcomes and bad are possible depending on the process of coordination. Generally in the literature this is referred to as multiple equilibria (Bowles and Gintis, 2002). Glaeser et al (2002) discuss this issue in terms of social capital, viewing social coordination as a set of tools developed jointly, but used individually. They note, for example (p. F442):

“These [interpersonal] complementarities raise the possibility that there exist multiple equilibria in the levels of social capital investment. In some communities the level of investment is high and the return to investment is consequently high. In other communities no one invests and the return to investment is low. The literature on social capital often emphasizes the importance of historical conditions in determining the level of social capital in a community, e.g. Putnam (1993). Multiple equilibria models explain how small differences in initial conditions can generate large divergence in long-run levels of social capital.”

This means that social coordination may be unstable and can be disrupted by outside shocks. REDD+ is one such potentially destabilizing force.

Since the early 1980s, there has been a worldwide trend in low-income countries toward various types of community control and management of forests, at least partly because privately owned and government structures have often proven infeasible. This process may take the form

of devolving both ownership and control of forests to local users or devolving only management or user rights. In some cases, this has meant re-instituting regimes that were disrupted in the past (Sunderlin et al, 2008; Agrawal et al, 2008). Emphasizing once again that most of the 25 percent of developing country forests that can be described as CCFs are informally organized and often in no sense “licensed,” Porter-Balland et al (2011) estimate that CCFs better preserve forests than government-managed protected areas.

Despite emerging conventional wisdom that CCFs may often be better than other alternatives, evidence on the effects and efficacy of CCF components is still limited and the subject of current empirical research; indeed, empirical work focusing on CCF elements that spur behavioral change has only relatively recently emerged (Hegan et al. 2003; Amacher et al. 1996, 1999; Cooke 2000, 2004; Edmonds 2002; Heltberg 2001; Heltberg et al. 2000; Linde-Rahr 2003; Nepal et al. 2007; Bluffstone et al. 2008). A substantial portion of this literature points to cautions in implementing and imposing CCFs from the outside and particularly reminds us that the poor and under-represented can be better off under open access (Ostrom, 2010; Colfer and Wadley, 2001; Khatri-Chetri, 2008; Adhikari 2005).

A related literature discusses CCF design principles and attempts to disaggregate CCF components. This work suggests that effective CCF systems are incentive-compatible at the household level (Shyamsundar, 2008) when they empower communities, have clear access and extraction rules, fair and graduated sanctions, public participation, clear quotas, and successful monitoring (Ostrom 1990; Agrawal 2000, 2001). Recent work also emphasizes the need to analyze the details of CCFs rather than treating CCF as a binomial variable (Jodha, 2008; Shyamsundar, 2008; Agrawal, 2010).

Recent Community-Controlled Forest Experience

We now present a few contemporary low-income country examples of community controlled forests that we believe are especially important. A large number of forest devolution efforts are underway throughout the world and several are showcased at and by the World Rainforest Movement at (<http://www.wrm.org.uy/subjects/CCF/book.html>). Many if not most low-income countries have struggled mightily with deforestation and forest degradation and a number have turned to some kind of community-based management as an option, but few if any have the forest devolution experience of Nepal. As discussed in Bluffstone (1993; 1995), in the 1970s and 1980s many researchers and policymakers thought Nepal was heading for environmental collapse and virtually complete forest loss. Though forests have declined, due to

policy changes since that time it is now believed that forests are better used and protected than in the past.

In Nepal, agricultural lands are private, but since 1957 forests have typically been state owned and controlled. In a mountainous country with few roads, the government could not effectively monitor or manage the country's forests and so forests were effectively open access. As a result of this and other factors, serious deforestation occurred. In response, the Government of Nepal passed the National Forestry Plan of 1976 that, among other things, recognized the need for local involvement and encouraged pilot community programs. In 1979, the Community Forestry Program (CFP) was launched. The Decentralization Act of 1982 then provided the legal basis for devolution, which proceeded slowly until the passage of the Forest Act of 1993.

The Forest Act is important because it directs the staff of the Forestry Department to build forest user groups to manage all of the nation's forests (Edmonds, 2002). This act represented a fundamental shift from the previous practice of essentially centralized management with piecemeal devolution. The CFP regulations call for establishment of community forest user groups (CFUG) at the village level. Each CFUG elects a user committee and writes a management plan and rules. The plan is then approved by the District Forest Officer (DFO), who is the key forestry officer of the central government. The legal responsibility for management and use of forest resources is then passed to the CFUG, along with some operating guidelines. Today over 1.2 million hectares of forest are being managed by local communities involving almost one-third of the population (MFSC, 2009a)

Joshi (1997) claimed that, while 11 percent of potential forest area had been distributed in Nepal as of 1997, 61 percent of forest area is actually suitable for distribution to CFUGs. By the end of 2001, almost one-quarter of all potential forests had been given to CFUGs (Adhikari et al, 2004). In terms of outcomes, Edmonds (2002) finds that communities with CFUGs reduce their use of forests, allowing regeneration. He estimates that new CFUGs have 14 percent lower fuelwood extractions than communities without CFUGs, suggesting that governments are able to affect forest quality through devolution, creation, and expansion of common property. Such conclusions open the possibility of linking CCF to REDD+.

A variety of case studies as well as broader analyses point to accumulation of biomass in Nepal as a result of CCF policies (MFSC, 2009b). Adhikari et al. (2004) agree, noting that the "... program has succeeded in halting the ongoing trend of deforestation." While Joshi (1997) does not observe serious distributional problems in CFUGs, Adhikari et al. (2004) claim that

much of the economic benefit has gone to the owners of livestock and land, who can most benefit from better forest management. These are the relatively richer villagers.

In sum, the Nepal case is a very interesting one for other low-income countries trying to figure out both how to implement CCF in meaningful ways and how to take advantage of REDD+ when forests are degraded rather than logged. In the 1980s and 1990s, Nepal was faced with very serious forest degradation due to open access. It addressed this problem through the creation and enforcement of property rights at the local level. Emerging evidence suggests that the program is having many of the expected effects. Forest decline has slowed and demands on forests have been mitigated. However, the experience also suggests that changes in property rights can cause social problems that need to be addressed in program design; these social problems could be magnified if REDD+ were to offer an enhanced CCF revenue stream.

Tanzania has made participatory forest management (PFM) – manifested as either joint forest management or community-based forest management – a cornerstone of its forest policy, and it has one of the most well developed PFM systems in Africa. Currently about 2.8 million hectares are under some type of PFM as part of a concerted effort to end de facto open access on public lands (<http://www.fao.org/Participation/PFMTanzania-lesson.html>).

Following promulgation of the 1998 National Forest Policy and the Forest Act of 2002, community-based approaches to forest management were widely introduced in Tanzania as a way to both protect Tanzania's forests and reduce rural poverty. Under community based forest management, a particular type of PFM regime, villagers can declare and gazette forest areas on village land as "Village Land Forest Reserves." As in Nepal, villagers take full management responsibility for setting and enforcing rules and regulations over forest management. Villagers can harvest and sell forest products and have rights to define and enforce rules of access and monitor villager performance.

Although empirical evidence is limited, villages report improvements in water levels and quality, natural regeneration in degraded areas, fewer fires, reduced encroachment by farmers, and more wildlife (<http://www.wrm.org.uy/subjects/CCF/book3.html>). Woodcock et al. (2006) report economic improvements for villagers relying on the two forests studied. Topp-Jorgensen et al. (2005) note greatly improved monitoring after PFM introduction. However, there have been concerns that, though CCFs may be effective, villagers may displace their collection of forest products to other less protected forests (Lewis, 2002; Robinson and Lokina, 2011).

A key example of a country that is moving toward CCFs is Ethiopia, which has made increasing forest cover a key part of its poverty alleviation strategy. Ethiopia has an estimated

4.6 percent closed canopy forest cover, 0.8 percent deforestation per year, and 83.3 percent of the population living in rural areas. It also has a rapidly growing human population of about 80 million, largely dependent on low-productivity and rain-fed agriculture, and over 70 million livestock that compete for land and forest resources (World Bank, 2005).

Reacting to these issues, in 2007 the government passed a forest proclamation and adopted the first-ever federal forest policy. Both these documents allow a variety of institutional arrangements for investment in forests, including CCFs, private woodlots, and on-farm trees. A variety of pilot projects and experiments with CCF and other forms of natural resource devolution are underway (Mekonnen and Bluffstone, 2008b).

CCF developments in Kenya have followed on the heels of those in Tanzania. Kenya has only 3 percent closed canopy forest cover, which has created imperatives similar to those in Ethiopia. In 2005, the Kenyan Parliament enacted the Forests Act of 2005. This legislation provides for formation of local forest groups to co-manage forests with the Kenyan Forest Service (KFS). Since 2006, the Kenyan Forest Service has helped communities form community forest associations (CFAs) that jointly manage forests. Pilot schemes are underway in several locations, including Arabuko Sokoke, Kakamega, and Shimba Hills (Nyangena, 2011).

Over time, the roles of the CFAs have been evolving from being directly controlled by KFS to more direct decision making (Ongugo et al, 2008). However, there are still unclear definitions of rights and privileges between the communities and the state that have created challenges. For example, revenue sharing is yet to be agreed on, because KFS has argued that it is not explicitly provided in the Forests Act of 2005 (Guthiga et al, 2012). As noted by Slunge et al. (2011), unclear tenure rights and power asymmetries between the state and local communities can hamper implementation of incentive schemes such as REDD+.

Linking Community Controlled Forests and REDD+

Linking CCFs and REDD+ is seen by many as a natural extension of the worldwide trend toward forest devolution and the development of regional and voluntary carbon markets. Though REDD+ was developed only recently,⁸ academic research, policy documents, advocacy papers, and popular press articles linking REDD+ and CCFs are beginning to emerge.

⁸ UN-REDD basic rules of procedure were promulgated only in March 2009.

The September 25, 2010 edition of *The Economist*, for example, included a special report on forests with two articles on REDD. Though seen by most as a mechanism with great potential to achieve critical climate goals (e.g. Katoomba Group et al, 2011; Economist, 2010a), concerns were raised almost immediately that REDD+ may result in the re-centralization of forest control and therefore harm the poor villagers REDD+ is supposed to help (Economist, 2010c). As Elinor Ostrom noted in her keynote address to the South Asian Network of Development and Environmental Economists in December 2010, "...REDD+ should not be considered a panacea... [and] is not going to necessarily help local forests. In the name of addressing climate change I am concerned with over-simplification. We need to be careful."

UN-REDD (2010) and other official publications appear to have got the message that communities are a key part of any REDD+ future and that any concerns of local communities should be taken seriously. For example, UN-REDD and FCPF have adopted guidelines for stakeholder involvement that specifically focus on forest-dependent communities (UN-REDD and FCPF, 2011). Popular UN-REDD outreach tools also emphasize the importance of CCFs.⁹ The Regional Community Forest Training Center, in collaboration with the Global Alliance for Community Forestry, has also weighed in, advocating that "Community-based forest management (CBFM) provides a sound framework through which REDD can provide financial and livelihood benefits to forest-dependent communities and indigenous peoples, by acknowledging their essential role in the long-term, sustainable management of forest ecosystems" (RECOFT, 2008, p1).

In the academic arena, Phelps et al. (2010) argue that the scope of REDD should be broadened to include "incentivizing conservation among direct forest managers, including forest-dependent communities...." Moreover, the argument is made that REDD+ opportunities may be strongest when pursued inside indigenous territories "where conservation goals and cultural values often align." Venter et al. (2009) agree and argue that particularly biodiverse areas should be targeted for REDD+ payments.

Yet overall there is still little consensus on whether, how, and under what conditions to implement REDD+ in conjunction with CCFs (Agrawal et al, 2011). Some, in opposition to the basic conclusions of McKinsey & Company (2010), even argue that REDD+ is not a cost-

⁹ For example, the UN-REDD video "REDD as Part of the Solution" available at <http://www.youtube.com/watch?v=ZY1WkYd6NtY&feature=related>

effective climate policy and so should not be implemented whatever the circumstances. Though there may not yet exist detailed analysis, some REDD+ critics argue that costs are higher than alleged – and therefore non-forest climate options should be pursued first – because of insufficient account of local-level opportunity costs. Gregorsen et al. (2010), for example, argue that, for a variety of reasons, REDD+ payments will need to be substantially higher than the opportunity costs of deforestation that will be forgone by villagers.

Forest advocacy organizations such as Rainforest Foundation UK argue against using mechanisms such as REDD to bring value to developing country forests for fear that an emphasis on the carbon sequestration benefits will interfere with benefits villagers directly receive. This view is interesting, because much of the developing country forest economics literature has seen the challenge as finding ways to increase low forest rents so that forestry can compete with other land uses (e.g. Hyde et al., 1996).

A particular worry is that local people in developing countries will end up paying the cost of climate change mitigation, rather than benefiting from REDD payments (Dyer and Counsel, 2010). Under this view, forests essential to villagers in developing countries should be left out of REDD. Larson (2011) makes this point particularly forcefully and documents several current examples where governments have ostensibly devolved forests to communities, but in fact maintain significant control. She says that the body of cases she and co-authors reviewed “demonstrate a variety of practices suggesting ... foot dragging with regard to land titling, policy reversals, corruption and the failure to defend new community rights from competing interests and intrusions (p. 546).”

There are a number of specific concerns about linking REDD+ to CCFs. One is how REDD+ benefits can effectively be transferred to the local level without disrupting successful CCF systems. A particular concern is that REDD+ not impose excessive external constraints on local processes (Chhatre and Agrawal, 2009; Klooster and Masera 2000; Smith and Scherr 2003). Wunder (2005) raises issues of who receives REDD+ payments, what payment vehicles are used, and to what degree such aspects matter to households. All these issues must be addressed.

Of special relevance is the need to understand the potential tradeoffs between fairness, efficiency, and distributional issues related to sellers and non-sellers of carbon rights within community contexts. There have been particular demands that country-level REDD Readiness Plans pay attention to local-level rights and forest governance (Daviet et al, 2009). The so-called Indigenous Peoples’ Global Summit on Climate Change held in Anchorage Alaska in April 2009

criticized many aspects of climate change policy, including REDD's potential impact on indigenous groups (Lang, 2009; Schwinn, 2009).

No specific research has yet been conducted on REDD+ within the context of CCFs, and we are aware of no analysis of compensation mechanisms and forest governance complexities associated with REDD+. To date, the issues have been raised primarily by researchers and advocates. Nevertheless, the literature on social capital and CCF experiences point to important cautions that should be respected.

The potential to link CCFs and REDD+ is also influenced by the choice of REDD+ funding mechanisms. Market and fund-based REDD finance mechanisms are under consideration, with momentum apparently favoring fund-based structures. Market-driven approaches are motivated by previous tradable rights efforts, such as the European Emissions Trading Scheme and the U.S. Acid Rain Program. Payments are made directly from the buyers of carbon credits (typically high-income country polluters) to sellers (such as villages in control of CCFs), which implies that villages own carbon stocks and can negotiate over carbon rents.

Proponents of market-based approaches argue that, if deforestation reductions are real and verifiable, then carbon credits should be freely tradable and fungible with fossil fuel reductions. Market systems may be most compatible with decentralized forest management, such as CCFs, where rural communities own and manage surrounding forests, but, as Larson (2011) points out, they also require very secure local rights. In addition, CCFs would have to contend with high transaction costs associated with market funding. Others are concerned that including forest credits in carbon markets will weaken incentives for reducing fossil fuel emissions.

Under the fund approach, a national government-administered REDD fund is established to oversee the transfer of resources from national to local levels. Implicit in this approach is that government owns the carbon stock, gets the carbon rents, and chooses to what extent and how to compensate villagers for lost access to forest resources. Under such an approach, the potential links between REDD+ and CCF are not explicitly exploited. On the positive side, donors are more likely to support approaches that involve local communities. Such an approach may not, however, be able to provide enough funding to meet developing country needs or to exploit all CCF carbon sequestration opportunities.

Conclusions

It has long been recognized that CCFs can improve forest management efficiency. However, "efficiency" has largely been defined in terms of direct household-level benefits, such

as timber and non-timber forest product availability. Such a vision of CCFs is increasingly insufficient given the importance of better forest management for climate change mitigation and adaptation. A key challenge is to figure out how to make the range of CCF benefits directly available to those who control and depend on forests. By allowing CCF “owners” to appropriate forest benefits, management incentives for forest conservation and investment can better take into account the diversity of ecosystem services provided.

This is the common sense purpose of REDD+, but a variety of literature, including that associated with REDD+, warns us that “There can be many a slip twixt cup and lip.” These concerns are related to insecure and poorly defined community forest tenure, informed by sometimes long histories of government unwillingness to meaningfully devolve management and ownership to communities. Skepticism is justified even in Nepal, which has some of the best community forest tenure in the developing world. In January 2012, the Ministry of Forests and Soil Conservation indeed proposed to amend the Forest Act of 1993, which established the CFP in Nepal. The ostensible reason is to augment government revenues and curb illegal activities, but the proposal has been roundly panned as an attempt by government to reclaim rights from communities (Upadhyay, 2012; Dahal, 2012).

In addition to potentially supporting climate and livelihood goals, we should not forget that there are at least two important potential co-benefits of CCF-based REDD+. First, well-managed CCFs can provide important ecosystem services, some of which are likely to be critical for adaptation to climate change, particularly in the key area of water management. Reducing deforestation and forest degradation offers a key opportunity to enhance these services and increase biodiversity (Venter et al., 2009).

Second, there are important health costs borne by villagers as a result of their dependence on biomass fuels. In South Asia and Sub-Saharan Africa, over 85 percent of people cook with fuelwood and other biomass fuels on a regular basis. There is abundant evidence that inefficient burning and poor venting of waste gases contributes to a variety of deadly respiratory diseases (Thakuri, 2009).

Reducing dependence on biomass fuels and switching to more sustainable options such as biogas are of critical importance, but achieving such objectives has proven elusive, at least partly because non-fuel CCF ecosystem services have not been compensated. The result has been that, because biomass fuels are “free” from the individual perspective, most biomass fuels come from common forests. REDD+ offers the potential to both increase the incomes of villagers and offer incentives to switch to less hazardous, but more costly, fuels.

What is the way forward? Whether countries prefer a more market-oriented approach or a fund-based approach, there are a number of pitfalls and prerequisites. Donors should be wary of doing more harm than good. “Fund-based” financing mechanisms like the Forest Carbon Partnership Facility and UN-REDD can play important roles in guarding against extreme cases of government predation and encouraging a wider view of forest benefits. However, a fund-based approach moves us far away from the original intent of REDD, which was to encourage the development of flexible, market-like mechanisms that give carbon buyers and sellers the right scarcity value signals around forests.

Relying on fund-based mechanisms carries the risk of REDD+ becoming merely another form of contingency-based aid, similar to structural adjustment programs.¹⁰ A clear trajectory to appropriately enhance community tenure and move toward market-based mechanisms would allow communities to reap the rewards and pay the price of carbon supply. But there is no consensus as to whether communities should receive all carbon rents simply because they are located near forests, or whether they should be compensated only for costs that REDD imposes on them. Moreover, devolving carbon rights could simply increase rent seeking and elite capture at the local level and not benefit those most directly dependent on extractable forest resources.

We also raise the possibility that REDD+ could destabilize well-functioning existing community forestry systems. We know from the social capital literature that maintaining socially beneficial equilibria in groups can be tricky. Communities in the developing world have devoted countless hours to systems that make more or less sense for the particular circumstances and products involved. What happens to these fragile systems when forest products are not just fuelwood, fodder, and grazing rights, but also internationally priced forest carbon? Stakes will increase and coordination will likely become more difficult as issues of fairness, equity, and participation come to the fore. To date, though, the nature and magnitudes of community and household-level responses to REDD+ have not been investigated and are therefore largely unknown. This is clearly an important area of future research.

¹⁰ UN-REDD envisions moving toward full market mechanisms in the third phase of the program.

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