

Nested governance for effective REDD+: institutional and political arguments

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Abstract: Reducing Emissions from Deforestation and Forest Degradation and Forest Enhancement (REDD+) has become a central focus of global climate change mitigation efforts. Even though the international demand for forest-based carbon sequestration is the key driver of REDD+, forest protection strategies must be implemented on the ground. This cross-scale nature of REDD+ explains why scholars and policy makers increasingly favor nested governance arrangements over either fully centralized or fully decentralized REDD+ governance. The focus of the literature on nested REDD+ governance has mostly been on monitoring, reporting, and verification of carbon emission reductions across sub-national, national, and international levels. We build on Ostrom's principle of 'nested enterprises' to argue that REDD+ must be designed to systematically and formally link national policy reforms with the organization and execution of sub-national (regional and local) forest conservation efforts led by forest users. We also contribute new insights on the political dimensions of nestedness in REDD+, with important roles for inter-community forestry associations and forest rights movements.

Keywords: forestry associations, Forest rights movements, multilevel governance, nested enterprises, political accountability, REDD+.

Acknowledgments: We would like to thank Kerry Krutilla, Shanna Dietz, Elinor Ostrom, Edward Webb, Achim Schlüter, and the reviewers for their helpful comments on earlier drafts. Earlier versions of this paper were presented at the fifth biennial conference of the Indian Society for Ecological Economics

at Ahmedabad, India in January 2009 and the 13th Biennial Conference of the International Association for the Study of the Commons (IASC) at Hyderabad, India in January 2011 where it was presented as part of the IFRI-CIFOR panel on REDD+. Usual disclaimers apply.

I. Introduction

The international environmental policy community is debating proposals for Reducing Emissions from Deforestation and Forest Degradation, and Enhancement of Forest Carbon Stocks in Developing Countries (REDD+). Though REDD+ means different things to different countries, organizations and individuals (Angelsen et al. 2009, 2; for an extensive review, see, Seymour 2013), the kernel of REDD+ relates to its international scope and market-based or market-like arrangements for financing forest protection and conservation.

According to UN-REDD, REDD is a mechanism to create incentives for developing countries to protect, better manage and wisely use their forest resources. To this end, REDD entails creating a financial value for the carbon stored in trees. Once this carbon is assessed and quantified, the final phase of REDD involves *developed* countries paying *developing* countries carbon offsets for their standing forests.¹ The ‘plus’ in REDD+ refers to the inclusion within REDD the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in reducing emissions.

Though the international demand for forest-based carbon sequestration is the main driver of REDD+, forest protection strategies must be designed to be effective on the ground. This cross-scale nature of REDD+ explains why scholars and policy makers increasingly favor nested governance arrangements over either fully centralized or fully decentralized regimes. Nevertheless, a review of key articles and reports on nested REDD+ shows that a majority of the literature on nested REDD+ focuses on ex post monitoring, reporting, and verification (MRV) of carbon emissions. Such a focus on MRVs detracts attention from the substantive agenda of REDD+: engendering effective forest protection, conservation, and reforestation on the ground. The MRV focused literature on nested REDD+ does not also address the need for developing an institutional architecture and policy reforms needed to foster forest conservation in the developing countries (Angelsen et al. 2008; Larson et al. 2013).

We build on the work of the scholars who conceive nested REDD+ as a means for multi-tier forest governance (Forsyth 2009; Herold and Skutsch 2011). Nevertheless, we show that many proposals about nested REDD+ architecture are based on inadequate, and at times, incorrect interpretations of the principles of nestedness developed by the scholars of common property and polycentric

¹ <http://www.un-redd.org/FAQs/tabid/586/Default.aspx>, italics in the original. Last accessed November 9, 2013.

decentralized governance (Ostrom 1990; Marshall 2008; Agrawal and Angelsen 2009; Hayes and Persha 2010). We first clarify the conceptual roots of nestedness. We then develop an approach to nested REDD+ that enables the development of a “middle tier of institutions and governance enabling conditions” necessary for successful implementation of REDD+ (Seymour 2013, 17).

The success in controlling deforestation or avoiding forest degradation depends crucially on how REDD+ finances are used and whether the actors involved in resource harvesting and management on the ground are credibly committed to producing positive environmental outcomes. Achieving this requires careful institutional design that will help align incentives at both the national and sub-national levels. In addition, to address the political-economic drivers of deforestation, REDD+ proponents must systematically address the political dimensions, that is, the questions of legitimacy of and accountability in REDD+.

Nested REDD+ architecture must be based on cross-scale linkages that are independent of the government hierarchy. In the absence of such independent structures, national governments rely on fines, fences, and guns as the primary tools of enforcement, which will jeopardize the legitimacy of REDD+ interventions among forest users (Petkova et al. 2010; Colfer 2011; Larson et al. 2013). Such adverse outcomes are far less likely if REDD+ arrangements recognize and empower both government and non-government actors working across scales, each working as a check against the potential failures of others. In particular, we argue for strengthening inter-community forestry associations and forest rights movements and allowing such civil society groups an increased space during the implementation of REDD+.

In the following section we offer a concise, yet up-to-date summary of previous proposals for nested REDD+. In section 3 we outline a more comprehensive and theoretically informed proposal for nested REDD+ architecture. We also discuss the political dimensions that affect the success of nested REDD+. Section 4 provides new insights derived from the literature on international forestry regarding monitoring and enforcement in REDD+. Section 5 discusses the political dimensions of nested REDD+ by specifying cross-scale linkages between forest user groups, inter-community forestry associations, and forest rights movements. The paper concludes in section 6 by discussing potential limitations to our approach and by proposing policy recommendations for a transition to nested REDD+.

2. Nestedness in REDD+: current proposals

2.1 The evolution of the idea of REDD+

REDD+ is modeled on payment for environmental services (PES) programs, which link sellers and buyers via voluntary, conditional agreements over “a well-defined environmental service – or a land use presumed to produce that service” (Wunder 2007, 48). REDD+ is conceived as a mechanism for industrialized countries

to provide “performance-based financial incentives to developing countries to alter their forest-based emissions trajectories compared to an agreed baseline” (Seymour 2013, 2). Angelsen and McNeill (2012) argue that for the success of PES-type REDD+ programs, national governments must introduce policy reforms to recognize the property rights of local forest users (*ibid.* 46). National level policy reforms, however, are frequently blocked by powerful actors and agencies that stand to lose under the reforms (Thompson et al. 2011; Angelsen and McNeill 2012). Such formidable opposition has forced international policymakers to focus on incentivizing national governments in the hope that national governments will carry out needed reforms (Thompson et al. 2011).

As negotiations over the development of a formal policy continue, however, NGOs, donors, and private corporations are already implementing REDD+ pilot projects at the local or sub-national level (Angelsen and McNeill 2012). The pragmatic goals of enlisting the support of national-level governments and of ensuring the continued operation of the ongoing projects have shaped the nested REDD+ proposals currently on the table (Seymour 2013). We summarize these proposals in the following section.

2.2 Existing proposals for nested REDD+

REDD+ proponents typically argue for one of two forms of nested REDD+ architecture: (i) a ‘hybrid’ approach, which provides for simultaneous financing of local projects and the development of a national-level institutional architecture (Sunderlin and Sills 2012); and, (ii) an MRV-focused multi-level approach designed to cope with the uncertainties surrounding binding international agreement about REDD+ (Pedroni et al. 2009).

Responding to the question of “What is the right scale for REDD?”, Angelsen et al. (2008, 1) highlight the flexibility of a hybrid (nested) approach that combines features of direct, international support to projects operating at a subnational level with additional direct support to national-level governments. Under such a hybrid nested approach, countries that “initiate [REDD projects] at the subnational level would be able to scale up to a national approach as they increase their capacities and improve their governance” (Angelsen et al. 2008, 3). Seen in this vein, the role of a nested approach is to “attract private capital (and to) ...incentivize early activities *while countries are still getting ready*” (*ibid.*, 217 emphasis added). Similarly, the report of the sixteenth session of the Conference of the Parties (Cancun) held toward the end of 2010 encouraged developing countries to develop, “*in the interim*”, sub-national forest reference emission levels, and sub-national monitoring and reporting systems (UNFCCC 2011, 12–13, emphasis added). By implication, once a national REDD+ architecture is in place, a nested approach is no longer necessary.

The second main approach to nested REDD+ focuses on developing “integrated accounting system[s] for emissions and emission reductions resulting from national and subnational REDD efforts” (Pedroni et al. 2009, 209). This

MRV-focused vision has been influential among a number of international private agencies such as Forest Trends, Climate Focus, and, the Nature Conservancy (Chagas et al. 2011). The most important influence of this work is reflected in the Jurisdictional and Nested REDD+ (JNR) Initiative of Verified Carbon Standards (VCS), which is considered one of the world's leading voluntary greenhouse gas programs. The JNR focuses almost exclusively on accounting of carbon emission reductions under a number of alternative policy scenarios.² While the JNR 'nests' different types of emission reductions into a comprehensive emission inventory, it says nothing about the institutional arrangements needed for fostering forest protection outcomes, or about questions of benefit sharing, transparency, and accountability.

To summarize, for the proponents of a hybrid approach, nested REDD+ is conceptualized mainly as an intermediary step toward the development of a national level REDD+ architecture. Even if national governments do not have the required institutions in place, a hybrid nested REDD+ architecture would allow sub-national interventions to begin immediately if a worthy project is ready (Pedroni et al. 2009; Herold and Skutsch 2011). On the other hand, the architects of the MRV-focused approaches, such as the JNR, have sought to create a system that allows for proper accounting of MRVs under all plausible REDD+ scenarios.

Both the hybrid and MRV-focused approaches to nested REDD+ architecture overlook on-the-ground considerations. For example, both leave open the question of who will be responsible for protecting and conserving forests *ex ante*. This is a surprising omission because one of the main goals of REDD+ is the protection of existing forest stocks. We believe this omission is a consequence of how proponents of hybrid and MRV approaches conceptualize the problem of institutional supply – who supplies domestic institutions and why?

2.3 Institutional supply

Some prominent observers of REDD+ have argued that international agencies should not interfere in how national governments implement REDD+ domestically (Wunder 2010). Because there are inherent efficiency gains from operating at multiple-levels, the argument goes, national governments will have incentives to endogenously create nested systems within their countries. The operational principles of pilot REDD+ projects developed by the UN-REDD and the Forest Carbon Partnership Facility of the World Bank similarly focus on national-level governments as the primary locus of REDD+ implementation (Thompson et al. 2011). However, REDD+ proposals aimed at incentivizing *national governments* are at risk of repeating the mistakes of the past international efforts to control tropical deforestation. Those interventions failed precisely because national governments failed to develop robust and accountable institutions of forest governance (Kaimowitz 2000).

² <http://www.v-c-s.org/JNRI>.

Previous studies have shown that national governments and public officials often lack the motivation to devolve substantive rights and promote transparent forest governance in practice (Agrawal and Ostrom 2001; Ribot et al. 2006). Significant donor support for forestry decentralization programs of the 1990s is a case in point. While developing country governments enacted attractive decentralization policies, they retained ownership of the majority of forests, which put severe limits on the benefit that forest-dependent people earned from forestry decentralization (RRI 2012; see also, Ribot et al. 2006; Tacconi 2007).

Past studies have also shown that a sudden deluge of funds, without first putting in place appropriate institutional arrangements across different levels, creates adverse incentives, which may lead to significant governance problems (Auer 2007). The concern that REDD+ will prompt governments to recentralize forest governance (Sandbrook et al. 2010) has, to some extent, been validated. For example, forestry agencies in India have proposed to bring the former Swidden fields under carbon forestry plantations (UNDP 2009), even though indigenous *Adivasi* people's rights to those lands have been recognized in a recent statute (Kashwan 2011). The governments of Indonesia and Malaysia argued for the recognition of large scale commercial palm oil plantations, which often cause grave ecological damage to peat swamp forests, as 'forests' eligible for REDD+ finance.³

These events, combined with a neglect of tenure reforms by national governments (Larson et al. 2013), lend credence to the fears that governments are "anxious to gain more political and economic control over their nation's forests via the REDD mechanism" (Skutsch and McCall 2010, 401). However, developing country governments are not alone in pushing through carbon enclosures. 'Carbon Conservation', a private carbon forestry company announced deployment of former Aceh rebels to provide military-type security cover for Ulu Masen Project in Aceh Province.⁴ Forest dependent groups in Tanzania turned hostile to REDD+ projects after international environmental NGOs ignored persistent but peaceful local protests against exclusionary REDD+ program design (Beymer-Farris and Bassett 2012).

Evidence available through various studies suggest that left to their devices, national governments are unlikely to invest in forest tenure reforms and carefully designed benefit-sharing mechanisms. Instead, the allocation of rights, responsibilities, and rewards for local forest protection must be secured through *binding* international agreements (Larson 2011). Governments and non-government organizations interested in participating in REDD+ must be required to meet such conditions, first and foremost, because they are critical to the effectiveness of forest protection efforts, and therefore, to the core mandate of REDD+. Because such conditions also meet the normative criteria of equity and

³ <http://www.thejakartapost.com/news/2010/02/16/palm-estate-forest-says-ministry.html>.

⁴ <http://www.abc.net.au/site-archive/rural/news/content/200804/s2214030.htm>.

social justice, they will further contribute to the legitimacy and sustainability of REDD+ interventions on the ground.

In the following section, we discuss the key features of nested enterprises proposed by Ostrom (1990) and Marshall (2008) that the proponents of hybrid and MRV focused approaches have largely overlooked. Then, we build on the literature about common property and forestry decentralization to show how the nested architecture we propose helps synergize inputs from public, civic, and market institutions (Hayes and Persha 2010; Ostrom 2010; Agrawal et al. 2011).

3. Nested REDD+: A theoretically informed proposal

An international agreement that promises significant new investments in forest protection and conservation, if not structured carefully, may instead inadvertently harm sub-national and local efforts of forest protection (Sandbrook et al. 2010; Cronkleton et al. 2011; Larson et al. 2013). Attempting to avoid this pitfall, some REDD+ scholars have misinterpreted the principle of nested enterprises. For instance, Forsyth (2009, 116, emphasis added), compares nested enterprises to a Russian doll such that “each local set of rules and incentives fits within *the rules and objectives set at larger scales*”. Such a top down understanding of nestedness, however, is a misreading of the concept of nested enterprises, especially if it is read along with Ostrom’s other design principles.

Instead of simply fitting *within* the scope of larger scale policies, Ostrom argues that effective policy frameworks allow users on the ground to operate, on most occasions, *without* higher level interference (*ibid.*). Marshall (2008, 77) conceptualizes nested arrangements as inclusive systems which aid autonomous functioning of smaller, more exclusive units operating within broadly agreed principles. A nested system is one in which key governance functions, like monitoring and enforcement of resource use, are organized into multiple, reinforcing, layers of governance (Ostrom 1990).

Such a perspective on nestedness allows for multiple types of rules to co-exist in a quilt patch of local and external interventions and control. Following the principles of subsidiarity (Marshall 2008), we recognize that participation in REDD+ entails forest users giving up a certain amount of autonomy so that local decisions related to harvesting of non-forest produce does not run afoul of REDD+’s forest conservation goals (cf. Bray 2013). At the same time, the nested REDD+ architecture we propose values locally effective rules related to routine monitoring of forest protection activities, intra-community conflict resolution, and about election of leaders who represent forest users in negotiations with outsiders (Agrawal and Angelsen 2009). We also show below that participation of forest users in REDD+ activities is necessary, but may prove insufficient if they do not have the support of government agencies who own most of the forests in the developing countries. The roles and responsibilities of key actors in the nested REDD+ architecture we propose are outlined in Table 1 below.

Table 1: Roles and Responsibilities in a Nested REDD+ Architecture.

REDD+ Activity	Key Actor/s	Primary level of action
Forest protection, conservation, and routine monitoring	Forest user groups	Village/village clusters
Organization/mobilization of forest user groups	Inter-community forestry associations (FAs)/ forest rights movements	District/Province/ National
Domestic benefit sharing	Provincial governments acting through elected local governments/FAs	Province
Accountability and safeguards	FAs/forest rights movements/non-government organizations (NGOs)	Province/National
Accounting of carbon emission reductions	Sub-national agencies with support of forestry associations and forest users	Sub-national/ Local
Auditing changes in carbon stock	Conducted jointly by third party monitoring agencies and environmental NGOs; with the assistance of forest user groups	National/Province
Policy reforms	Federal and provincial governments	National/Province
International carbon finance and regulation	UNFCCC/national governments	International/ National

Source: Authors' original contribution.

Forest Users: Forests are subject to multiple overlapping and contested claims, such that it is ill-advised to propose rigid criteria to determine which groups or communities should be recognized as key REDD+ stakeholders. Still, there is a broad consensus that people who live in and around forest areas and are dependent on forests for subsistence, who we refer to as ‘forest users’, are the most important local stakeholders in REDD+ (Angelsen et al. 2009; Thompson et al. 2011; Larson et al. 2013; Sunderlin et al. 2013). Estimates of the number of “people living in tropical forest areas” range between 600 million (Wollenberg et al. 2008) and 1.3 billion people (Chao 2012).

Our argument about the recognition of forest users’ rights differs from that of the scholars who draw on human rights and indigenous rights frameworks to demand for secured rights for forest peoples (Sikor et al. 2010). The rights proponents tend to emphasize the role of international conventions about indigenous and human rights in the context of REDD+ (Lyster 2011). We recognize the need for drawing on such diverse approaches for the effective advocacy of the rights of forest users (see, Sikor and Stahl 2011). Nevertheless, our arguments in favor of recognizing user rights are related to the key tenets of institutional analysis.

First, user rights must be attached to nontrivial economic gains. Because REDD+ changes the economic relationship between a user group and its forest, unless the new management practices provide a greater economic return to user groups than status quo practices, it is unlikely that recognizing existing property rights will alone be sufficient to induce collective action. As we discuss in the next section, compensating forest users for their role in routine forest monitoring and carefully designed carbon auditing will ensure that REDD+ is beneficial to them.

Second, user rights are of little use if they are not backed by an institutional framework intended to facilitate both the local and cross-scale collective action needed for effective forest protection (Agrawal and Angelsen 2009; Hayes and Persha 2010). Because national governments own more than 86% of the world forests (Agrawal et al. 2011), nested REDD+ architecture must incorporate mechanisms for holding the state to account. Such mechanisms of cross-scale linkages are extremely important to address the criticism that user groups are often exclusive and lack accountability (Ribot et al. 2008). The long time horizon of many REDD+ plans will allow project proponents to address these concerns by linking user groups to elected local governments.

The linkages between forest users and local governments are important for ensuring both democratic accountability and the continuity of REDD+ activities through the institutions of elected local governments (Mwangi and Wardell 2012). At the same time, the small scale operations of a large number of forest-dependent groups and local governments beg a number of obvious questions: how will these smaller units deliberate with one another and aggregate their forest emissions? Equally important, how will they become part of the cross-sectoral partnerships that seem essential for operationalizing nested REDD+ arrangements (see, Forsyth 2009, 119)?

Inter-community Forestry Associations/Federations: Forest user groups and local government bodies are most effective when they are part of cross-sector partnerships. Such partnerships often work through inter-community forestry associations (FAs), forestry federations, or forest rights movements that are already active in many countries in Asia (Ojha 2009), Africa (Igoe and Croucher 2007; Asare et al. 2013), and Latin America (Cronkleton et al. 2011; Hajek et al. 2011; Bray 2013; García-López 2013).

The FAs are often instrumental in supporting forest protection efforts beyond the confines of villages, act as nodal agencies for mobilizing forest users for deliberations over REDD+ projects, provide monitoring of forest protection efforts, help resolve inter-community conflicts, and act as a bridge between actors working across scales. With appropriate assistance from governments and NGOs, the FAs have successfully helped aggregate the activities and efforts of smaller community groups, and have helped strengthen the voices of forest users in the political arena (Cronkleton et al. 2011). Such an expanded role for inter-community FAs, takes them closer to Ostrom's proposal of nested enterprises (Ostrom 1990).

Government forestry agencies: Commons scholars have shown that forest users must have the backing of public forest agencies and other higher level institutional arrangements to deal with incursions beyond their capacity (Agrawal 2001; Hayes and Persha 2010; Kashwan 2011). Under the nested REDD+ architecture higher level public officials and agencies with superior enforcement capacities are mandated to work with locally organized groups to monitor and act decisively against any instances of unauthorized harvesting by powerful outside actors.

The interactions between forestry associations and government agencies create networks in which forest users can petition for help when needed.

Furthermore, higher level government authorities can also monitor against community failures or any collective violation of norms of forest management agreed to in the context of REDD+. However, such powers will have to be supplemented by appropriate procedural rights vested in forest user groups so that they are not punished unfairly.

Provincial and national-level governments: As shown in Table 1, in the nested framework we propose, national and provincial governments are in charge of policy reforms and for creating the MRV systems that have been the core focus of previous scholarship on nested REDD+ (Pedroni et al. 2009; Chagas et al. 2011). In addition, a direct engagement with inter-community associations and social movements will help government leaders respond effectively to the interests and concerns of key local actors.

The nested architecture we propose should preferably be ratified by national parliaments, thereby allowing national democratic institutions, including the judiciary, to step in, if necessary (for linkages between international agreements and domestic judicial institutions, see, Benvenisti 2008). Nevertheless, leaving the implementation of sub-national REDD+ governance mechanisms entirely to the discretion of central governments will create perverse incentives for governments vested in maintaining continued control of forests (Sandbrook et al. 2010; Angelsen and McNeill 2012). Mitigating these concerns requires that the international community plays an active role in instituting domestic checks and balances to hold national-level governments to account.

UNFCCC and other international agencies: The discussion above shows that REDD+ governance cannot be effective if it remains a soft and non-binding instrument (Larson 2011). Scholars have argued that UNFCCC interventions need to go beyond proposing social and environmental ‘safeguards’ to actively promote tenure reforms and institutions for local participation (Chhatre et al. 2012). Under the framework we propose, UNFCCC and other inter-governmental bodies require that governments interested in participating in REDD+ put in place transparent benefit sharing mechanisms and concrete checks and balances during the implementation of REDD+ programs. We argue that the international agencies supporting REDD+ interventions should also incentivize developing country governments to formally engage with sub-national governments and non-government actors involved in activities related to forest use and management. Equally important, international agencies and trans-national NGOs must be encouraged to engage with national-level and regional forest rights movements that are often in a position to provide countervailing power of mass mobilization of forest users, an argument we further develop in section 5.

As discussed in this section, the broadly defined roles and responsibilities of various actors in a REDD+ architecture should be laid out up-front, but should

also be flexible enough to allow adaptation to specific local circumstances. In the remainder, we discuss institutional and political considerations that will arise during REDD+ design and implementation.

4. Monitoring forests and forest carbon stocks in nested REDD

When forest users have direct stakes in a forest (e.g. rights to undertake regulated and limited harvesting of non-timber forest produce), and they receive a significant share of the carbon forestry proceeds, they are more likely to contribute to forest protection under inclusive REDD+ architecture. However, as we indicated above, rights to benefit from forest protection are necessary but insufficient unless robust arrangements for monitoring and enforcement are put in place (Gibson et al. 2005; Coleman 2009).

Our review of the literature on nested REDD+ reveals that the term “monitoring” is most frequently equated to carbon auditing. However, monitoring is defined more broadly in the common-pool resource literature. Groups of users who benefit from a common-pool resource, such as pastures or forests, take turns at patrolling the resource boundaries to monitor rule conformance by their fellow community members and the non-members trying to harvest illegally (Ostrom 1990). However, monitoring is invariably paired with sanctioning. Forest users have incentives to follow the rules agreed upon collectively only if those violating the rules are appropriately sanctioned (Ostrom 1990; Gibson et al. 2005; Coleman 2009).

Even though local groups are competent in routine monitoring of forest use, it does not necessarily mean that locally organized groups are able to fend off incursions by powerful external actors (Hayes and Persha 2010; Kashwan 2011). In other words, while the routine monitoring of actual forest use is most efficiently handled at a local level, the support of higher level authorities is likely to be critical not only in confronting particular cases of violations by external actors, but also in maintaining the credibility and viability of local forest protection initiatives. The implication is that the effectiveness of local monitoring is inseparable from a constructive deployment of the authority of government agencies to ward off illegitimate activities of outsiders capable of overwhelming forest users.

As different from the monitoring of routine forest protection activities, accounting and auditing of carbon emission reductions are most efficiently organized at a national level (Pedroni et al. 2009). In a fully developed system of international REDD+ finance, carbon auditing and accounting has to be conducted at the national level. Still, placing monitoring and auditing functions *exclusively* in the hands of external monitors will increase transaction costs. These considerations have led the UNFCCC to stipulate that carbon auditing and accounting should be conducted through “an appropriate combination of remote sensing and ground-based forest carbon inventory” (Herold and Skutsch 2011, 2).

The choice of methods and means of carbon accounting and auditing is also related to questions of accountability in REDD+. Recent reports suggest that

government agencies that control forest lands, have used remote sensing analyses to exaggerate the extent of forest cover, for instance, by including commercial plantations as forests (Nagendra 2007; cf. Downton 1995). Therefore, including non-state actors in the process of accounting for and auditing carbon emission reductions will also institute checks against the misuse of powers by governments and government agencies.

Skutsch and Ba (2010) offer an excellent illustration of a multi-level approach to carbon accounting through a project that developed participatory geographical information systems. Community members with four to seven years of education were trained in user-friendly and IPCC-compliant carbon stock measurements through real-time monitoring and data recording (*ibid.*, See also, Skutsch et al. 2009). Similarly, the PES programs in Cameroon (Sonwa and Minang 2009) and Mexico (Cacho et al. 2005) that ensured effective local participation, reduced transaction costs and yielded better returns to participating farmers. While these projects have been facilitated by research institutes and donor agencies, in many cases inter-community associations are capable of handling such interventions in the long run (see section 5 below).

Under the nested REDD+ architecture we propose, forest users are the main party vested with the task of routine monitoring of forest protection efforts on-the-ground. Local forest users are usually in a better position to observe activities within the forests than are central bureaucrats or external auditors. Greater attention to the development of carbon accounting systems based on user monitoring and accounting activities will go a long way in facilitating these efforts (Skutsch et al. 2009).

Forest users can also be enlisted to assist in auditing of forest conditions and assessment of carbon stock, thereby achieving carbon auditing at low costs. To avoid potential conflicts of interest among forest users, however, the task of carbon auditing must be separated from the task of monitoring. To that end, the integrity of the auditing process can be ensured by involving forest users from other localities in the region. Moreover, finer carbon sequestration measurements need to be conducted at randomly selected sample sites as part of third-party validation processes. Such a combination of local and external monitoring and auditing stands to offer synergistic conservation, development, and governance benefits.

5. The political dimension cross-scale linkages in nested REDD+

Recent reviews of multi-level governance point to the challenges associated with the two prominent ways of “bridging the distance between the higher and the local level, viz., decentralisation and participation” (Mwangi and Wardell 2013, 85). Both of these solutions frequently fall prey to the entrenched power asymmetries between government agencies and forest users (Ribot et al. 2006), and power differences among forest users. The onus of restoring a balance of power often falls on national and transnational NGOs. Notwithstanding the important contributions

these outside actors make under supportive policy environments, previous studies have shown that priorities of these outside actors may not match those of forest users, which in turn poses a challenge for the legitimacy of external interventions (Colfer 2011; Thompson et al. 2011; Beymer-Farris and Bassett 2012).

Addressing the challenges outlined above requires that nested architecture is geared to strengthen countervailing powers as a check against powerful government agencies. The relations of accountability will be strengthened through active engagement between inter-community forestry associations/federations and national and trans-national NGOs. The inter-community forestry associations play an active role in facilitating policy and programmatic linkages while forest rights movements help build political pressure against erring government agencies and governments.

5.1 Cross-scale linkage through sub-national governments and inter-community associations

In line with the dual institutional-political focus of the nested architecture we propose, we argue that the success of REDD+ requires government agencies and REDD+ proponents working closely with inter-community forestry associations and local governments. The success of inter-community associations, documented by scholars cited in section 3 above, shows that important synergistic effects can be achieved by creating a policy space for inter-community forestry associations already active on the ground. However, most discussions of cross-scale linkages tend to be theoretical and conceptual; rarely do they specify how such linkages are achieved in practice. Here we discuss specific examples of such cross-scale organizations that policymakers in developing countries are working with for implementing multi-tier forest governance mechanisms.

A well-documented example of nested organizations in Asia is the national level Federation of Community Forestry Users, Nepal (FECOFUN), which represents more than 11,200 Community Forest User Groups.⁵ User groups are organized into district level federations, which elect their representatives to the national level FECOFUN general assembly. While the district federations work very closely with the government district forest officers, the national body of FECOFUN functions autonomously. Such autonomy enables FECOFUN to negotiate with, rather than being subordinate to, national government agencies (Ojha 2009). FECOFUN has been acting as the mediating agency between the community forestry user groups and a variety of international development agencies, such as the Forest Stewardship Council and Forest Carbon Trust Fund. The success of FECOFUN has prompted the Forest Carbon Trust Fund to help establish a watershed level REDD-Network, which led to reduced transaction costs for REDD+ implementation in the pilot sites (Khatri et al. 2013).

⁵ <http://www.rightsandresources.org/partnersCollaborators.php?id=35>.

Ghana's Community Resource Management Areas (CREMAs) combines the strength of locally grounded rules of resource management with institutional arrangements that facilitate the accountability of elected local governments (cf. Ribot et al. 2008). The CREMAs are backed by the power and authority of the district assembly constituted under the local government statute (Asare et al. 2013). Most importantly, at various stages of the policy process, the CREMAs facilitate participation of forest user groups, traditional authorities, wildlife management authorities, district assemblies, and the Minister for Lands and Natural Resources at national level. Asare et al. (2013) show that CREMAs are best placed to channel REDD+ related cross-scale linkages. Similarly, a number of scholars have documented the success of Mexico's inter-community forestry associations. These associations have helped secure for community forestry groups financial support for local forestry projects, greater participation in policy making, stronger rights, and, political representation in the policy making processes (Klooster and Maser 2000; Bray 2013; Garcia-Lopez 2013).

Despite the multiple policy and programmatic benefits that have accrued to the members of inter-community forestry associations, they are not a panacea, as evident from the challenges that forestry associations have encountered in different settings (for related discussions, see, Wollenberg et al. 2006; Cronkleton et al. 2011). Instead, we use the example of forestry associations to make a larger point about the importance of engaging civic associations and other membership-based organizations. Such engagements will help forest users make cross-scale linkages without necessarily having to climb through the rigid hierarchies of government bureaucracies. The recognition of existing federations and the establishment of legal frameworks that *allow* forestry associations or federations to form in new places are likely to foster robust cross-scale linkages and improve accountability.

5.2 Forest rights movements in REDD+

The problem of "recentralization" of forest governance can be mitigated partly through international regulations; for instance, by making the payment of REDD+ benefits contingent on national governments undertaking meaningful forest governance reforms (Sikor et al. 2010; Larson 2011). Nevertheless, in addition to binding national governments to transparent and fair benefit sharing mechanisms agreed upon internationally, governments must also be held accountable through domestic mobilization of the affected populations.

The need for strengthening domestic mobilization is apparent from the failure of international indigenous rights movements to force governments to develop transparent REDD+ benefit sharing mechanisms (Schroeder 2010; Sikor and Stahl 2011). Such failures have been attributed, in part, to indigenous rights advocates' reliance on a 'timeless vision of indigeneity', and romantic notions of indigenous people's commitment to environmental conservation (Fabricant 2013). In the process, the questions of central concern to indigenous and other forest-dependent people, such as economic development and forest-dependent livelihoods, tend to

be relegated to the sidelines of indigenous rights advocacy. While it is important to attend to questions of justice and rights at national and international levels (Colfer 2011; Sikor and Stahl 2011), without simultaneously engaging questions of livelihood and economic development, transnational indigenous movements cannot claim to represent the voices of indigenous peoples at large (Brysk 2000; Mustalahti et al. 2012).

Forest users often face a Catch-22 situation (Hayes and Persha 2010, 548): forest users and their associations desire autonomy, but they also need the support and backing of government agencies to successfully deal with external threats. Local users cannot afford to antagonize government agencies, which may explain why indigenous peasants in some places have opted to engage with REDD+ programs despite an awareness of the potential risks involved (Osborne 2011). Therefore, national and international forest rights movements must also be willing to engage with government agencies. Such engagement is likely to prompt government agencies into action, while also helping alleviate fears of retribution against forestry associations and forest rights movements that question local authorities.

Greater collaboration between national and transnational forest rights movements will also lend strength to transnational advocacy on behalf of forest users. Stronger linkages between transnational and national movements, and the inter-community forestry associations, wherever they exist, will compel government delegations, say, at the UNFCCC, to listen to the demands of transnational forest rights movements. Failing that international indigenous rights groups can work with their developing country partners to call for domestic protests, and in some cases, for punishing the ruling party at the ballot box (see, Fox 2007). Such linkages will also lend strength to the decidedly less powerful and less resourceful smaller forest rights movements and inter-community associations while keeping national and international groups informed about local efforts (Wollenberg et al. 2006; Larson et al. 2013).

In the concluding section below, we summarize the key arguments, discuss some of the challenges remaining, and point to a research agenda that might contribute to the development of innovative institutional solutions in the short to medium term.

6. Discussion and conclusion

Considering the long history of state control (and exploitation) of forests, the innovative designing of REDD+ architecture remains a major challenge. Building on recent contributions and concerns of REDD+ literature (Hayes and Persha 2010; Thompson et al. 2011; Larson et al. 2013; Sunderlin et al. 2013), we have argued for developing operational linkages across sub-national, national, and international agencies. In parallel to Poteete's (2012) work, we have also argued for focusing separately on institutional and political dimensions of REDD+ governance. To this end, we employed the concept of nested enterprises proposed

by Elinor Ostrom (1990), and supplemented it with a discussion of the political dimensions of cross-scale linkages, that is, accountability and legitimacy.

The fundamental goal of REDD+ is to create appropriate incentives for state and non-state actors in a position to contribute to forest conservation outcomes. We include non-state actors among the key REDD+ actors because decades of international environmental conservation efforts have shown that governments alone cannot ensure conservation even if they were genuinely committed to it (Ostrom 2010). Moreover, given the proper incentives, while governments can institutionalize well designed policy instruments, good policies do not necessarily translate to the desired results on the ground. Therefore, REDD+ proponents cannot leave the task of ensuring effective forest conservation to the discretion of national-level governments. REDD+ must be designed to *systematically and formally* link national policy reforms with the organization and execution of sub-national (regional and local) forest conservation efforts led by forest users.

The early proponents of nested REDD+ argued that successful conservation actions at sub-national level would go unrewarded because of the failures elsewhere in a country (Pedroni et al. 2009). Such problems are likely to be exacerbated if national architecture subsumes the interim nested REDD+ measures proposed currently. The interim nature of nested REDD+ arrangements also creates perverse incentives for public agencies to bide time without investing in building sub-national capacities. Therefore, we argue that a nested REDD+ should be conceived as an enduring institutional arrangement, not a short term precursor to nationalization. Mandating domestically created, enduring nested REDD+ architecture will offer additional leverage to non-state actors pushing for forest policy reforms within a country.

By citing examples from ongoing policy debates and relevant empirical material, we showed how national, regional, and local initiatives could be formally interlinked, allowing for institutional and political synergies in REDD+ governance. We argued that sub-national actors should have a more prominent, formally recognized role, even in the face of reluctance or opposition by national governments (see, Sandbrook et al. 2010; Larson 2011). Even so, instead of proposing a blueprint for the nested REDD+ architecture, we have proposed broader principles for facilitating the effective participation of sub-national actors and agencies. In addition, we demonstrated the potential gains to be had from tapping into institutional and political energies of inter-community forestry associations and forest rights movements representing actively mobilized forest user groups.

Notwithstanding that the approach for nested REDD+ we outline in this article builds on empirical research and theories of common pool resource management, there are limitations to our approach. The specifics of cross-scale linkages will have to be worked through deliberations between forest users, government agencies and, non-government groups in each specific national context (Forsyth 2009; Sikor et al. 2010). Adopting such a deliberative approach is likely to increase the upfront transaction costs (Forsyth 2009). However, these transaction costs will

contribute to significant savings over the costs of organizing public consultations, forest monitoring, and forest carbon auditing. More important, as Hajek et al. (2011, 201) argue, REDD+ planners need to “encourage innovation and flexibility, and facilitate research into the governance and transnational systemic nature of the emerging value chain.” Investments in building cross-scale linkages will also contribute significantly to the success of broader forest governance reforms, which in turn will help sustain the gains anticipated under REDD+.

In effect, a carefully designed and enforced nested REDD+ architecture offers the best option for dealing with an inherent policy paradox that emerges from debates over REDD+: A national architecture, while necessary for avoiding leakages and facilitating economies of scale in REDD+ transactions, also creates the possibility that national governments will behave in a predatory fashion (Sandbrook et al. 2010; Larson et al. 2013). The nested REDD+ architecture we propose fosters systemic interdependencies aimed at facilitating two types of accountability relations: downward (to the forest users) and upward (to the international supporters of REDD+ project). National and sub-national governments play a number of important roles: coordinating domestic policy and programs, establishing national-level MRVs, and, overseeing equitable benefit sharing arrangements that are also transparent.

Nevertheless, because of the past history of repeated policy failures and a lack of accountability on the part of governments and government agencies, we argue for stronger and binding accountability mechanisms. In addition to the international mechanisms for safeguards compliance, we have shown that REDD+ proponents would benefit from engaging with inter-community associations and forest rights movements that are often the main sources of endogenous demands for compliance and accountability.

Such a conceptualization of nested REDD-architecture as a hybrid institutional and political medium offers a concrete policy approach for achieving the secondary goal of utilizing REDD+ as an opportunity for democratization of forest governance (Sikor et al. 2010; Larson 2011). Importantly, the nested REDD+ architecture we propose will ensure that the goal of democratizing forest governance is not left solely to the discretion of national governments. In particular, we argue that enduring nested governance will motivate key actors active at different levels to take ownership of the process, ensure REDD+'s legitimacy, and will help maintain political pressure against potential recentralization of forest governance by national governments.

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