OCCASIONAL PAPER

The challenge of establishing REDD+ on the ground

Insights from 23 subnational initiatives in six countries

William D. Sunderlin
Andini Desita Ekaputri
Erin O. Sills
Amy E. Duchelle
Demetrius Kweka
Rachael Diprose
Nike Doggart
Steve Ball
Rebeca Lima
Adrian Enright
Jorge Torres
Herlina Hartanto
Angélica Toniolo

CIFOR

OCCASIONAL PAPER 104

The challenge of establishing REDD+ on the ground

Insights from 23 subnational initiatives in six countries

William D. Sunderlin
Center for International Forestry Research, Indonesia

Andini Desita Ekaputri
Indonesian Institute of Sciences, Indonesia

Erin O. Sills
North Carolina State University, USA

Amy E. Duchelle
Center for International Forestry Research, Brazil

Demetrius Kweka
Center for International Forestry Research, Tanzania

Rachael Diprose
Kalimantan Forests and Climate Partnership, Indonesia

Nike Doggart
Tanzania Forest Conservation Group, Tanzania

Steve Ball
Mpingo Conservation and Development Initiative, Tanzania

Rebeca Lima
Biofílica Environmental Investments, Brazil

Adrian Enright
The Netherlands Development Organization, Vietnam

Jorge Torres
Bosques Amazonicos, Peru

Herlina Hartanto
The Nature Conservancy, Indonesia

Angélica Toniolo
Vale da Paraiba University, Brazil

Center for International Forestry Research (CIFOR)

Occasional Paper 104

ISBN 978-602-1504-32-1

Sunderlin WD, Ekaputri AD, Sills EO, Duchelle AE, Kweka D, Diprose R, Doggart N, Ball S, Lima R, Enright A, Torres J, Hartanto H and Toniolo A. 2014. *The challenge of establishing REDD+ on the ground: Insights from 23 subnational initiatives in six countries.* Occasional Paper 104. Bogor, Indonesia: CIFOR.

Photo by Rebeca Lima
Cassava planted in a deforested area, the Jari/Amapá REDD+ project, Amapá, Brazil.

CIFOR
Jl. CIFOR, Situ Gede
Bogor Barat 16115
Indonesia

T +62 (251) 8622-622
F +62 (251) 8622-100
E cifor@cgiar.org

cifor.org

We would like to thank all donors who supported this research through their contributions to the CGIAR Fund. For a list of Fund donors please see: https://www.cgiarfund.org/FundDonors

Table of contents

List of figures and tables

Figures

Tables

Acknowledgements

We would like to express our deep gratitude to the many people involved in bringing this survey and publication to fruition. We are especially thankful to the proponent respondents for making themselves available for the interviews and for their forbearance in answering our many follow-up questions. Their enthusiastic engagement in the issues has been key to the success of our effort. In addition to the co-authors who work for proponent organizations, these respondents were: Monica Julissa de los Rios de Leal, Renato Farias, Osvaldo Stella, Maria Lucimar de Lima Souza, João Tezza Neto, Gabriela Lopes Jorge, Plínio Ribeiro, Percy Recavarren Estares, Samuel Nguiffo, Frank Stenmanns, Bakia Morchankap, Julien Dupuy, Besong Simon, Robert Otsyina, Mary Swai, Bettie Luwuge, Nssoko Edwin, Naomi Andrea Rumenyela, Bakari Amour, Ali M. Hilal, Dede Hadi, M. Yakob Ishadamy, Fadmi Ridwan, Ahmad Kusworo, Tim Jessup, Jim Procanik, Rezal Kusumaatmadja, Dharsono Hartono, Lex Hovani, Wahjudi Wardojo, Richard McNally, Ly Thi Minh Hai, and Pham Thanh Nam. (See Annex A for their affiliations.)

The external reviewers of this paper deserve hearty thanks for their incisive commentary and helpful suggestions for revisions. They are William Boyd (Governors' Climate and Forests Task Force), Peter Minang (World Agroforestry Centre), and Charlie Parker (Climate Focus).

We wish to thank Geraldo Silva and Martha Cuba Cronkleton for translating the survey form into Portuguese and Spanish, respectively, Natália Grossi for translating the Brazilian interview transcriptions from Portuguese to English, and Andina Auria Dwi Putri, Riza Aryani, and Marina Cromberg for making the interview transcriptions. We wish to recognize the high-quality copy-editing done by Judith Shaw and layout done by Vidya Fitrian, Jacob Pratama, and Gideon Suharyanto. We thank Sandra Caya for assistance in the review process, and Lee Cando for her work on publicity and dissemination. We take full responsibility for any errors that may remain in the text.

This paper has been produced with the financial assistance of the Norwegian Agency for Development Cooperation (Norad), Australian Aid, the Department for International Development (DFID) of the United Kingdom, the European Commission (EC), and funding partners who have contributed to the CGIAR Fund (http://www.cgiarfund.org/).

The opinions expressed are those of the authors and do not necessarily represent the views of CIFOR, the authors' institutions, the editors, the reviewers or the funding partners.

Executive summary

Since 2007, there have been high hopes that REDD+ would deliver on the 3E+ criteria (effectiveness, efficiency, equity, social and environmental co-benefits) for strategies to reduce greenhouse gas emissions. The original concept was to offer performance-based conditional incentives for forest conservation, thereby reducing deforestation and forest degradation. The expectation was that those incentives would eventually be funded largely through a robust international market in forest carbon offsets generated through verified emissions reductions. Since 2007, hundreds of subnational REDD+ initiatives have been initiated, mainly in tropical developing countries. These initiatives include subnational jurisdictional approaches (i.e. led by states/provinces or municipalities/districts), as well as site-specific REDD+ projects. Despite significant advances, the early enthusiasm for REDD+ has dissipated among some stakeholders, largely because of the failure to attain an international climate change agreement. Prior to the 2013 COP in Warsaw, proponents of many subnational REDD+ initiatives were expressing concern about whether their years of effort to get REDD+ off the ground had been worth it. The 'Warsaw Agreement on REDD+,' produced by the COP, provides procedural guidance for countries to align REDD+ strategies with drivers of deforestation and degradation, establish national reference levels, and implement MRV (measuring, reporting, verification) and safeguard information systems, but the concerns about uncertain funding remain.

It was in this context that CIFOR's Global Comparative Study on REDD+ (GCS) conducted a survey of 23 subnational REDD+ initiatives in six countries from December 2012 to June 2013 to examine their strategies and approaches, the nature of the challenges they faced, and how they intended to overcome them.

The study found that the 23 initiatives were persisting in their efforts to reduce local deforestation and forest degradation, as well as deliver on a wide range of goals. However, there are questions about whether and how the REDD+ concept will persist and evolve, based on the following evidence:

- Eighteen of 23 proponents already have or will implement conditional incentives (originally viewed as key to REDD+), but only nine viewed these as the single most important intervention for reducing forest carbon emissions at their site. This could be a function of timing, with multiple factors leading to a delay in the effective implementation of conditional incentives. Proponents have focused on other interventions while waiting for the political, economic and technological

Landscape view at SNV site, Cat Tien, Lam Dong Province, Vietnam.
Photo by Thu Ba Huynh

foundations for REDD+ to be laid. Relatedly, some proponents have hesitated to promise conditional livelihood support to local stakeholders to avoid raising expectations that they may not be able to meet, if funding does not become available. Adding to the need for caution is the fact that conditional incentives at the site level are still experimental. For example, rather than cash payments, some proponents are planning to offer a variety of goods and services intended to enhance local livelihoods as conditional incentives. Importantly, conditionality can be applied at multiple scales, and at some sites there has been a shift from project to jurisdictional approach, accompanied by abandonment of the initial REDD+ idea of conditional incentives for individual land-use agents in favor of broader low emissions development models. These explanations notwithstanding, the fact that most proponents do not identify conditionality, the mechanism at the core of REDD+, as the most important intervention suggests some possible doubt about its centrality.

- When asked the percentage chance that their initiative will continue to function as a REDD+ initiative in 2015, 11 respondents said 90–100%, five said 50–70%, three said 0% (because responsibility for the site would soon be transferred to another organization) and four already viewed themselves as not being 'REDD+.' This suggests divergence among the initiatives initially launched under the REDD+ umbrella, with nearly half firmly committed to maintaining the REDD+ label and about a third contemplating abandonment of the concept or already having done so.
- Most of the 23 initiatives include interventions that are characteristic of integrated conservation and development projects (ICDPs), an approach to tropical forest protection that precedes REDD+ and is commonly viewed to have failed. This hybridization of ICDP and REDD+ is logical (half of the initiatives were ICDPs prior to REDD+) and could be useful if ICDP interventions serve as a functional complement to conditional incentives and enable proponents to engage with the community while waiting for the economics of REDD+ to be more favorable. However, high dependence on the ICDP approach could also be a barrier to adopting the performance-based measures that were expected to make REDD+ more effective than previous interventions.
- Proponents identified unclear and unstable tenure and the disadvantageous economics of REDD+ as the biggest challenges faced in moving forward with REDD+. These challenges can only be addressed with structural changes in national and international political systems. For instance, 'business-as-usual' interests tend to dominate the political economy of land-use decisions, REDD+ often cannot compete with non-forest land uses and forest carbon markets are weak and unstable. Thus, the future of REDD+ depends on actors and actions outside the domain of REDD+. In this context, most subnational initiatives are finding it difficult to meet the 3E+ goals of REDD+, but are engaged in creative attempts to meet these goals.

Most REDD+ proponents are satisfied with their performance yet have doubts about their prospects for ultimate success. In order for REDD+ to succeed on the ground, it is understood that transformational change is needed away from the policies and interests that support deforestation and degradation, as well as those that support continued dependence on fossil fuels. Relatedly, there must be an acceleration of efforts toward achieving a global climate change agreement, because such an agreement could be key to motivating resolution of tenure problems at the national level and to creating robust, stable, long-term funding streams to support REDD+.

Beyond this, national and subnational policy changes are needed in the two realms identified by the respondents: tenure and the economics of REDD+.

In order for REDD+ proponents to realize the goal of stable and secure tenure for local stakeholders at their sites, interventions such as the following are needed in most contexts:

- Direct linkage of forest tenure reform with targeted environmental outcomes as has been attempted in Brazil through the *Terra Legal* program and accompanying Rural Environmental Registry (CAR).
- Integration of national forest land-use planning among all ministries and sectors and alignment with REDD+ goals as has been attempted in Indonesia through their 'One Map' policy.

Participatory workshop to build REDD+ concepts, Jari/Amapá REDD+ Project, Amapá, Brazil.
Photo by Robson Silva

- Incorporation of participatory tenure mapping into national tenure institutions and processes.
- Resolution of contestation between statutory and customary claims on forest lands.
- Enforcement of existing rights of exclusion for local stakeholders.
- Clarification of forest carbon tenure rights.
- Enabling of REDD+ collaboration between proponent organizations and government institutions in resolving tenure issues, as is the case in Brazil.

In order to attain a viable economic foundation for REDD+, robust funding streams could be complemented by national policies and actions such as the following:

- Decouple agricultural growth from agricultural area expansion (i.e. pursuing 'land-sparing' approaches).
- Develop sustainable agricultural supply chains that correspond to REDD+ goals.
- Reduce demand for wood fuels in urban centers.
- Improve forest land-use decision-making through attention to governance and notably reduction of corruption and cronyism.
- Enforce laws against illegal logging and other illicit activities that lead to forest land conversion (e.g. through FLEGT).

Importantly, policy actions on tenure and economics are mutually reinforcing. Clear forest tenure elevates the competitive advantage of REDD+, while reducing the financial appeal of 'business-as-usual' activities relative to REDD+. If REDD+ captures a larger funding stream, it can motivate state interest toward further tenure clarification.

While a binding global climate change agreement would be a big step forward for REDD+, in lieu of such an agreement, there are important opportunities for strong action on national and subnational policy fronts to assure that advances in forest-based mitigation on the ground have not been in vain.

1 Introduction

In 2007 there were high hopes that REDD+[1] would be an effective, efficient and rapid way to mitigate climate change (Gullison et al. 2007; Eliasch 2008). These hopes are perhaps best captured by the oft-repeated quote from the Norwegian Prime Minister at the time that "everybody knows how not to cut down trees." In fact, early concerns about REDD+ included the possibility that it would be "too easy" and flood the market for carbon offsets, thus reducing incentives to develop and adopt cleaner energy sources (Olander et al. 2009).

There were also high hopes that REDD+ would slow tropical deforestation and degradation more effectively than previous conservation initiatives. Numerous previous efforts at the global (McDermott et al. 2011), national (Pfaff et al. 2013) and local (Blom et al. 2010) levels had been judged failures. In particular, there was a long history of 'integrated conservation and development' projects with the dual conservation and development goals now also expected of REDD+ (Peskett and Yanda 2009). These ICDPs have been widely criticized for failing to achieve either goal, both because of failures in project design and implementation and because project-scale interventions could not address the underlying systematic drivers of deforestation (Naughton-Treves et al. 2005; Brandon and Wells 2009). However, while there was broad consensus that forest conservation efforts were not working, there was, in fact, very little rigorous monitoring and evaluation of these efforts, which limited the possibilities of learning from and improving on prior experience (Leisher et al. 2013; Pfaff et al. 2013).

REDD+ was designed to be different, with rigorous evaluation and performance-based payments at its very core. REDD+ was initially conceived as having one common metric of reduced carbon emissions, making it possible to aggregate and compare outcomes across the landscape, and simplifying its evaluation. Further, REDD+ was expected to generate significantly more funding over a significantly longer time frame, thus providing both the incentive and the means to overcome the weaknesses of previous conservation efforts that had suffered from unpredictable funding through dependence on donor whims. Finally, REDD+ was to include national level policy reform and measures to address the systemic drivers of deforestation in both the forest and other sectors (Angelsen and McNeill 2012:34).

Since its acceptance into the 2007 Bali Action Plan, REDD+ has gained preeminence as a climate mitigation and forest conservation strategy. In the global climate change arena, REDD+ has received significant attention and debate in the COPs of the UNFCCC,[2] with important advances on measurement, reporting and verification and the inclusion of socio-environmental safeguards, particularly in the 2013 Warsaw Agreement on REDD+. At the national level, there are ambitious programs to resolve the fundamental issues of land tenure, including the One Map Initiative in Indonesia and *Terra Legal* in Brazil. At the local level, civil society, the private sector and local governments are implementing hundreds of subnational REDD+ initiatives (i.e. projects and programs), which have collectively become an important part of the voluntary carbon offset market (Peters-Stanley et al. 2013a, b).

1 REDD+ is an abbreviation for 'reducing emissions from deforestation and degradation.' The plus sign refers to the additional objective of enhancing forest carbon stocks through 'negative degradation' or 'removals' on land classified as forests (Angelsen et al. 2009:317).

2 Conference of the Parties to the United Nations Framework Convention on Climate Change, which meets once a year.

Despite this progress over the past 6 years, the proponents seeking to implement REDD+ on the ground have concerns about its future. Most fundamentally, the failure to reach an international climate agreement has undermined the original motivation for REDD+ as a quick, inexpensive, and 'no-regrets' strategy to meet internationally agreed targets for emissions reductions. Because there is no agreement, there is no regulatory framework that can support a global compliance market for carbon offsets and no guaranteed global funding for long-term, conditional, performance-based contracts. Weaknesses in existing compliance markets, such as the European Trading System and the Clean Development Mechanism, have depressed price expectations in the voluntary market (Peters-Stanley et al. 2013b). The lack of strong compliance markets has also meant that foreign aid, both bilateral and multilateral, which was initially envisioned as a temporary measure to propel REDD+ into existence, has become an increasingly important funding source for REDD+, leading to its 'aidification' and away from long-term, conditional, performance-based contracts (Angelsen and MacNeill 2012).

Lack of progress in the global arena has had important repercussions in the tropical forest countries where REDD+ would be implemented. First, it lends strength to the political opponents of forest conservation, as manifested in modifications to Indonesia's Forest Moratorium (Murdiyarso et al. 2011) and Brazil's Forest Code (Tollefson 2011). This magnifies uncertainty about the future returns to REDD+, as the legal framework is called into question. Second, it can cause delays in the implementation of REDD+ in subnational initiatives and unnecessarily raise expectations for local stakeholders, leading to potentially high future costs in terms of lost credibility. Some of this disenchantment may be remedied as countries work to comply with the 2013 Warsaw Agreement on REDD+, which provides procedural guidance for aligning REDD+ strategies with drivers of deforestation and degradation, establishing national reference levels and implementing systems for measurement, reporting and verification, and safeguards information.

In this report, we explain and analyze the perspectives of organizations engaged in implementing REDD+ on the ground in the context of challenging political and economic circumstances. We structure our discussion in four subsequent parts: (1) sample and methods; (2) results related to background on 23 initiatives, experience at the sites prior to REDD+, experience to date with REDD+ interventions, characterizing the main challenges, characterizing the challenges and solutions in terms of 3Es and co-benefits;[3] (3) discussion of the results; and (4) conclusions and recommendations.

Explanation of how to prepare tree seeds for planting in the forest restoration process, SFX site, Pará, Brazil.
Photo by Angélica Toniolo

Afzelia quanzensis seeds, Mpingo site, Kilwa, Tanzania.
Photo by Anne-Marie Gregory

3 Annex D characterizes solutions in terms of the 3Es and co-benefits.

2 Sample and methods

Since 2010, the Center for International Forestry Research (CIFOR) has been conducting a Global Comparative Study on REDD+ (GCS). This report is the product of GCS's Module 2,[4] focused on subnational initiatives.[5] Our justification for a focus on subnational initiatives is that they are among the main institutional incubators for the REDD+ experiment, they are the 'real life' locations where outcomes related to human wellbeing and forest cover are expected, and they are therefore an indispensable empirical reference point for the success or failure of policy and technical innovations made at all jurisdictional levels. Subnational initiatives offer invaluable learning opportunities, they are the testing ground for proof of concept, and they potentially provide pillars for robust national REDD+ programs. UNDP (2014) estimates that 50–80% of climate mitigation actions depend on decisions made at subnational and local levels.

Module 2 of GCS has partnered with the proponents of 23 initiatives across the tropics to synthesize lessons from their experiences in implementing REDD+. Data were collected through use of a survey questionnaire administered to proponents of all 23 subnational initiatives in six countries (Brazil, Peru, Cameroon, Tanzania, Indonesia, Vietnam) collaborating with Module 2 (Figure 1; Table 1). The 23 collaborating subnational initiatives include government agencies and private organizations (either non-profit or for-profit) as proponents, are either at the jurisdictional scale (encompassing a government administrative unit at the district level or higher) or the project scale (smaller than and not developed as part of a government administrative unit), are funded by various main sources (national REDD+ funds, private foundations, the proponent organization, bilateral development aid, private banks) and range widely in area from country-sized (Acre, roughly the area of Bangladesh) to small-scale (Centre pour l'Environnement et le Développement [CED], encompassing just two villages).

Twenty-two of the 23 initiatives[6] were selected into the study sample on the basis of the following criteria: (1) aiming to reduce net carbon emissions by reducing deforestation/degradation or implementing forest conservation/restoration/management; (2) activities were to be carried out in a quantifiable manner, with the intention of measuring, reporting, and/or transacting reductions in forest carbon emissions or increases in carbon stock; (3) had or planned to have defined site boundaries and villages to be targeted by the intervention before the beginning of our field research; (4) REDD+ incentives were not scheduled to begin until after our field work began, assuring a risk-free period in which to collect the 'before' data;[7] and (5) REDD+ incentives had

4 GCS includes other research modules on: REDD+ strategies, policies and measures (Module 1); monitoring and reference levels (Module 3); carbon management at the landscape scale (Module 4).

5 The initiatives in our sample include subnational jurisdictional approaches (i.e. led by states/provinces or municipalities/districts) and also site-specific project approaches that do not constitute a jurisdictional entity. Jurisdictional structure differs among the study countries. For example, Brazil is a decentralized federal republic (26 states, 5,581 municipalities and the Federal District), whereas Indonesia is a non-federal, unitary republic (34 provinces, 405 regencies, and 6,543 districts).

6 The Bolsa Floresta initiative in Brazil is an exception. We included the initiative in our sample even though it had already been underway for several years and therefore did not meet the fourth criterion that REDD+ incentives have not yet been introduced. We judged that inclusion of Bolsa Floresta would be important because the large amount of experience to date would provide valuable insights on REDD+.

7 CIFOR's Module 2 GCS research model is called "before-after/control-intervention" (BACI). This counter-factual approach involves collecting baseline data before and after REDD+ conditional interventions are introduced, in villages and households outside of initiative boundaries (control) as well as inside (intervention) (Jagger et al. 2009, 2011).

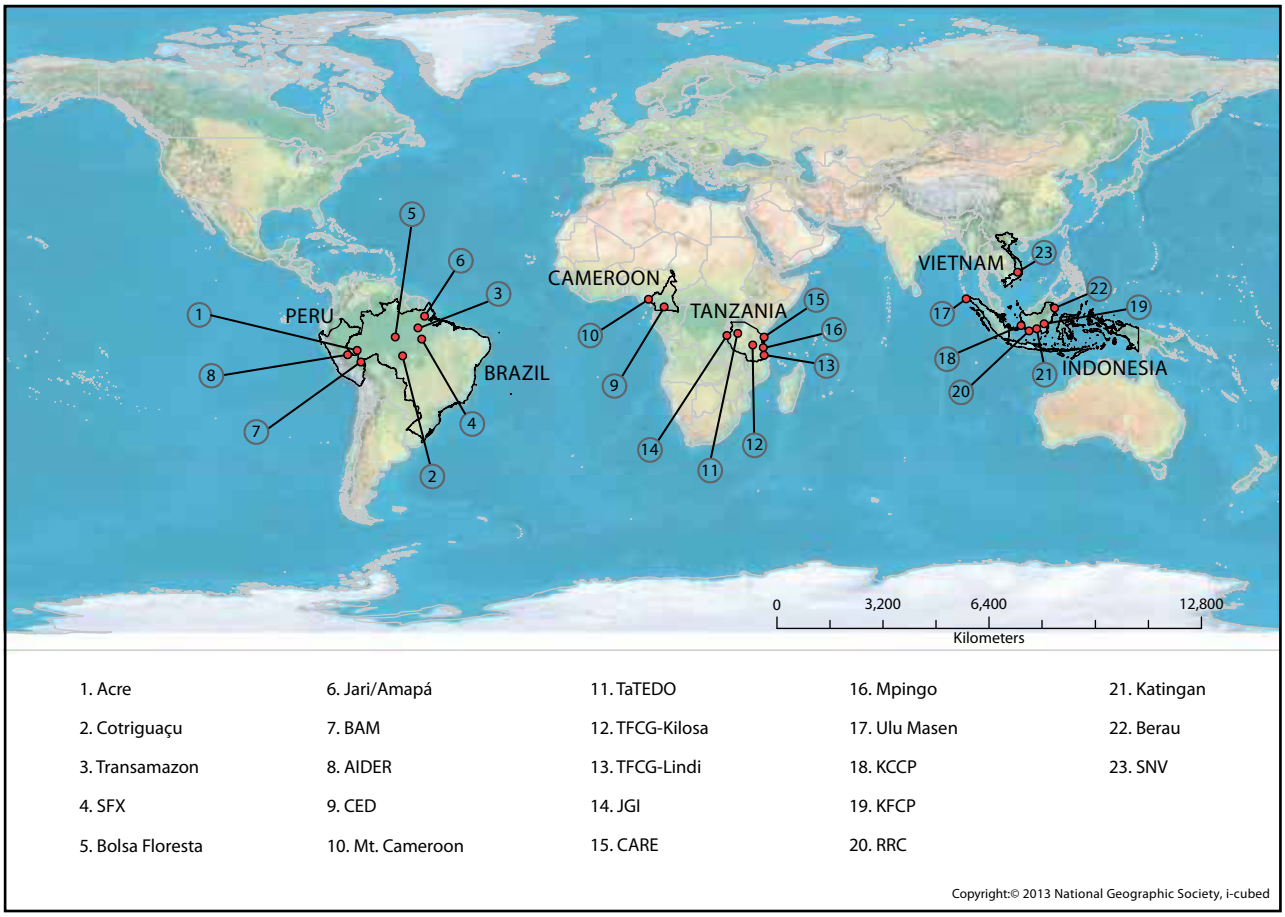


Figure 1. Locations of 23 subnational REDD+ initiatives researched in CIFOR's Global Comparative Study on REDD+.

a reasonable chance of being implemented and maintained in the subsequent 1.5 years.

The sample contains four of the most important countries in the world in terms of numbers of REDD+ subnational initiatives (Brazil, Indonesia, Peru and Tanzania). The 23 initiatives in the sample are a slice of the sites in the six countries, chosen largely on the basis of compatibility with site criteria (see above) and the research timeline, thus not reflecting any particular bias in terms of the type of initiative or site characteristics.[8]

The data presented in this report were collected through a survey about the challenges, the barriers and the possibilities for moving forward with REDD+, conducted from December 2012 through June 2013. (See list of respondents in Annex A.) The questionnaire had both closed-option and open-ended questions on a range of topics including: (1) background on forest pressures and the nature and timing of interventions, not just at the REDD+ initiative site, but also (if applicable) the forest conservation interventions that were carried out in the past at the same location; (2) measurement of the level of satisfaction with performance of specific types of interventions; (3) the main challenges experienced by the proponent; (4) description of particular problems faced and the solutions undertaken in relation to carbon effectiveness, cost efficiency, equity among stakeholders and co-benefits such as wellbeing and biodiversity (the so-called 3Es+); (5) possible policy solutions to challenges encountered (international or national/state/local).

The reason for understanding whether there had been any forest conservation activities within the boundaries of the existing site before the REDD+ initiative (no. 1 above) was to know how and

8 One caveat is that we surveyed mostly smallholders, including largeholders only in two sites in Brazil (Cotriguaçu and São Félix do Xingu). A second caveat is that in the Brazilian Amazon there are numerous REDD+ initiatives that include indigenous people, but they are excluded from our Brazilian sample due to the difficulty of obtaining permission to survey them.

Table 1. Characteristics of subnational REDD+ initiatives researched in CIFOR's Global Comparative Study on REDD+.

Country	Initiative name	Abbreviated name	Type of proponent	Approach	Main source of funding	Area of initiative (km^2)
Brazil	Acre State System of Incentives for Environmental Services (SISA)	Acre	Government	Jurisdictional (state)	Amazon fund, KFW	152,581
Brazil	Cotriguaçu Sempre Verde	Cotriguaçu	Private non-profit - government	Jurisdictional (municipality)	Packard Foundation, Amazon Fund	9,123
Brazil	Sustainable Settlements in the Amazon: the challenge of transition from family production on the frontier to a low carbon economy	Transamazon	Private non-profit	Project	Amazon Fund	2,299
Brazil	Green Development in the Amazon Region (São Félix do Xingu)	SFX	Private non-profit - government	Jurisdictional (municipality)	Moore Foundation, Norad, USAID, Amazon Fund, British Embassy	84,212
Brazil	Bolsa Floresta Program	Bolsa Floresta	Private non-profit	Project	Amazon Fund, Marriot International	100,000
Brazil	Jari/Amapá REDD+ project	Jari/Amapá	Private for-profit	Project	Biofílica	660
Peru	Bosques Amazonicos S.A.C. (BAM) REDD project with Brazil nut harvesters, Madre de Dios	BAM	Private for-profit	Project	BAM	2,907
Peru	Valuation of Environmental Services in Managed Forests of 7 native communities in Ucayali, Peru	AIDER	Private non-profit	Project	AIDER, ITTO REDDES, TNC	907
Cameroon	Payment for Ecosystem Services (PES) project in Cameroon South and East Region	CED	Private for-profit	Project	DFID	30
Cameroon	Mt. Cameroon REDD Project	Mt. Cameroon	Public bi-lateral	Project	KFW	580
Tanzania	Community-based REDD mechanisms for sustainable forest management in semi-arid areas	TaTEDO	Private non-profit	Project	Royal Norwegian Embassy	38
Tanzania	Making REDD work for communities and forest conservation in Tanzania	TFCG-Lindi	Private non-profit	Project	Royal Norwegian Embassy	640
Tanzania	Making REDD work for communities and forest conservation in Tanzania	TFCG-Kilosa	Private non-profit	Project	Royal Norwegian Embassy	500

continued on next page

Table 1. Continued

Country	Initiative name	Abbreviated name	Type of proponent	Approach	Main source of funding	Area of initiative (km^2)
Tanzania	HIMA – Piloting REDD in Zanzibar through community forest management	CARE	Private non-profit	Project	Royal Norwegian Embassy	277
Tanzania	Building REDD readiness in the Masito Ugalla ecosystem pilot area in support of Tanzania's National REDD Strategy	JGI	Private non-profit	Project	Royal Norwegian Embassy	700
Tanzania	Combining PFM, REDD+ and FSC certification	Mpingo	Private non-profit	Project	Royal Norwegian Embassy	300
Indonesia	Reducing carbon emissions from deforestation in the Ulu Masen Ecosystem	Ulu Masen	Government	Jurisdictional (multi-district)	Merril Lynch Bank of America	7,500
Indonesia	Ketapang Community Carbon Pools	KCCP	Private non-profit	Project	The David & Lucile Packard Foundation, AusAID, CLUA, EU	460
Indonesia	Kalimantan Forests and Carbon Partnership	KFCP	Government to government partnership	Project	Australian Aid	1,200
Indonesia	The Rimba Raya Biodiversity Reserve Project	RRC	Private for-profit	Project	Information unavailable	912
Indonesia	Katingan Conservation Area: A global peatland capstone project	Katingan	Private for-profit	Project	PT RMU	2,273
Indonesia	Berau Forest Carbon Program	Berau	Private non-profit	Jurisdictional (district)	NORAD, USAID, DAFF, TFCA	22,000
Vietnam	SNV Site, Cat Tien, Lam Dong Province	SNV	Private non-profit	Jurisdictional (district)	Darwin Initiative (UK DEFRA)	554

Village assembly meeting as part of the initiative's Free Prior and Informed Consent process, TFCG Kilosa site, Tanzania.
Photo by Hassan Chikira

to what extent REDD+ interventions are shaped institutionally and strategically by the forest protection activities that precede them.

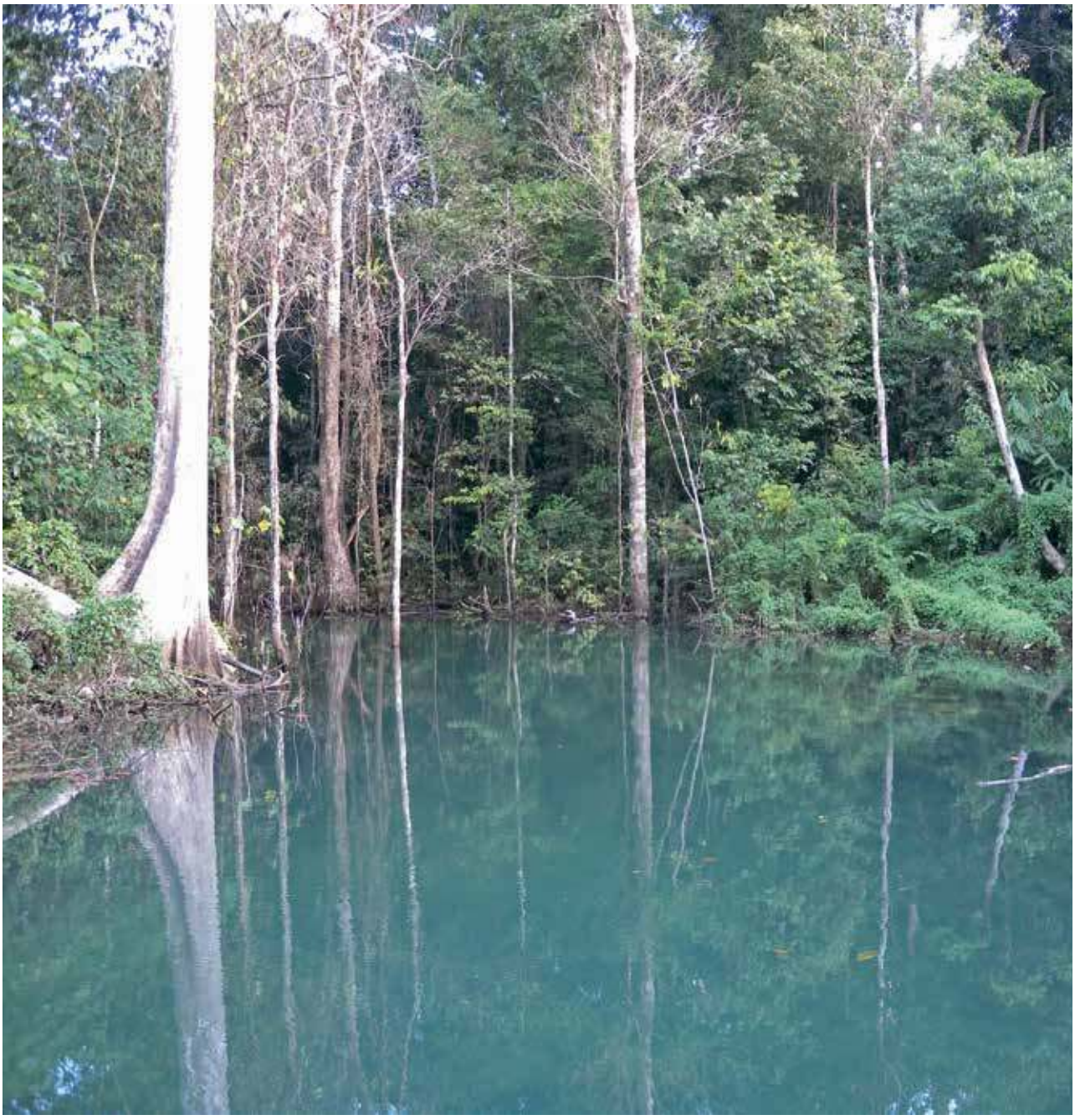
The REDD+ proponent organizations are deploying a wide array of interventions aimed at protecting local forests, including six basic types that the research team flagged for attention: restrictions on forest access and conversion, forest enhancement, non-conditional livelihood enhancement, conditional livelihood enhancement, environmental education and tenure clarification (no. 2 above). The definitions of these interventions were read out to the respondents prior to posing questions to be sure a common metric was used in analyzing interventions. The definitions are listed in Annex B.

The section of the interview on main challenges (no. 3 above) involved reading out loud a list of 62 possible factors that pose a challenge in implementing REDD+ (see the list in Annex C) and asking the respondents to rate the level of difficulty posed by the factor in terms of the following Likert scale: 1 = none, 2 = minor, 3 = moderate, 4 = large and 5 = overwhelming. On the basis of these responses, we were able to rank the factors from highest to lowest difficulty by multiplying the numeric score for number of responses for each factor by the Likert value for each response. The list of 62 factors was composed on the basis of our informal understanding of challenges encountered by proponents, as well as by literature on 'REDD+ on the ground.' To ensure this did not close off options, we asked all respondents to name other factors not in our list, and we included those in the Likert ranking exercise.

The analysis of challenges and solutions in terms of the 3Es + co-benefits (no. 4 above) takes its inspiration from Stern (2008). Module 2 of GCS is measuring the impact of REDD+ subnational initiatives in terms of these outcome variables (Angelsen 2009:5; Sunderlin et al. 2010:6–7).

For each of the 3Es and co-benefits, we asked the respondents about the main challenges they have experienced, and the main solutions they envision to assure that this particular objective can be achieved. This approach allows us to refine the analysis, recognizing that proponents are in most cases trying to achieve all these objectives, and sometimes there are trade-offs among them. The results of this research are presented in Annex D.

The interview was conducted either by allowing the proponent respondents to fill out a self-administered form, followed up by an interview, or by filling out the form from beginning to end through an in-person interview. Most in-person interviews were audio-recorded and the answers to the open-ended questions were transcribed word for word.



Natural forest, Berau Forest Carbon Project, Berau Province, East Kalimantan, Indonesia.
Photo by TNC

3 Results

3.1 Experience prior to REDD+ at initiative sites

Nine of the 23 proponent organizations began working at their respective sites in 2006 or before, which is to say, before REDD+ was formally announced (COP 13, Bali, 2007). An additional 14 proponent organizations began working at their sites in 2007 or later (see Figure 2).

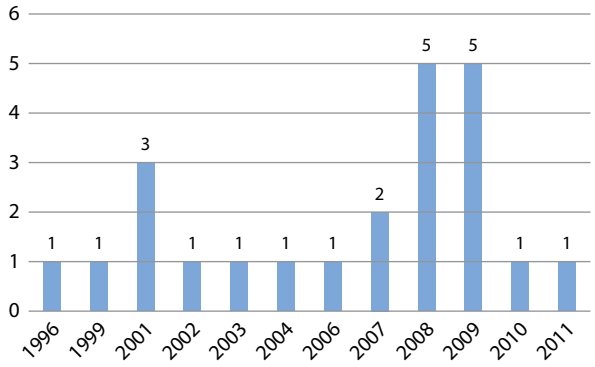


Figure 2. Year proponent organization began working at site.

At 20 of the 23 sites, there were forest protection activities (whether done by the proponent organization or by others) implemented before the subnational REDD+ initiative was established. At five of the sites, forest protection activities date back to the 1980s or 1990s, and at 15 of the 23 sites forest protection activities began 10 or more years ago (see Figure 3). Ten of the 23 proponent organizations were themselves conducting these pre-REDD+ forest protection activities. Site-specific data on the experience prior to REDD+ are in Annex E.

Taking into account all forest protection activities at these sites (whether done by the proponent or other organization), the activities were focused on reduced deforestation and forest degradation, enhancement of both forest and non-forest livelihoods, protection of biodiversity,

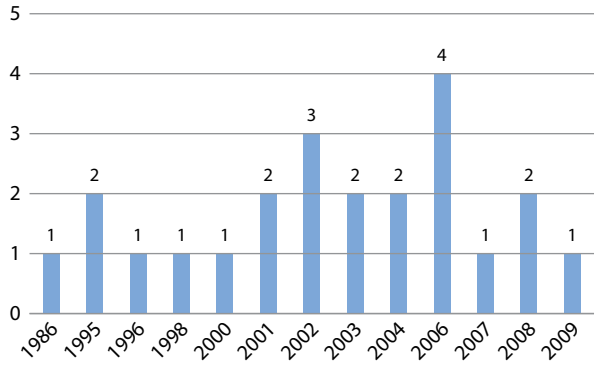


Figure 3. Year forest protection activities began at 23 sites.

environmental education, and restrictions on forest access and conversion (see Figure 4).

Fourteen (70%) of the 20 valid respondents (three had no early protection activities) said these forest protection activities in the period before REDD+ were "moderately successful." The rest of the responses were distributed among "highly successfully" (one = 5%), "neither successful nor unsuccessful" (two = 10%), "mostly unsuccessful" (two = 10%), and "respondent does not know" (one = 5%).

3.2 Experience to date with REDD+ interventions

Figure 5 displays information on pressures experienced by forests within site boundaries. The results below show that almost all respondents experience pressure from small-scale actors of various kinds (e.g. traditional agriculture of local inhabitants, illegal timber harvest or frontier agriculture by colonists) and a minority report pressure from large-scale actors of various kinds (e.g. plantations, agriculture, commercial fuelwood or charcoal collection, timber harvesting, ranching). Site-specific data on the 23 REDD+ initiatives can be seen in Annex F.

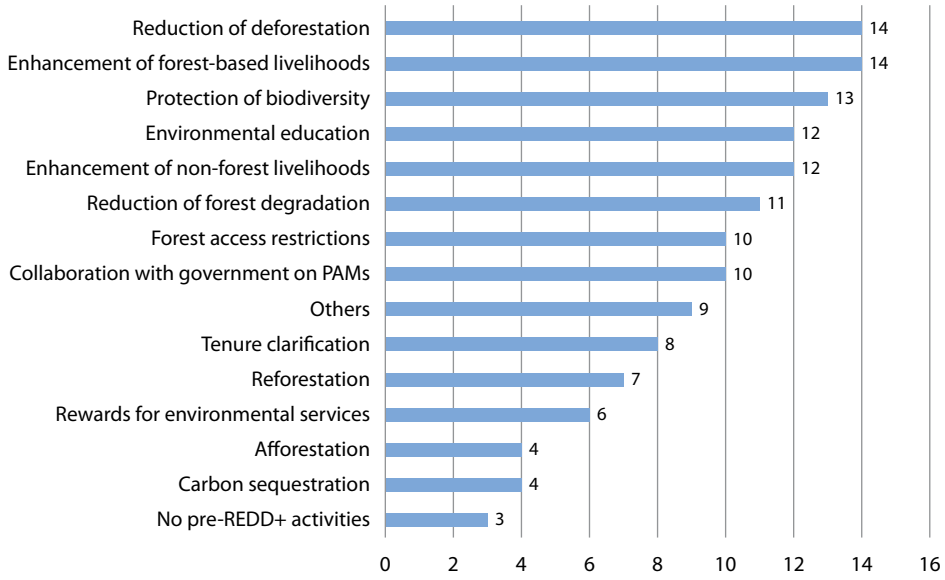


Figure 4. Forest protection activities at sites before establishment of REDD+.

Note: Policies and measures (PAMs) are "nationally enacted policies and actions that countries undertake to reduce carbon emissions or increase removals" (Angelsen 2009:316).

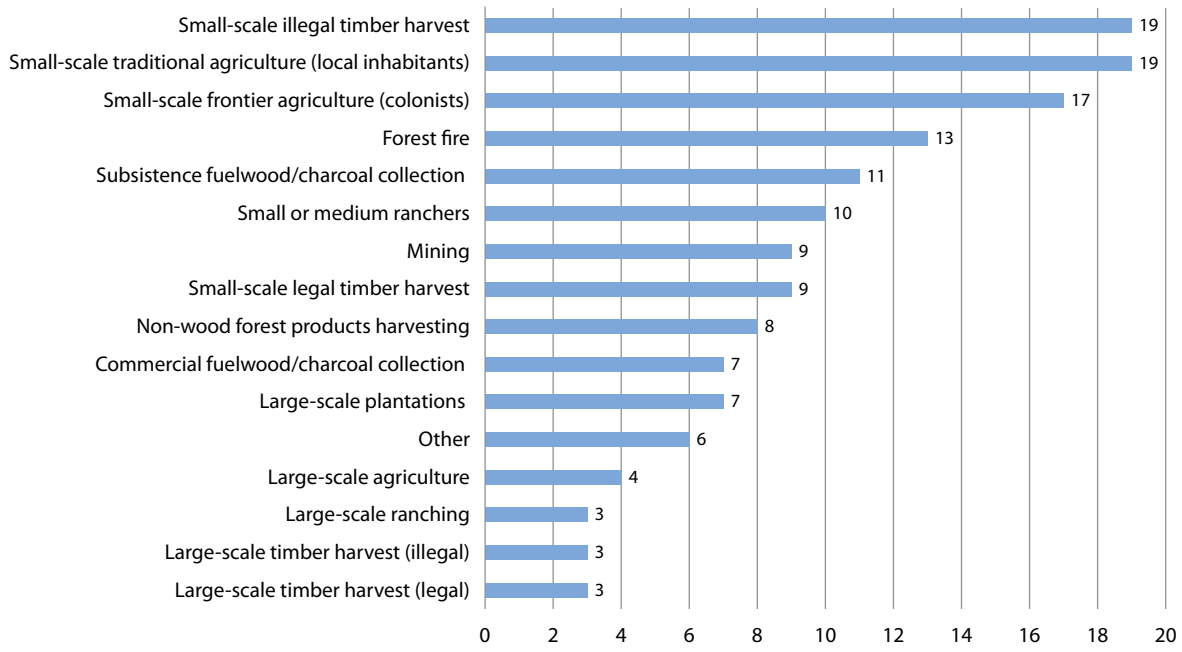


Figure 5. Sources of pressure on forests within site boundaries.

Numerically, small-scale actors are reported more frequently than large-scale commercial actors. However, we need to bear in mind that about half the initiatives are facing at least one large-scale claimant and in some cases more, and that the size of the aggregate forest land claim made by large actors can be larger (in some cases far larger) than that of small actors in a given initiatives. Twelve respondents (52%) related that pressures on forests within site boundaries had been from both actors living inside existing boundaries and those entering from the outside, while six (26%) answered "inside" and five (22%) answered "outside." In contrast, when asked whether they were directing their efforts at behavior change mainly at actors inside or outside site boundaries, the majority, 12 (52%) answered "inside," seven (31%) answered "both inside and outside," and four (17%) answered "outside." Although the dominant response is to perceive that pressure on forests is from both inside and outside, proponent organizations focus disproportionately

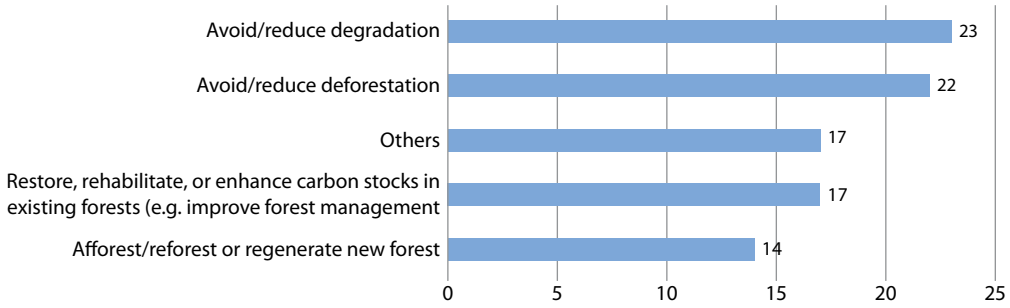


Figure 6. Intended approaches to reduce net carbon emissions.

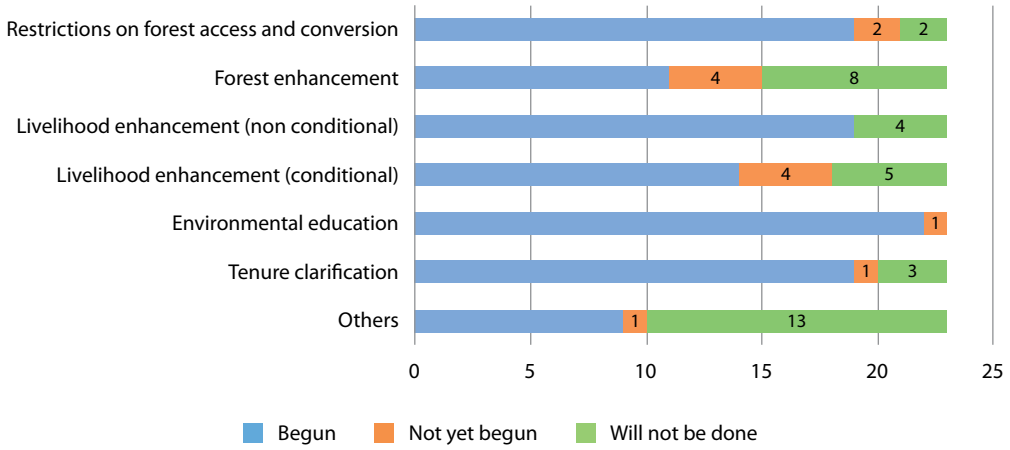


Figure 7. Progress in implementing forest interventions.

on changing the behavior of actors within site boundaries. This discrepancy may reflect the fact that even if proponents perceive pressure from outside site boundaries, their leverage for effective intervention is mainly within the boundaries, and that strengthening the capacity of actors within the boundaries can also serve as a means to effect a change in the behavior of actors originating outside the boundaries. It should be noted that pressure on forests due to demand for forest products that can be sustainably harvested can create an incentive for conservation. For instance, at the Mpingo project in Tanzania, local communities earn revenue from legal timber harvesting, motivating them to maintain the forest.

Figure 6 shows the approaches deployed to reduce net forest carbon emissions. It makes sense that all respondents are pursuing some combination of avoided or reduced deforestation or degradation since, as mentioned earlier, we sampled only initiatives that fit this basic definition of REDD+, even if they do not all currently call themselves "REDD+." Most are also involved in restoring, rehabilitating or enhancing carbon stocks in existing forests (17) or conducting afforestation or reforestation to produce new forest cover (14). At 17 sites there are "other" intended approaches beyond those that are typically found at REDD+ sites.[9]

Figure 7 shows the degree of progress in implementing various kinds of interventions, distinguishing those that have begun, not yet begun and those that will not be done. In the context of REDD+, it is expected that proponents are well advanced in environmental education (22 of 23 sites) because education tends to be part and parcel of the process of free prior and informed consent (FPIC) which has to begin early. It stands to reason that initiatives are well along in the process of restricting forest access and conversion (19 of 23) because this type of intervention

9 These include: tenure regularization; sustainable/land-saving agriculture; sustainable forest management and logging; reduced-impact logging; certified forest management; monitoring of mining impacts; open-sky fallows; promotion of non-timber forest products (NTFPs); energy alternatives (e.g. introduction of fuel-efficient stoves and liquified petroleum gas); improving forest biodiversity; rewetting of peat through hydrological management; provincial forest planning and 'policies and measures.'

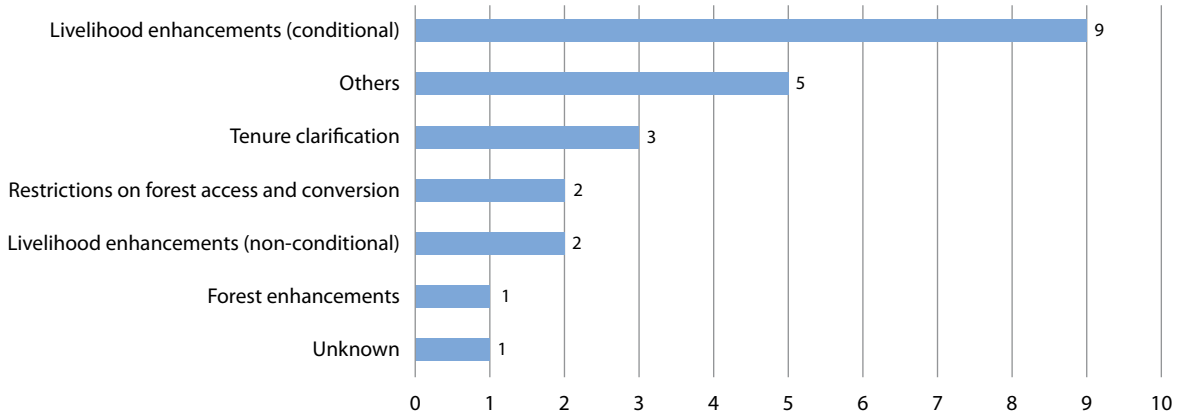


Figure 8. Intervention considered by respondents to be the most important for effectively reducing deforestation and forest degradation at the site.

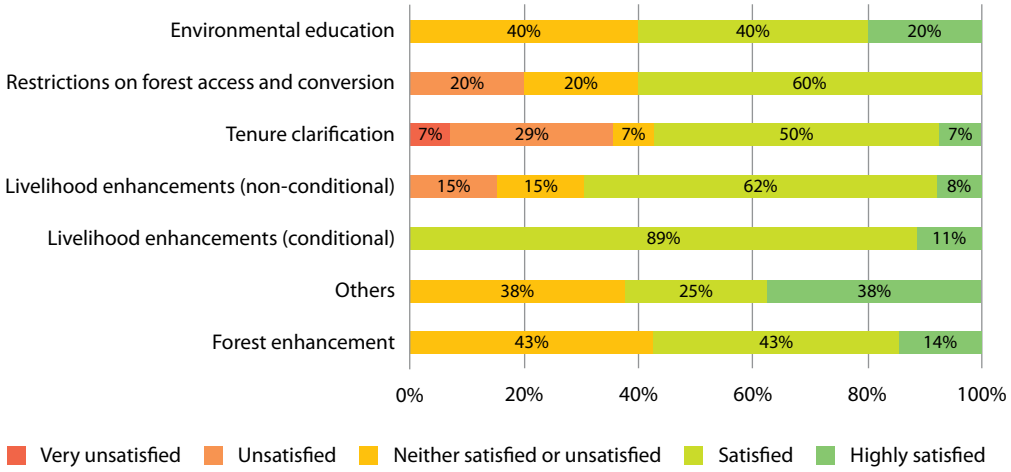


Figure 9. Degree of satisfaction with performance on specific interventions.

often precedes the provision of conditional or non-conditional livelihood enhancements, which are often a compensation for lost forest income. Action on tenure clarification is well advanced (19 of 23) because proponents tend to recognize it is a precursor for implementing conditional livelihood incentives and because third-party certification for REDD+ requires attention to tenure.

It is understandable that conditional livelihood incentives have begun (or have been field tested) at only 14 of 23 initiative sites considering not just the policy, economic and technical obstacles to REDD+ mentioned earlier, but also the fact that it takes years to pioneer and field test this experimental approach to forest management.

Five of 23 proponent organizations do not intend to implement conditional incentives at all. This is noteworthy considering that conditionality is considered a keystone of the REDD+ approach.

Also important is the fact that, of the 18 respondents who have begun to implement or plan to implement conditional incentives, 9 (half the total) believe conditional livelihood enhancements are potentially the most important for effectively reducing deforestation and forest degradation (Figure 8).[10] The decision of some organizations not to implement conditional livelihood incentives, or not to view them as the

10 In Figure 8, "others" is composed of the following: (1) technical assistance and rural extension linked the creation of market for sustainable products produced without deforestation (Acre); (2) collaborative forest management (Mt. Cameroon); (3) formation of community-based organization JUWAMMA (JGI); (4) peatland rehabilitation (KFCP); (5) provincial forest planning with forest companies (SNV).

most important intervention are explored in the discussion section.

Figure 9 displays proponents' level of satisfaction by intervention type. The dominant tendency is toward being "satisfied" or "highly satisfied" (the green area in the figure). Notably, at the nine sites where conditional livelihood enhancements had been undertaken, the ratings were uniformly "satisfied" or "highly satisfied." The greatest difficulty (but only by a slight margin) appears to have been experienced in tenure clarification.

Figure 10 displays proponents' overall level of satisfaction with the implementation of their initiative, considering all the types of challenges experienced and all the goals attempted to be met. The dominant tendency is toward being "satisfied" (14) with two being "very satisfied." There are just six that were "neither satisfied or unsatisfied" and, remarkably, only one that was "unsatisfied."

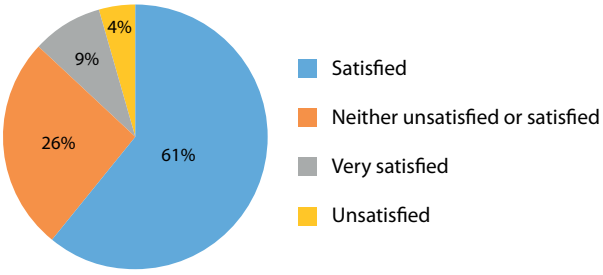


Figure 10. Responses to the question: "What is your overall level of satisfaction with the implementation of [name of initiative] to date, considering all the types of challenges you have experienced and all the goals you are trying to meet?"

3.3 Characterizing the main challenges

Table 2 shows the challenges experienced by the proponent organizations in rank order, from the most to least problematic. The data compilation that serves as the basis for this rank ordering (number of proponent responses for each factor and Likert cell) is shown in Annex C.

The results show that the five factors related to tenure, with the ordinal rankings 1 (governance: tenure conditions – national), 2 (national policy: tenure and land use), 4 (governance: tenure conditions [regional and local]), 11 (governance: tenure conditions [inside the site]) and 13 (regional policy: tenure and land use), highlighted in green, dominate the top of the table. It can therefore be concluded that tenure issues are the most formidable challenges experienced by proponents.

Close behind in second rank, and highlighted in red, are factors that we cluster under the heading "disadvantageous economics of REDD+," with ordinal rankings 3 (international policy: REDD+ [economic]), 6 (national policy: REDD+ [economic]), 7 (political economy: business-as-usual interests),[11] 19 (economy: weak forest carbon market) and 21 (economy: REDD+ cannot compete).

It is noteworthy that the following factors also occupy the top third of the table (listed in their order):

- National REDD+ policies (technical, legal)
- National forest and agricultural policy
- Governance capacity
- National stakeholder engagements
- International climate policy (non-REDD+)
- International REDD+ policy (technical, legal)
- Illegal deforestation
- Insufficient funds of the proponent organization

In light of the challenges in implementing REDD+, the respondents were asked about the percentage chance they will still function as a REDD+ initiative in 2015. Eleven are 90–100% sure they will continue to function as REDD+ in 2015, whereas five respondents are less confident (50–70% range), and three respondents are already sure they will exit REDD+ by that year. For four respondents the question does not apply because they already do not view themselves as REDD+ initiatives. One respondent could not offer an estimate.

Some of the results risk overstating the extent to which REDD+ is on the wane. In all three cases where proponents are sure there is a zero chance their organization will operate as REDD+ in 2015, it was because of an imminent organizational

11 We define business-as-usual (BAU) interests as the constellation of political and economic actors who have or will derive economic benefit from continued legal conversion of forests to non-forest uses and/or continued degradation of forests.

Table 2. Ranking of factors in the implementation of REDD+ from most to least problematic.

Rank	Factor	Score
1	Governance: tenure conditions (national)	86
2	National policy: tenure & land use	83
3	International policy: REDD+ (economic)	83
4	Governance: tenure conditions (regional/local)	80
5	National policy: REDD+ (technical)	79
6	National policy: REDD+ (economic)	79
7	Political economy: BAU interests	78
8	National policy: REDD+ (legal)	78
9	National policy: forest	77
10	Governance: capacity	77
11	Governance: tenure conditions (inside initiative)	76
12	National policy: agriculture	75
13	Regional/local policy: tenure & land use	74
14	International policy: climate (non-REDD+)	74
15	Governance: national stakeholder engagement	74
16	International policy: REDD+ (technical)	73
17	International policy: REDD+ (legal)	72
18	Governance: illegal deforestation	72
19	Economy: weak forest carbon market	72
20	Insufficient funds	71
21	Economy: REDD+ cannot compete	70
22	Governance: corruption	69
23	National policy: infrastructure & roads	67
24	Governance: illegal logging	67
25	National policy: investment	64
26	Governance: local stakeholder engagement	62
27	Governance: conflict (inside initiative)	62
28	Governance: benefit sharing	62
29	Technical: national MRV	60
30	Technical: certification	60
31	Governance: local socio-cultural factors	60
32	National policy: trade	59
33	National policy: climate (non-REDD+)	59
34	International policy: investment	58
35	International policy: aid	58
36	Regional/local policy: forest	57
37	International policy: trade	56
38	Regional/local policy: climate	54
39	Regional/local policy: agriculture	54
40	Organizational capacity	53
41	Economy: recession	53
42	National policy: aid	52
43	International policy: forest	52
44	Technical capacity (non-MRV)	51
45	Technical capacity (MRV)	51
46	Regional/local policy: investment	51
47	International policy: agriculture	51
48	Technical: international MRV capacity	50
49	Governance: opposition by community	48
50	Governance: migration into initiative area	48
51	Governance: opposition by organization	47
52	Regional/local policy: aid	42
53	Regional/local policy: trade	41
54	Technical: other (specify)	32
55	Economy: other (specify)	28
56	Governance: other (specify)	26
57	Other internal factor (specify)	24
58	National policy: other (specify)	21
59	Other external factor (specify)	17
60	Regional/local policy: other (specify)	16
61	International policy: other (specify)	8
62	Other external factor (specify)	7

Villagers in livelihoods planning discussion, Petak Puti village, KFCP site, Central Kalimantan.
Photo by James Maiden/IAFCP

transition and not (necessarily) because the physical site itself will cease being a REDD+ initiative. At the time of the interview TaTEDO's funding was to run out in December 2013, but there was a chance it will subsequently function as a REDD+ subnational initiative. It depended on whether Tanzania decides to create a national REDD+ fund or decides on a nested approach. The Jane Goodall Institute (JGI) planned to phase out of REDD+ in June 2013, but its role as proponent was to be taken over by *Jumuia ya Watunza Misitu wa Masito* (JUWAMMA), a non-governmental organization (NGO). The Indonesia-Australia Forest Carbon Partnership (IAFCP), the organization operating the Kalimantan Forests and Climate Partnership (KFCP) in Indonesia will phase out of its role as proponent in June 2014 and the Forestry Research and Development Agency of Indonesia (FORDA) will take over as proponent.

This aside, there are significant grounds for concern that REDD+ is not or will not be the mode of operation for a significant portion of our respondents. It is important to understand the reasons for this distancing from the concept of REDD+. The four organizations that no longer consider themselves REDD+ gave different reasons for this decision. The representatives of the Cotriguaçu and São Félix do Xingu initiatives in Brazil explained that they had broadened their initial project approaches to focus on jurisdictional models for green development. The acronym REDD+ is strongly associated with the carbon credits market and involves sensitive issues, such as carbon rights and extensive consultations with potential participants, including indigenous populations that have expressed an aversion towards REDD+. Also, in Cotriguaçu and São Félix do Xingu, the development of a multi-stakeholder dialogue and planning process through the initiative has paved the way for local actors to potentially incorporate REDD+ into their agenda if it becomes more consolidated internationally and nationally. The respondent for CED in Cameroon said they have never considered themselves as REDD+, but instead as a PES project in the forest sector that can inform possibilities for future REDD+ development in Cameroon.

Mount Cameroon sought a funding institution to purchase their forest carbon but they were not successful, possibly because of the lack of carbon additionality in their montane forest. They said the comparative advantage of REDD+ had not been demonstrated and it is possible the costs would exceed the benefits. Respondents from Acre still operate under the banner of REDD+, but said they have only a 50% level of confidence they will function as REDD+ in 2015 because their future depends on whether the state government wants to implement their initiative.

In addition to these five organizations, two indicated that they had considered abandoning REDD+. The respondent for Ketapang Community Carbon Pools (KCCP) in Indonesia said they view that developing REDD+ is cost prohibitive. "We move on with REDD+ only if the community agrees the cost of losing forest is just too high." The Netherlands Development Organization (SNV) respondents were considering no longer using the label "REDD+" at their site for two reasons. First, the intention of the field activities has evolved to test specific components of the REDD+ architecture (e.g. benefit-sharing systems) for the purpose of informing the national REDD+ strategy design rather than pursuing project-level validation of emission reductions. Second, the activities are aimed at going beyond REDD+ and including broader interventions addressing the interface between forestry and agriculture, energy and broader livelihood activities.

Contrary to expectations, there was no meaningful overlap between the five organizations that will not implement conditional livelihood incentives (Cotriguaçu, Aider, Ulu Masen, PT. Rimba Raya Conservation [RRC], SNV) and the four that have already decided they do not operate as REDD+ (Cotriguaçu, São Félix do Xingu [SFX],Mount Cameroon, CED).

It is important to note that, in spite of this alienation from the concept of REDD+ for a subset of proponents, the plan is for forest-based climate change mitigation activities to continue at all sites.

Participatory village mapping exercise during CIFOR data collection, Mount Cameroon site, Illoani, Cameroon.
Photo by Andreas Akombi

4 Discussion

In this section we seek to increase our understanding of challenges and possible solutions reported earlier by viewing them in a wider, analytical context. We will examine the following issues: (1) ICDP and REDD+ hybrid in subnational initiatives; (2) conditional incentives as lower priority in a basket of REDD+ interventions; (3) tenure as a fundamental challenge; (4) the disadvantageous economics of REDD+; and (5) possible steps towards solving these challenges.

4.1 ICDP and REDD+ hybrid

Our results show that the subnational initiatives in our sample almost all combine restrictions on forest access and conversion with non-conditional livelihood enhancements – a hallmark of ICDPs. Inasmuch as the initiatives in our sample intend to combine these incentives with conditional incentives, they can be seen as a hybrid of ICDP and REDD+. As noted earlier, this makes sense from the standpoint that some of our sites were in fact ICDPs before turning their attention to REDD+. Indeed our results highlight that many proponents had previous experience at their sites long before REDD+ came into existence. It is interesting that even those initiatives that began directly as REDD+ are tending to rely on the ICDP approach, suggesting a functional affinity between the two models. Various observers have made note of ICDP practices in REDD+ (Cerbu et al. 2009; Sills et al. 2009; Blom et al. 2010; Sunderlin and Sills 2012; Minang and van Noordwijk 2013).

The hybrid model has positive features, among them allowing proponents to move ahead with activities on the ground in the absence of an enabling framework for REDD+, and serving as a fallback option in the event that REDD+ should not succeed (Sunderlin and Sills 2012:184–187). Nevertheless there is a potentially large liability in relying on ICDP because in the period prior to REDD+ it has a well-documented record of failure (Wells and Brandon 1992; Wells et al. 1999; Garnett et al. 2007).

These concerns do not deny or negate the fact that our sample of proponents rated their pre-REDD+ efforts as satisfactory. In fact, it is possible that ICDP stands a chance of functioning better than it did earlier because of a partial shift (in connection with climate change mitigation) towards viewing forests as a strategic national resource to be protected rather than as a sacrificial biome (Sunderlin and Atmadja 2009), and because of national policies and measures put in place to support REDD+. Nevertheless, high dependence on ICDP within REDD+ raises concerns that deserve greater research scrutiny.

4.2 Conditional incentives as a lower priority for some

At least in principle, a focus on conditional incentives in REDD+, whether applied within the boundaries of a subnational initiative or outside, continues to make sense. This is what is unique about REDD+ and one of the key reasons why the idea has grown so fast. Yet, at this juncture, the decision by five respondents not to implement conditional incentives at the site (now or in the future) and the fact that only nine respondents judge conditional incentives to be the most important for reducing deforestation and degradation, also stands to reason. Here we explore why conditional incentives at the site might understandably be a lower priority for some proponents than in the past.

Laying out a long-term program for conditional incentives requires a durable framework (tenurial, economic) for REDD+ that is not yet in place. Particularly important are clear and stable international and national policies and technical architecture for REDD+, including a reliable and predictable source of funding (whether from donor sources, national funds, the market mechanism or some combination of these) to support the provision of conditional incentives. In the 2007–2012 period, a succession of COPs failed to produce a binding global agreement on climate change mitigation, and relatedly, progress was elusive on the development of a REDD+ architecture and a robust market for forest carbon credits. To date, most financial support for REDD+ activities has come as aid from public funding sources. For this reason, proponents at many sites have been in 'standby mode,' placing most attention on an array of non-conditional interventions, reminiscent of ICDPs, as explained above. Although some proponents have been able to forge ahead boldly in preparations for site-based conditional incentives, others, at the other extreme, have chosen to delay discussing even the possibility of a future stream of conditional income to local stakeholders to avoid unnecessarily raising expectations. The experimental nature of site-based conditional incentives through REDD+ has made proponents cautious, deliberate and, in some cases, risk-averse.

The Warsaw COP has produced some notable progress in laying the policy and technical groundwork for REDD+ in seven areas: finance, coordination of financial arrangements, national forest monitoring systems, transparency and safeguards, forest reference emission levels, verification, and drivers of deforestation and degradation.[12] Although these recent developments have invigorated the hopes of some proponents, there needs to be substantial progress in various areas – not least to put sources of future funding on a secure footing. When, and if, that architecture falls into place, it is likely to give a big boost to possibilities for implementing conditional incentives.

There are understandable reasons why site-based conditional incentives are not currently viewed as the most promising approach to achieving forest-based climate change mitigation within subnational initiatives, and why some proponents intend not to implement them at all. It is possible that applying conditionality at a higher scale, outside of site boundaries, will make sense. Among the advantages are that it can help achieve economies of scale and it presents opportunities for limiting leakage. In some (very few) cases, there is little pressure on forests from local stakeholders, meaning that the extra leverage possible through conditional incentives is not necessary. This notwithstanding, there can be liabilities with the jurisdictional approach. A change in government through electoral politics can lead to new policies that undermine REDD+.

It is important to bear in mind that even though the results raise questions about the centrality of conditional incentives at the level of the site (five deciding not to implement them and only nine viewing them as the most important intervention), it remains the case that conditional incentives are viewed as the single most promising intervention of all (Figure 8), and the one with which the proponents were most satisfied when evaluating their efforts to date (Figure 9).

4.3 Tenure as a fundamental challenge

Our results show that the proponents in our sample rank tenure as their most challenging problem. It is not surprising that they have found tenure highly problematic. Lack of tenure clarity and security has to be resolved, especially in relation to conditional incentives, because the stream of conditional funding requires that legitimate right holders and responsibility bearers be identified, and that this status be stable for the lifetime of the initiative, perhaps in perpetuity. However, the field conditions tend to be unclear because of the legacy (dating centuries back) of state control of most developing country forests, contestation between statutory and customary claims on forest lands, the longstanding national and subnational government practice of conferring privileged access to land and resources to the business sector while marginalizing rural peoples. Over the last three decades there has been a process of devolution of control of forests to indigenous peoples and communities, yet this process has

12 For a summary of these developments see Stolle and Alisjahbana (2013) and REDD-Monitor.org (2013).

Field visit during the annual meeting of the Governors' Climate and Forests Task Force, BAM site, Madre de Díos, Peru.
Photo by Marco Villegas

not yet proceeded far enough in many places to serve as a firm foundation for REDD+ at the landscape scale.

GCS research has examined in depth the difficulties our sample of proponents have faced in clarifying tenure and making it more secure in preparation for the implementation of REDD+ (Awono et al. 2013; Duchelle et al. 2013; Larson et al. 2013; Resosudarmo et al. 2013; Sunderlin et al. 2013).

Although forest tenure is a difficult challenge, there is reason to believe it can eventually be surmounted. Forest tenure reform has been non-existent or slow in many developing countries. In the era of REDD+, there is an instrumental (means-ends) logic that motivates proponents and national governments (or subcomponents of government) to take tenure seriously. Proponents are motivated by business logic (as stated above) and also must fulfill the conditions of third-party certification (e.g. Climate, Community & Biodiversity Alliance; Verified Carbon Standard) and respect emerging social safeguards. This is in addition to their ethical (end in itself) motivations for addressing tenure.

Many national governments have long been averse to pursuing forest tenure reform in part because they are influenced by 'business-as-usual' interests that seek to convert forests to non-forest uses. Yet there are indications that some governments are increasingly influenced by a forest protection constituency that includes REDD+. National governments are motivated not just by the potentially large flow of REDD+ funds, some of which will enter the national treasury, but also by the potential of REDD+ to limit greenhouse gas (GHG) emissions, which governments are increasingly recognizing as a threat to long term development. Indonesia's One Map initiative which aims to integrate forest land-use information and decision-making across sectors and in collaboration with civil society (UKP4 2013) and a decision by the Constitutional Court in May 2013

to recognize indigenous populations as rightful owners of a portion of the national forest estate (Ekahurani 2013) are evidence of the possibilities for forest tenure reform in the era of REDD+.

4.4 Disadvantageous economics of REDD+

Our results show that proponents rank the disadvantageous economics of REDD+ as their second largest challenge, just behind tenure. These perceptions are well backed up by published information.

Sir Nicholas Stern forecast that avoided deforestation would require funding at the level of US$5–10 billion annually (Stern 2006:217). Current estimates are as high as US$12.5 billion annually, which is equivalent to about 10% of Official Development Assistance (Angelsen 2013:13). Pledged donor support for REDD+ in the period 2006–2017, at a total US$6.9 billion (not annual) (Voluntary REDD+ Database 2014), falls far short of those figures.

Current funding for REDD+ comes overwhelmingly from the public sector through donor country financing to forested countries, and dwarfs the funding available from the voluntary or compliance markets. In 2012, REDD+ offsets transacted in the voluntary market amounted to only 8.6 MtCO2e at a value of US$70 million, and in the compliance market 1 MtCO2e was transacted at a value of US$18.1 million (Peters-Stanley et al. 2013a:vii, ix). Total potential demand for REDD+ emission reductions up to 2020 has been estimated at about 253 MtCO2e, whereas reducing annual deforestation by 50% by 2020 implies a global supply of 3300–9900 MtCO2e from all forest and land-use activities. With demand 13–39 times smaller than supply, there is a US$15–48 billion funding gap for REDD+ until 2020 (IFF 2014:8). Other estimates state there is "a near-term oversupply of verified emission reductions from REDD+ projects that has the potential to expand over the coming five years to over 20 times the current market demand" (Conservation International 2013).

As explained earlier, one of the main reasons for the absence of a robust forest carbon market is the failure to reach a binding global agreement on climate change mitigation through the UNFCCC, which would create a regulatory framework that can underpin a stable and strong market for forest carbon. In this context, the main reasons for limited private sector investment in REDD+

Early burning at the MCDI site, Kilwa, Tanzania.
Photo by Deogratias Ndossi

are uncertainty about the future demand for carbon credits, carbon market volatility, investor preference for low-cost mitigation rather than funding co-benefits; the effects of economic recession on the price and volume of carbon credits; and the decision by the European Trading Scheme not to recognize REDD+ credits because of the possibility that an oversupply of credits might depress carbon prices (Phelps et al. 2011).

Given that a binding global agreement on climate change mitigation would be put into force in 2020 at the earliest, it is likely that REDD+ will have to rely overwhelmingly on public sector funding for the next half decade. Aside from the fact that public sector funding falls far short of what is needed to bridge the gap between demand and supply, it is also problematic that public sector funding is currently limited to preparing for the next phase of REDD+ as opposed to purchasing REDD+ emissions reductions (Peters-Stanley et al. 2013a:xi; IFF 2014:8).

4.5 Towards solutions

It is clear that the best possible solution to address proponent challenges is for world leaders to reach a binding agreement on climate change mitigation, one that includes REDD+ as a front-line strategy for achieving large and early reductions in GHG emissions. Such an agreement would likely serve as a strong inducement to country governments to lay a strong tenure foundation, and it would perforce lead to a regulatory environment that in turn would create the robust and stable funding mechanism that proponents have been waiting for. However, as argued by Ostrom (2010), the world can neither afford to wait nor is it waiting for an enforceable global agreement to address the threat of climate change. Rather, a polycentric system is emerging. Advances in climate policy among subnational and national institutions – and the 'messy' connections between them – provide fertile ground for considering effective approaches to climate governance that go beyond a top-down global process (Boyd 2011).

The experience of Brazil demonstrates that an international binding agreement is not an absolute requirement for making progress. In the period 2005–2011, Brazil reduced its rate of deforestation by two thirds, and this was the largest single contribution to GHG reductions by any country in that period (Boucher et al. 2011).[13] Among the factors that contributed to this drastic fall in Brazil's annual deforestation were, first of all, coordinated government policies: forest monitoring, followed by command-and-control enforcement, and combined with credit and other cross-compliance policies at multiple scales (Assunçao 2012; Börner et al. 2014). Second, the private sector implemented regulations along key product chains, such as the 2006 soy and 2009 beef moratoria (Boucher et al. 2011). Third, in the period 2005–2010, lower world-market prices for agricultural commodities also played a role. Lastly, conservation incentives created by Norway, Germany and the Brazilian company Petrobras offering US$1 billion+ in performance-based compensation through the Amazon Fund have probably helped in recent years to sustain politically the pace of reduction achieved earlier.

Under current conditions, a binding global agreement is not scheduled until 2020 and may very well be delayed. It is clear, therefore, that action in support of GHG emissions reduction in the forest sector must also proceed in other ways. Recognizing the wide gap between the demand and supply for REDD+ carbon offsets, the Interim Forest Finance Project has made an appeal to donor country governments, forest country governments and public financial institutions for a strategic intervention to substantially increase their financial contribution to the REDD+ effort. In their view, such an intervention should focus on purchasing emissions reductions and also stimulate the private sector to do the same (IFF 2014:18).

Another REDD+ financing option is the growth of regional compliance markets. The California cap-and-trade system is an important potential source of demand for REDD+-based offsets for compliance purposes, which is being piloted through its agreement with the Brazilian state of Acre[14] and the Mexican state of Chiapas in support of jurisdictional REDD+ (ROW 2013).

---

13 Although Brazil has experienced a set-back with the rate of deforestation growing 28% from 2012 to 2013, the achievement stands. Nepstad et al. (2013b) explain: "Deforestation in 2012 was 77 percent lower than the ten year average ending in 2005; in 2013, it is 70 percent lower."

14 The State of Acre is one of the 23 proponent organizations in our sample.

This agreement stemmed from these states' participation in the Governors' Climate and Forests Task Force (GCF), which recognizes the key role of state and provincial governments in building REDD+ programs. The advantages of jurisdictional REDD+ have also been noted by the main certifying bodies. The Verified Carbon Standard has developed a Jurisdictional and Nested REDD+ framework for accounting and crediting government-led REDD+ programs at national and subnational scales, and CCBA and CARE developed the REDD+ Social and Environmental Safeguards Initiative for government-led REDD+ programs that demonstrate high social and biodiversity performance. Potential links between domestic policies and finance, sustainable supply chains, and REDD+ incentives in a low-emission rural development model highlight a role for jurisdictional REDD+ even under limited funding scenarios (Nepstad et al. 2013a).

In relation to the proponents' priority challenges for REDD+, there are clear opportunities for national policy action on tenure and the disadvantageous economics of REDD+. In order for REDD+ proponents to realize the goal of stable and secure tenure for local stakeholders at their sites, the following types of initiatives are needed in most circumstances:

- Direct linkage of forest tenure reform with targeted environmental outcomes as has been attempted in Brazil through the *Terra Legal* program and accompanying Rural Environmental Registry (CAR) (see Duchelle et al. 2013).
- Integration of national forest land-use planning among all ministries and sectors and alignment with REDD+ goals as has been attempted in Indonesia through their One Map policy.
- Incorporation of participatory tenure mapping into national tenure institutions and processes.
- Resolution of contestation between statutory and customary claims on forest lands.
- Enforcement of existing rights of exclusion for local stakeholders.
- Clarification of forest carbon tenure rights.
- Enabling of REDD+ collaboration between proponent organizations and government institutions in resolving tenure issues as is the case in Brazil (Duchelle et al. 2013).

In order to attain a viable economic foundation for REDD+, the following national policies and actions could complement international efforts to create a reliable funding stream for REDD+:

Two people doing GPS reading, SNV site, Lam Dong, Vietnam.
Photo by Thu Ba Huynh

- Decouple agricultural growth from agricultural area expansion through reduced emissions agricultural policies (Rudel 2009; GIZ 2013).
- Promote sustainable agriculture supply chains that align with REDD+ (Kissinger 2011; Nepstad et al. 2013a).
- Develop and implement pragmatic policies to reduce dependence on wood-based fuels, especially in urban centers (Drigo and Salbitano 2008; Schure et al. 2011).
- Improve governance and reduce corruption and cronyism in forest and land-use decision-making (Tacconi et al. 2009; Arial et al. 2011).
- Enforce laws against illegal logging and other illicit activities that lead to forest land conversion (FERN 2010; Phuc and Dressler 2011).

Importantly, policy actions on tenure and economics are mutually reinforcing. Clear forest tenure elevates the competitive advantage of REDD+, while making REDD+ more financially rewarding than business-as-usual activities stimulates state interest in clarifying forest tenure.

5 Conclusions

Proponents of REDD+ subnational initiatives are facing huge challenges that threaten to undermine the potential of REDD+ to deliver the large contributions to GHG reductions that have been hoped for. The largest of these challenges concern the insecurity of tenure arrangements at all scales (national, subnational, within site boundaries) and the currently unfavorable economics of REDD+, which favor business-as-usual interests.

Site-level conditional incentives aimed at changing the behavior of agents of deforestation were originally expected to be a hallmark of REDD+ in subnational initiatives, but our data show most proponents believe other interventions will be the primary means through which forest-based GHG emissions reduction will be achieved at their sites. It is not clear what this means for the future of REDD+. On the one hand, this may be a legacy of familiarity with, and dependence on, other non-conditional interventions (e.g. in ICDP), or it may merely reflect the fact that proponents have not had enough experience with conditional incentives to single them out as the most important intervention, as envisioned at the inception of REDD+. On the other hand, it may be a distress signal related to the fact that the enabling conditions for REDD+ are not yet in place, and that proponents might not be able to wait much longer for those conditions to happen. With only nine of our 23 respondents saying they are highly confident they will function as a REDD+ organization in 2015, there are certainly grounds for concern that REDD+ proponents are at the breaking point.

Community resolution and declaration, Long Duhung community, BFCP site, Berau Province, East Kalimantan, Indonesia.

Photo by TNC

A binding global climate change agreement through the UNFCCC process would be a big step forward toward overcoming the challenges proponents are currently experiencing. Yet this long-awaited agreement is elusive and will likely be so for many more years. In the meantime, there are opportunities for strong action on the national and subnational policy front to assure that years of hard work done to lay the groundwork for forest-based climate change mitigation have not been in vain.

1. Trial payment, TFCG-Lindi site, Tanzania. (Photo by Raymond Nlelwa)
2. Villager undertaking planting at the KFCP site, Central Kalimantan, Indonesia. (Photo by James Maiden/IAFCP)
3. A recipient of rural technical assistance, Jari/Amapá site, Brazil. (Photo by Rebeca Lima)
4. TFCG staff set camera trap as part of biodiversity survey, TFCG-Lindi site, Tanzania. (Photo by Andrew Perkin)
5. New primary school building funded through revenue from sustainable timber, MDCI site, Kilwa, Tanzania. (Photo by Abigail Wills)
6. Focus group meeting during CIFOR data collection at Mount Cameroon site, Likombe, Cameroon. (Photo by Abdon Awono)

6 References

Angelsen A. 2009. Introduction. *In* Angelsen A, with Brockhaus M, Kanninen M, Sills E, Sunderlin WD and Wertz-Kanounnikoff S, eds. *Realising REDD+: National Strategy and Policy Options*. Bogor, Indonesia: Center for International Forestry Research. Chapter 1, 1–9.

Angelsen A. 2013. *REDD+ as performance-based aid: General lessons and bilateral agreements of Norway.* WIDER Working Paper No. 2013/135. UNU-WIDER.

Angelsen A. and McNeill D. 2012. The evolution of REDD+. *In* Angelsen A, Brockhaus M, Sunderlin WD and Verchot LV, eds. *Analyzing REDD+: Challenges and Choices.* Bogor, Indonesia: Center for International Forestry Research. 31–49.

Arial A, Fagan C, Zimmermann W and Hardoon D. 2011. *Corruption in the land sector*. Berlin, Germany and Rome, Italy: Transparency International and the Food and Agriculture Organization of the United Nations. http://www.fao.org/docrep/014/am943e/am943e00.pdf

Assunção J, Gandour CG and Rocha R. 2012. *Deforestation slowdown in the Legal Amazon: prices or policies*. Climate Policy Initiative (CPI) Working Paper. Rio de Janeiro, RJ, Brazil: Pontífica Universidade Católica (PUC).

Awono A,. Somorin OA, Atyi RE and Levang P. 2013. Tenure and participation in local REDD+ projects: Insights from southern Cameroon. *Environmental Science & Policy* 35:76–86.

Blom B, Sunderland T and Murdiyarso D. 2010. Getting REDD to work locally: lessons learned from integrated conservation and development projects. *Environmental Science & Policy* 13(2):164–172.

Brandon K and Wells M. 2009. Lessons for REDD+ from protected areas and integrated conservation and development projects. *In* Angelsen A, with Brockhaus M, Kanninen M, Sills E, Sunderlin WD and Wertz-Kanounnikoff S, eds. *Realising REDD+: National Strategy and Policy Options*. Bogor, Indonesia: CIFOR. 225–236. http://www.cifor.org/online-library/browse/view-publication/publication/3841.html

Börner J, Wunder S, Wertz-Kanounnikoff S, Hyman G and Nascimento N. 2014. Forest law enforcement in the Brazilian Amazon: Costs and welfare effects. *Global Environmental Change.* (under review).

Boucher D, Roquemore S and Fitzhugh E. 2011. Brazil's Success in Reducing Deforestation. *Tropical Conservation Science* 6 (3):426-445.

Boyd W. 2011. *Climate Change, Fragmentation, and the Challenges of Global Environmental Law: Elements of a Post-Copenhagen Assemblage.* Working Paper 11-01. Boulder, Colorado: Colorado Law Legal Studies Research Paper Series.

Cerbu G, Minang PA, Swallow B and Meadu V. 2009. *Global Survey of REDD Projects: What implications for Global Climate Objectives?* Nairobi, Kenya: ASB Partnerships for the Tropical Forest Margins. http://www.asb.cgiar.org/pdfwebdocs/ASBPB12.pdf

Conservation International. 2013. REDD+ Market: Sending out an SOS. Arlington, Virginia, USA: Conservation International.

Duchelle, AE, Cromberg M, Gebara MF, Guerra R, Melo T, Larson A, Cronkleton P, Börner J, Sills E, Wunder S, Bauch S, May P, Selaya G and Sunderlin WD. 2013. Linking Forest Tenure Reform, Environmental Compliance, and Incentives: Lessons from REDD+ Initiatives in the Brazilian Amazon. *World Development* 55:53–57.

Drigo R and Salbitano F. 2008 *WISDOM for cities: Analysis of wood energy and urbanization using WISDOM methodology.* Rome, Italy: Food and Agriculture Organization of the United Nations. http://www.fao.org/fileadmin/templates/FCIT/PDF/WISDOM.pdf

Ekahurani 2013. *Indonesia upholds Indigenous People's Rights to Forest. Alternatives to Slash and Burn.* http://www.asb.cgiar.org/story/category/Indonesia-upholds-indigenous-people%E2%80%99s-rights-forest#sthash.EliRgtoE.dpuf

Eliasch J. 2008. *Climate change: Financing global forests: The Eliasch review.* London: The Stationery Office Limited http://www.official-documents.gov.uk/document/other/9780108507632/9780108507632.pdf

FERN. 2010. *Lessons Learned from FLeGT for REDD.* Moreton-in-Marsh, UK and Brussels, Belgium: FERN. http://www.fern.org/sites/fern.org/files/Lessons%20from%20FLEGT%20summary_internet.pdf

Garnett ST, Sayer JA and Du Toit J. 2007. Improving the effectiveness of interventions to balance conservation and development: a conceptual framework. *Ecology and Society* 12(1):2.

GIZ. 2013. *Agriculture and REDD+: The main driver of deforestation and a key sector for successful implementation of REDD+.* Bonn, Germany: GIZ International Forest Policy Program.

Gullison RE, Frumhoff PC, Canadell JG, Field CB, Nepstad DC, Hayhoe K, Avissar R, Curran LM, Friedlingstein P, Jones CD and Nobre C. 2007. Tropical forests and climate policy. *Science* 316:985–986.

IFF. 2014. *Stimulating Interim Demand for REDD+ Emission Reductions: The Need for a Strategic Intervention from 2015 to 2020.* Oxford, UK: International Forest Finance Project.

Jagger P, Atmadja S, Pattanayak SK, Sills E and Sunderlin WD. 2009. Learning while doing: Evaluating impacts of REDD+ projects. *In* Angelsen A, with Brockhaus M, Kanninen M, Sills E, Sunderlin WD and Wertz-Kanounnikoff S, eds. *Realising REDD+: National Strategy and Policy Options*. Bogor, Indonesia: Center for International Forestry Research. Chapter 22, 281–292.

Jagger P, Sills EO, Lawlor K and Sunderlin WD. 2011. *A Guide to Learning About Livelihood Impacts of REDD+.* Occasional Paper No. 56. Bogor, Indonesia: Center for International Forestry Research.

Kissinger G. 2011. *Linking forests and food production in the REDD+ context.* CCAFS Working Paper 1. Copenhagen, Denmark: CCAFS.

Larson AM, Brockhaus M, Sunderlin WD, Duchelle A, Babon A, Dokken T, Pham TT, Resosudarmo IAP, Selaya G, Awono A and Huynh TB. 2013. Land Tenure and REDD+: The good, the bad and the ugly. *Global Environmental Change* 23(3):678–689.

Leisher C, Sanjayan M, Blockhus J, Larsen SN, Kontoleon A. 2013. Does conserving biodiversity work to reduce poverty? A state of knowledge review. *In* Roe D, Elliott J, Sandbrook C, and Walpole M, eds. *Biodiversity Conservation and Poverty Alleviation: Exploring the Evidence for a Link*, 1st edition. Cambridge, MA: The Nature Conservancy, University of Cambridge, IIED.

McDermott CL, Levin K and Cashore B. 2011. Building the forest-climate bandwagon: REDD+ and the logic of problem amelioration. *Global Environmental Politics* 11(3):85–103. Cambridge, Massachusetts: The Massachusetts Institute of Technology.

Minang P and van Noordwijk M. 2013. Design challenges for achieving reduced emissions from deforestation and forest degradation through conservation: Leveraging multiple paradigms at the tropical forest margins. *Land Use Policy* 31:61–70.

Murdiyarso D, Dewi S, Lawrence D and Seymour F. 2011. *Indonesia's Forest Moratorium: Stepping-stone to better forest governance?* Bogor, Indonesia: Center for International Forestry Research.

Naughton-Treves L, Holland MB and Brandon K. 2005. The Role of Protected Areas in Conserving Biodiversity and Sustaining Local Livelihoods. *Annual Review of Environment and Resources* 30:219–52.

Nepstad D, Irawan S, Bezerra T, Boyd W, Stickler C, Shimada J, Carvalho Jr. O, MacIntyre K, Dohong A, Alencar A, Azevedo A, Tepper D and Lowery S. 2013a. More food, more forests, fewer emissions, better livelihoods: linking REDD+ sustainable supply chains and domestic policy in Brazil, Indonesia and Colombia. *Carbon Management* 4(6):639–658.

Nepstad D, McGrath D, Shimada J and Stickler C. 2013b. Why is Amazon deforestation climbing? Mongabay. http://news.mongabay.com/2013/1116-nepstad-why-is-deforestation-climbing.html

Olander L, Boyd W, Lawlor K, Niles JO, and Madeira EM. 2009. *Responding to concerns and questions. The Nicholas Institute for*

Environmental Policy Solutions at Duke University Policy Brief. Durham, North Carolina: The Nicholas Institute for Environmental Policy Solutions at Duke University. http://nicholasinstitute.duke.edu/sites/default/files/publications/forestcarbonpb3-paper.pdf

Ostrom E. 2010. Polycentric systems for coping with collective action and global environmental change. *Global Environmental Change* 20(4):550–557.

Peskett L and Yanda P. 2009. *The REDD+ outlook: how different interests shape the future.* ODI Background Note. London, UK: Overseas Development Institute. http://www.odi.org.uk/resources/download/4543.pdf

Peters-Stanley M, Gonzalez G and Yin D, with Goldstein A and Hamrick K. 2013a. *Covering New Ground: State of the Forest Carbon Markets 2013.* Washington DC: Forest Trends' Ecosystem Marketplace.

Peters-Stanley M and Yin D, with Castillo S, Gonzalez G and Goldstein A. 2013b. *Maneuvering the Mosaic: State of the Voluntary Carbon Markets 2013.* Washington DC: Forest Trends' Ecosystem Marketplace. New York: Bloomberg New Energy Finance. http://www.forest-trends.org/documents/files/doc_3846.pdf

Pfaff, A., Amacher, G. S., & Sills, E. O. 2013. Realistic REDD: Improving the forest impacts of domestic policies in different settings. *Review of Environmental Economics and Policy*, 7(1), 114-135.

Phelps J, Webb EL and Koh LP. 2011. Risky business: an uncertain future for biodiversity conservation finance through REDD+. *Conservation Letters* 4(2):88–94.

Phuc, TX and Dressler W. 2011. *How FLEGT and REDD+ can help address illegal logging? A case from Vietnam.* Vietnam: EU FLEGT Facility. http://www.forest-trends.org/documents/files/doc_3031.pdf

REDD-Monitor.org. 2013. *What came out of Warsaw on REDD? Part 1: The REDD decisions.* http://www.redd-monitor.org/2013/11/25/what-came-out-of-warsaw-on-redd-part-1-the-redd-decisions/

Resosudarmo IAP, Atmadja S, Ekaputri AD, Intarini DY, Indriatmoko Y and Astri P. 2013. Does tenure security lead to REDD+ project effectiveness? Reflections from five emerging sites in Indonesia. *World Development* 55:68–83

ROW. 2013. *California, Acre and Chiapas: Partnering to reduce emissions from tropical deforestation. The REDD Offset Working Group.* http://greentechleadership.org/documents/2013/07/row-final-recommendations-2.pdf

Rudel T. 2009. Reinforcing REDD+ with reduced emissions agricultural policy. *In* Angelsen A, with Brockhaus M, Kanninen M, Sills E, Sunderlin WD and Wertz-Kanounnikoff S, eds. *Realising REDD+: National Strategy and Policy Options*. Bogor, Indonesia: Center for International Forestry Research. Chapter 15, 192–200.

Schure J, Ingram V, Marien J-N, Nasi R and Dubiez E. 2011. *Woodfuel for urban centres in the Democratic Republic of Congo: The number one energy and forest product returns to the policy agenda*. Brief. Bogor, Indonesia: Center for International Forestry Research. http://www.cifor.org/publications/pdf_files/infobrief/3678-brief.pdf

Sills EO, Madeira EM, Sunderlin WD and Wertz-Kanounnikoff S. 2009. The evolving landscape of REDD+ projects. *In* Angelsen A, with Brockhaus M, Kanninen M, Sills E, Sunderlin WD and Wertz-Kanounnikoff S, eds. *Realising REDD+: National Strategy and Policy Options*. Bogor, Indonesia: Center for International Forestry Research. Chapter 21, 265–279.

Stern, N. 2006. *The Stern Review: the economics of climate change.* Cambridge, UK: Cambridge University Press. 662 pp.

Stern, N. 2008. *Key elements of a global deal on climate change*. Report. London: London School of Economics and Political Science.

Stolle F and Alisjahbana A. 2013. *Warsaw Climate Meeting Makes Progress on Forests, REDD+*. Washington DC: World Resources Institute. http://www.wri.org/blog/warsaw-climate-meeting-makes-progress-forests-redd

Sunderlin WD and Atmadja S. 2009. Is REDD+ an idea whose time has come, or gone? *In* Angelsen A, with Brockhaus M, Kanninen M, Sills E, Sunderlin WD and Wertz-Kanounnikoff S, eds. *Realising REDD+: National Strategy and Policy Options*. Bogor, Indonesia: Center for International Forestry Research. Chapter 4, 45–53.

Sunderlin WD and Sills EO. 2012. REDD+ projects as a hybrid of old and new forest conservation approaches. *In* Angelsen A, Brockhaus M, Sunderlin WD and Verchot LV, eds. *Analyzing REDD+: Challenges and Choices.* Bogor, Indonesia: Center for International Forestry Research. Chapter 10, 177–192.

Sunderlin WD, Larson AM, Duchelle AE, Resosudarmo IAP, Huynh TB, Awono A and Dokken T. 2013. How are REDD+ proponents addressing tenure problems? Evidence from Brazil, Cameroon, Tanzania, Indonesia, and Vietnam. *World Development* 55:37–52.

Sunderlin WD, Larson AM, Duchelle AE, Sills EO, Luttrell C, Jagger P, Pattanayak S, Cronkleton P and Ekaputri AD. 2010. *Technical Guidelines for Research on REDD+ Project Sites.* Bogor, Indonesia: Center for International Forestry Research.

Tacconi L, Downs F and Larmour P. 2009. Anti-corruption policies in the forest sector and REDD+. *In* Angelsen A, with Brockhaus M, Kanninen M, Sills E, Sunderlin WD and Wertz-Kanounnikoff S, eds. *Realising REDD+: National Strategy and Policy Options*. Bogor, Indonesia: Center for International Forestry Research. Chapter 13, 163–174.

Tollefson, J. 2011. Brazil revisits forest code. *Nature* 476:259–260.

UKP4. 2013. *One Map Indonesia*. Jakarta, Indonesia: President's Delivery Unit for Development Monitoring and Oversight (Unit Kerja Presiden Bidang Pengawasan dan Pengendalian Pembangunan). http://www.satgasreddplus.org/download/120905%20ONEMAP%20Midway%20Workshop%202012.pdf

UNDP. 2014. *National/Sub-national Strategies.* United Nations Development Programme. http://www.undp.org/content/undp/en/home/ourwork/environmentandenergy/focus_areas/climate_strategies/undp_projects_thatcontributetogreenlecrds/national_sub-nationalstrategies/

Voluntary REDD+ Database. 2014. *Overview.* Voluntary REDD+ Database. http://reddplusdatabase.org/#graphs_and_stats

Wells M and Brandon K. 1992. *People and Parks: Linking Protected Area Management with Local Communities.* Washington DC: The World Bank. 116 pp.

Wells M, Guggenheim S, Khan A, Wardojo W and Jepson P. 1999. *Investing in Biodiversity. Review of Indonesia's Integrated Conservation and Development Projects. Directions in Development.* Washington DC: The World Bank. 136 pp.

Annexes

Annex A. List of proponent organizations and respondents interviewed

Countries	Initiative name (Abbrev)	Proponent organization Name	Date of interview	Details about respondent(s)		
				Type of respondent	Name	Position at the time of interview
Brazil	ACRE	Instituto de Mudanças Clímaticas (IMC)	16-Apr-13	Main respondent	Monica Julissa de los Rios de Leal	Assessora da Presidencia do IMC
Brazil	Cotriguaçu	Instituto Centro de Vida (ICV)	27-Mar-13	Main respondent	Renato Farias	Coordenador Cotriguaçu Sempre Verde
Brazil	Transamazon	Instituto de Pesquisa Ambiental da Amazônia (IPAM)	22-May-13	Main respondent	Osvaldo Stella	Coordenador de programa
			22-May-13	Other	Maria Lucimar de Lima Souza	Coordenadora regional
Brazil	SFX	The Nature Conservancy Brazil	13-Apr-13	Main respondent	Maria Angélica Toniolo	Coordenadora da Iniciativa de Desenvolvimento Verde de São Félix do Xingu
Brazil	Bolsa Floresta	Fundação Amazonas Sustentável (FAS)	23 Apr-13	Main respondent	João Tezza Neto	Superintendente Tecnico e Cientifico
Brazil	Jari/Amapá	Biofílica	27-Mar-13	Main respondent	Gabriela Lopes Jorge	Coordenadora de Projetos
			27-Mar-13	Other	Plínio Ribeiro	Diretor Executivo
Peru	BAM	Bosques Amazonicos (BAM)	24-Apr-13	Main respondent	Jorge Antonio Torres Padilla	Forest Carbon Program Manager
Peru	AIDER	Asociación para la Investigación y Desarrollo Integral (AIDER)	3-May-13	Main respondent	Percy Recavarren Estares	Coordinador del Programa Servicios Eco- sistémicos
Cameroon	CED	Centre pour l'Environnement et le Développement (CED)	27-Feb-13	Main respondent	Samuel Nguiffo	Executive Secretary
Cameroon	Mt. Cameroon	GFA-Envest	26-Feb-13	Main respondent	Frank Stenmanns	Team Leader
			26-Feb-13	Other	Bakia Morchankap	GIS Officer
			26-Feb-13	Other	Julien Dupuy	Technical Adviser
			26-Feb-13	Other	Besong Simon	Conservator of the Mount Cameroon National Park

continued on next page

Annex A. Continued

Countries	Initiative name (Abbrev)	Proponent organization Name	Date of interview	Details about respondent(s)		
				Type of respondent	Name	Position at the time of interview
Tanzania	TaTEDO	Tanzania Traditional Energy Development and Environmental Organization (TaTEDO)	5-Mar-13	Main respondent	Robert Otsyina	Managing Director/Consultant
			5-Mar-13	Other	Mary Swai	REDD+ Project Manager
Tanzania	TFCG-Lindi	Tanzania Forest Conservation Group (TFCG)	6-Mar-13	Main respondent	Nike Doggart	Senior Technical Advisor
			6-Mar-13	Other	Bettie Luwuge	Project Manager-REDD
Tanzania	TFCG-Kilosa	Tanzania Forest Conservation Group (TFCG)	6-Mar-13	Main respondent	Nike Doggart	Senior Technical Advisor
			6-Mar-13	Other	Bettie Luwuge	Project Manager-REDD
Tanzania	JGI	Jane Goodall Institute [JGI]	8-Mar-13	Main respondent	Nssoko Edwin	REDD Project Director
			8-Mar-13	Other	Naomi Andrea Rumenyela	Consultant
Tanzania	CARE	CARE International in Tanzania	4-Mar-13	Main Respondent	Bakari Amour	Programme Coordinator/Team Leader Zanzibar
			4-Mar-13	Other	Ali M. Hilal	Programme Officer-Leakage control
Tanzania	Mpingo	Mpingo Conservation and Development Initiative (MCDI)	11-Mar-13	Main respondent	Steve Ball	Chief Technical Advisor
Indonesia	Ulu Masen	Government of Aceh (Task Force REDD Aceh)	26-Mar-13	Main respondent	Dede Hadi	Aceh Province Forest Service staff
			26-Mar-13	Other	M. Yakob Ishadamy	Director
			26-Mar-13	Other	Fadmi Ridwan	Head of Programming and Reporting Unit
Indonesia	KCCP	Fauna and Flora International Indonesia (FFI-Indonesia)	19-Feb-13	Main respondent	Ahmad Kusworo	Programme Advisor
Indonesia	KFCP	AusAID/Kalimantan Forests and Climate Partnership (KFCP)	6-May-13	Main respondent	Tim Jessup	Forest and Climate Specialist
			6-May-13	Other	Rachael Diprose	Research, Evaluation, and Quality Assurance Advisor
Indonesia	RRC	Infinite Earth (PT. Rimba Raya Conservation)	5-Apr-13	Main respondent	Jim Procanik	Managing Director

continued on next page

Annex A. Continued

Countries	Initiative name (Abbrev)	Proponent organization Name	Date of interview	Details about respondent(s)		
				Type of respondent	Name	Position at the time of interview
Indonesia	Katingan	Starling Resources/PT. Rimba Makmur Utama (RMU)	19-Feb-13	Main respondent	Rezal Kusumaatmadja	Director
			19-Feb-13	Other	Dharsono Hartono	President Director
Indonesia	Berau	The Nature Conservancy (TNC)	22-Mar-13	Main respondent	Herlina Hartanto	Terrestrial Program Director
			22-Mar-13	Other	Lex Hovani	Senior Advisor for Indonesia Terrestrial Program
			22-Mar-13	Other	Wahjudi Wardojo	Senior Advisor for Conservation Policy
Vietnam	SNV	The Netherlands Development Organization (SNV)	10-Dec-12	Main Respondent	Richard McNally	Global REDD+ Coordinator
			10-Dec-12	Other	Adrian Enright	Environmental Economics Advisor
			11-Dec-12	Other	Ly Thi Minh Hai	LEAF Project Manager
			13-Dec-2012 in Dalat	Other	Pham Thanh Nam	REDD Advisor/LEAF Field Coordination

Annex B. List of forest interventions and their definitions

By *intervention*, we mean an initiative activity aimed at directly influencing the way stakeholders manage and use local forests, and thereby achieve the goal of reduced net forest carbon emission. These activities can involve actors either inside or outside site boundaries.

By *restrictions on forest access and conversion*, we mean activities such as: determining the boundaries of set-aside forests; reaching agreement with local stakeholders on restricted forest use; community monitoring; enhanced policing of forest access and use; imposition of fines; enforcement of forest protection laws and regulations; land-use planning (if aimed at forest protection); and challenging claims made by outside agents to covert local forests to non-forest use.

By *forest enhancement*, we mean activities such as reforestation or afforestation, for example involving the community in planting tree seedlings. If the activity is intended to be wholly or mainly for the benefit of forest carbon sequestration, classify it under this heading. If the activity is mainly for the benefit of local stakeholders (i.e. source of fuelwood or poles for local use), classify it as a livelihood enhancement. (See the next two categories.)

By *non-conditional livelihood enhancements*, we mean livelihood support of any kind that does not require local stakeholders to change their forest use behavior. Such change in behavior may be hoped for, but it is not required. Examples are: guidance on producing existing crops more intensively; guidance and inputs for producing a high value crop not yet cultivated in the area; or introduction of improved fuelwood stoves.

By *conditional livelihood enhancements*, we mean livelihood support of any kind (non-cash or cash) that requires the participants to protect or improve local forests in exchange for getting this support. The conditionality can require the participant to protect or improve local forests first, before getting the support. Or, it may provide the support first on the assumption that this benefit will be withdrawn or discontinued if forest protection or improvement services are not performed. Examples: (1) providing subsidies for annual agricultural inputs on condition that local forests are no longer cut down for swidden fields; and (2) providing communities a share of forest carbon cash revenue on condition that they successfully prevent deforestation (including leakage) against a historical baseline (i.e. payment for environmental services or PES).

By *environmental education*, we mean any kind of information dissemination, outreach and extension aimed at convincing stakeholders (whether inside or outside site boundaries) that there are negative consequences to continued deforestation and degradation of local forests, and that there are tangible benefits to protecting and/or enhancing local forests.

By *tenure clarification*, we mean activities aimed at resolving unclear or contested ownership and access rights over local forest lands, trees and carbon. Examples are clarification of: local forest boundaries; ownership and access rights to local forests; differences between statutory and customary rights. Activities can include: participatory forest mapping; land and resource conflict resolution; regularization; and change of tenure classifications. NOTE: There is possible overlap with the 'forest access restrictions' category. Tenure clarification only involves activities aimed at resolving lack of tenure clarity. Enforcement of tenure rights of exclusion falls under 'forest access restrictions' because the activity is based on a clear understanding of tenure.

Annex C. Scores for ranking level of difficulty posed by factors affecting REDD+ implementation

	Factor	1. None	2. Minor	3. Moderate	4. Large	5. Overwhelming	Does not apply	Respondent does not know
1	Political economy: BAU interests	2	0	18	48	10	0	1
2	International policy: climate (non-REDD+)	4	6	12	32	20	0	0
3	International policy: REDD+ (legal)	1	18	12	16	25	0	0
4	International policy: REDD+ (technical)	2	4	8	6	3	0	0
5	International policy: REDD+ (economic)	0	3	3	12	4	0	1
6	International policy: forest	4	8	5	3	1	0	2
7	International policy: agriculture	7	4	12	28	0	0	3
8	International policy: trade	5	4	6	5	1	0	2
9	International policy: investment	6	2	9	4	1	0	1
10	International policy: aid	7	1	4	8	1	0	2
11	International policy: other (specify)	1	0	1	1	0	19	1
12	National policy: climate (non-REDD+)	3	5	4	6	2	1	2
13	National policy: REDD+ (legal)	3	2	15	48	10	0	0
14	National policy: REDD+ (technical)	2	1	6	13	1	0	0
15	National policy: REDD+ (economic)	2	2	4	14	1	0	0
16	National policy: forest	1	4	5	12	1	0	0
17	National policy: agriculture	2	1	7	10	2	0	1
18	National policy: trade	5	2	24	28	0	1	1
19	National policy: investment	4	1	7	8	1	1	1
20	National policy: infrastructure & roads	2	2	9	6	2	0	2
21	National policy: aid	6	5	1	7	1	0	3
22	National policy: tenure & land use	1	6	15	36	25	0	0
23	National policy: other (specify)	1	0	0	5	0	17	0
24	Regional/local policy: climate	5	1	6	6	1	3	1
25	Regional/local policy: forest	5	2	4	9	0	3	0

continued on next page

Annex C. Continued

	Factor	1. None	2. Minor	3. Moderate	4. Large	5. Overwhelming	Does not apply	Respondent does not know
26	Regional/local policy: agriculture	4	0	7	6	1	4	1
27	Regional/local policy: trade	5	2	5	3	1	5	2
28	Regional/local policy: investment	6	1	3	6	2	3	2
29	Regional/local policy: aid	6	2	5	3	1	3	3
30	Regional/local policy: tenure & land use	2	4	9	24	35	2	1
31	Regional/local policy: other (specify)	1	1	0	2	1	18	0
32	Governance: national stakeholder engagement	2	3	3	13	1	0	1
33	Governance: tenure conditions (national)	0	8	9	44	25	0	0
34	Governance: tenure cond. (reg./local)	0	10	15	20	35	0	1
35	Governance: tenure cond. (inside initiative)	1	10	21	24	20	0	0
36	Governance: conflict (inside initiative)	1	10	9	1	2	0	0
37	Governance: benefit sharing	4	4	10	5	0	0	0
38	Governance: illegal logging	0	7	8	6	1	0	1
39	Governance: illegal deforestation	2	4	6	11	0	0	0
40	Governance: corruption	0	4	8	8	1	0	2
41	Governance: capacity	1	3	6	13	0	0	0
42	Governance: local stakeholder engagement	1	8	11	3	0	0	0
43	Governance: local socio-cultural factors	4	7	6	6	0	0	0
44	Governance: opposition by organization	8	5	4	3	1	0	2
45	Governance: opposition by community	6	9	5	1	1	0	1
46	Governance: migration into initiative area	6	10	6	1	0	0	0
47	Governance: other (specify)	0	1	0	6	0	16	0
48	Economy: recession	5	4	4	7	0	1	2
49	Economy: weak forest carbon market	3	5	5	6	4	0	0

continued on next page

Annex C. Continued

	Factor	1. None	2. Minor	3. Moderate	4. Large	5. Overwhelming	Does not apply	Respondent does not know
50	Economy: REDD+ cannot compete	3	3	3	8	4	2	0
51	Economy: other (specify)	1	1	2	1	3	15	0
52	Technical: international MRV capacity	7	6	2	5	1	2	0
53	Technical: national MRV	3	4	7	7	0	2	0
54	Technical: certification	4	6	2	7	2	2	0
55	Technical: other (specify)	1	2	2	4	1	13	0
56	Other external factor (specify)	1	1	2	2	0	17	0
57	Other external factor (specify)	1	1	0	1	0	20	0
58	Organizational capacity	3	12	6	2	0	0	0
59	Technical capacity (MRV)	4	8	6	2	1	2	0
60	Technical capacity (non-MRV)	4	10	5	3	0	1	0
61	Insufficient funds	4	3	5	9	2	0	0
62	Other internal factor (specify)	2	0	2	4	0	15	0

Annex D. Characterizing the challenges and solutions in terms of 3Es and co-benefits

The answers to our questions about the main challenges encountered and solutions envisioned for the 3Es and co-benefits, for the most part, do not reveal a common or plural view among respondents. The responses are mostly heterogeneous, reflecting the widely diverging geographic, political, institutional, social, economic and technical settings of the study proponents. The responses recorded below illustrate this diversity and, where applicable, focus on common threads that may be important as inputs for policy solutions.

Effectiveness

In response to our question about how to design and implement an initiative that will effectively sequester or reduce emissions of forest carbon, a third of the respondents said their main challenges concerned engagement with the community in raising awareness and capacity building, and difficulties in collaborating with government institutions. Other concerns were weak local governance, the inadequacy of REDD+ financing, and the creation of viable alternative income sources for the local community.

The following quotes from respondents illustrate these issues:

> Because many national policies such as on land use planning and participatory forest management had not been implemented in the project villages, it required a significant investment in REDD readiness activities (particularly land-use planning and governance training) before more specifically REDD-related activities could be implemented. Similarly, weak governance at village and district level means that even where policy implementation is supported, the sustainability of those interventions is fragile in some communities.

> The main challenge is the lack of market demand for REDD+ credits. Without a sustainable source of revenue, it is very difficult to implement a REDD+ project on the ground effectively. [Name of initiative] needs to create financial incentives that are accessible to projects whether they are fund or market-based.

In response to our asking about solutions envisioned, the main proposed solutions involved improved governance and government capacity and improved engagement with the local community (a quarter of respondents). Other solutions concerned attention to tenure, intensive sustainable agriculture, intervention to change policies, community forest management, increased initiative area to overcome leakage, support for low-carbon development planning and improved financial incentives.

One respondent said:

> The project has a strong focus on awareness and improved governance at local level including a commitment from the outset to FPIC; and support for community-based organizations with a 'watchdog' role. Similarly, at national level, we have endeavored to influence national policy to provide a supportive policy context for a community-oriented model of REDD.

Efficiency

When asked about the main challenges encountered in making their initiative cost effective, more than half the respondents focused on the current excessive costs and insufficient financial resources for establishing REDD+. Concerns were voiced about the costliness of: community engagement and outreach, setting up MRV, the vastness of site area and numbers of people to be served in relation to resources, and the low capacity of partners, among other issues.

Another cluster of concerns anticipates future constraints and relates to the disadvantageous economics of REDD+. Among the worries voiced were the adequacy of the future stream of REDD+ income, and how to link existing forest management systems to REDD+ efficiently.

The financial constraints experienced are wide. At one extreme is a proponent saying that the cost of development is a minor concern. At the other extreme is one proponent that is hesitating to move forward with REDD+ because of the low carbon content of its montane forest and therefore low carbon market returns, and another proponent

Village land use planning exercise in Kisongwe, TFCG-Kilosa site, Tanzania.
Photo by Hassan Chikira

that has decided to cease operations at the project level because of a benefit–cost study forecasting low returns.

A quote from one respondent illustrates the repercussions of high costs:

> The main challenge is the time and resources it requires to develop a robust MRV system and develop the capacity on the ground to implement the system. While it is important to develop a scientifically rigorous MRV system, the investment in such system has diverted the already limited resources from other priorities (e.g. FPIC, creating livelihood opportunities for communities, etc.).

The largest cluster of proposed solutions focuses on reduction of transaction costs. Among the remedies proposed are to scale up from the project site to the jurisdictional level, simplify the Verified Carbon Standard certification system, streamline the safeguards system, share resources (methods, remote sensing images) and integrate support activities among stakeholders.

Another cluster of answers concerned institutional issues and proposed community empowerment and capacity building, government capacity building and improved governance. There were also ideas that were more economic/financial in character which proposed conducting or redoing financial feasibility studies, and improvements in the marketing and fairness of commodities. A respondent proposed the following: "Empowerment of community associations of residents of protected areas increases the effectiveness of investments and transfers responsibilities with cost reduction."

Equity

In response to our question about the challenges in assuring that REDD+ is equitable, two-thirds of the responses focused on equity in emerging benefit-sharing systems. The following are among the challenges encountered: the difficulty and cost of setting up multi-stakeholder negotiations on benefit sharing; local stakeholder resistance to giving a share to government; conversely

some governments seek to minimize the share to communities; and how to extend benefits to the poorest and most marginal peoples.

The answers of five respondents are rich in insights about the nature of the challenges faced:

> The history of violence between different interest groups, prejudices and cultural differences in the project area are the major challenges to building relationships of trust between the actors and the common work agenda. (Brazil)

> [There is] difficulty to have agreement on vertical and horizontal cost and benefit sharing. Normally those who ask bigger [share of the] cake [are] those who bear least cost. Anywhere, even at the village level. So this is very hard. You cannot get MoF [Ministry of Forestry] support unless you allow them to capture something there. Putting Norway money into MoF is very dangerous. In UKP4[15] they already take 20% from the 1 billion but there is no impact. So those are difficult... So we got lower/poorer group to have discussion on what do we do with this lower group. It is difficult, because other will say they don't deserve it. (Indonesia)

> Consultation with local communities in remote, scattered settlements has been time consuming and difficult, more so than developing and testing technical interventions. The transaction costs of equitable benefit sharing would [in a project that aimed to make a profit or even break even] eat a large portion of the benefits. (Indonesia)

> The main challenge is the lack of clarity of the financial benefits of REDD+. Because of the lack of clarity, stakeholders begin with high expectations of potential revenues from carbon credits and move to a more skeptical position later on. The different levels of expectations make it difficult to conduct productive dialogues on how benefits and costs are distributed fairly among project stakeholders. (Indonesia)

When asked about solutions to assure equity in REDD+, almost all respondents voiced their views on how to create benefit-sharing systems that are fair and function properly. Interestingly, in the three cases where the share allocation between the community and government is the central problem, there are widely diverging proposed solutions. At one initiative site in Tanzania the proponent will test a system where all but a fraction of the benefit stream will go to the community. (The carbon agent and the facilitating NGO will get a small percentage, but the government will get none.) Conversely, at another initiative site in Tanzania, the proponent yielded when the government objected to 100% of the benefits being held in the community, and will end up with a weak agreement with the government. At an initiative site in Indonesia, the projected benefit share arrangement will be 90% to the government and 10% to the managers.

Some of the solutions proposed are institutional and organizational in character – for example, raising equity consciousness within the proponent organization and then externally, implementing positive discrimination in allocation of benefits within the community, prioritizing communities that have not yet benefited from another initiative, or providing support to the community to advocate for itself (in relation to benefit sharing) at the national and local level.

Other solutions proposed are more technical, such as: partnering with an organization that is experienced in the creation of multi-stakeholder benefit-sharing systems; deforestation monitoring of each family via periodic visits and remote sensing; or linking the reward stream to the size of the farm and amount of effort.

The following reveal the complexity of the issues:

> Develop a benefit sharing mechanism based on effort and the size of the farm. We tried to develop a modality where everyone is comfortable. The decision was to link payments to effort. Not everyone was happy. People say the government should get no share. We... want at least 70% to go to the community. (Tanzania)

> Make sure that local community gets a large share of financial benefit and prioritize allocation for the marginal/poor groups. At the community level you need to do positive

15 UKP4 is the President's Delivery Unit for Development Monitoring and Oversight (*Unit Kerja Presiden Bidang Pengawasan dan Pengendalian Pembangunan*).

> discrimination but you will run the risk of failing in other things... At the community level, elites (such as kepala adat, haji, etc.) are the ones who want to capture PES money for things which are not necessarily improve the local community wellbeing. (Indonesia)

> We need to clarify what the project benefits and costs are and establish an agreed upon framework to analyze them before entering into discussions on how to distribute them in a fair way. (Indonesia)

Co-benefits: Wellbeing and livelihood enhancement

Responses to our question about the challenges and potential solutions associated with assuring enhancements in wellbeing and livelihoods were widely diverse. For some, the central problem was how to involve a large number of stakeholders in comparison to initiative resources available. For others, the main problem is how to involve local stakeholders in the initiative, specifically, how to develop local capacity to support initiatives, how to persuade the community to take ownership and how to motivate participants to perform initiative activities (e.g. buy their own seeds). Some concerns are social, cultural, institutional and organizational, and involve how to understand cultural peculiarities and customs, how to enable local understanding that REDD+ can support local economic development, coping with the fact that individual and community interests often collide, high expectations of the level of income that can be generated; elite capture by community leaders, weak tenure security of communities, inappropriateness of uniform livelihood enhancements because of the complexity and heterogeneity of communities, and the need for a mechanism to channel aspirations to proponent organization.

Other challenges are more technical, for example, how to create sustainable products that do not involve deforestation and forest burning, and the difficulty in identifying livelihood strategies that reduce carbon emissions.

The following quotes illustrate some of the challenges encountered:

> The main challenge was to distinguish individual and community interests. Some individuals tend to favor individual concerns. "We deserve a share of the forest with no strings attached. It is my money." (Cameroon)

> Local capacity to support initiatives such as climate smart, small-scale agriculture; value chain enhancement and even micro-finance is limited. (Tanzania)

> The funds allocated for the livelihood enhancement are very small and cannot sufficiently engage all target groups. Until now the source of these funds has been the Norwegian government. (Tanzania)

> In most cases, investments in projects that improve the wellbeing and livelihoods of local stakeholders require a long-term view to ensure that they are economically, socially and environmentally sustainable. The challenge is to make such investments appealing to all stakeholders when they are more interested in investments that bring in short-term returns. (Indonesia)

In Brazil and Peru, there is a general tendency for livelihood solutions to be based on proponent–government collaboration, whereas this is not the case in other countries. For example, in Brazil, the REDD+ Thematic Chamber at one initiative site involves collaboration among the proponent organization and state and local government for the provision of basic needs.

Several respondents said their solutions are based on capacity building of government and/or local stakeholders. Various respondents said their plans for resolving livelihood challenges are already underway, whereas some will be field-testing new strategies, for example 'REDD+ agriculture' in Vietnam.

A wide range of proposed solutions corresponds to the wide array of perceived problems. These include: creation of a market for sustainable products; industrialization to support the development of a forest-based economy; support for the Municipal Pact (Brazil) to end illegal deforestation and a linked program of alternative livelihood activities; strengthening capacity to deliver quality education and health services in remote areas; training representatives of associations of beneficiaries; community training on financial services (credit, loan, micro-financing); cost-sharing mechanisms involving communities

putting up some money; seeking outside financial support and training the community to raise its own funds to support livelihood enhancements to cope with financial constraints of the proponent organization; building trust by making it clear to the community the proponent organization is there to support them for the long haul; and more integration and consolidation of management teams in the field with less reliance on central office staff.

The following quotes illustrate some of the livelihood solutions proposed by respondents:

> Health and education are an obligation of the state, but are not provided in these remote areas of Amazonia where REDD+ is likely to be implemented. [There is] no decent quality education, [which is a] serious problem for the families, because [it] means they don't have the capacity to adapt to new opportunities and concerns. Meeting these long-term needs should be linked to REDD+, because it also requires a long-term perspective. [The proponent] created eight remote schools [and] worked with the municipal and state secretaries of education to address [the] issue of low quality education. They don't want to keep doing this independently, but want to push for general improvement in quality of education. This is difficult because of electoral politics and turnover in administrations, and municipalities that aren't well qualified to run the education system. But this investment is needed to secure long-term benefits. REDD+ is only the "cheapest carbon" if the plan is to maintain the current low quality of life, and that is not sustainable. (Brazil)

> Establish a strong trust relationship with the community. If they ask for assistance, they know we will come. They know we are in it for the long haul. It is not 'train and forget' but 'train and support.'(Tanzania)

> We need to communicate better the pros and cons of various forms of investments in terms of their real impacts on long-term wellbeing and livelihoods. We also need an investment framework that attracts 'patient capital.' (Indonesia)

Co-benefits: biodiversity

All but one organization is intentionally aiming to conserve the biodiversity of local forests. In response to our question about the challenges of conserving biodiversity, most answers appear to reflect that this is a lower priority as compared to other initiative goals, and that most organizations – although aiming to conserve biodiversity – are only beginning to make plans on how this will be accomplished.

The following quotes from respondents illustrate the varied nature of the challenge of protecting biodiversity in REDD+:

> How to protect biodiversity against outsiders was the main challenge. We need to know how to protect wildlife against the community itself. No biological survey has been done but we know hunting is happening. (Cameroon)

> Local residents often perceive conservation as a law enforcement effort directed against their interests, or restricting their rights of access, rather than as a benefit. (Indonesia)

> The main challenge is the lack of knowledge and capacity to conduct long-term biodiversity and ecological monitoring and to provide scientific feedback to project managers and work with local communities to implement biodiversity conservation programs that are in line with livelihood objectives. (Indonesia)

When asked about the solutions envisioned, the most frequent answers concerned: conducting research, quantification and valuation of local biodiversity through collaboration with expert research institutions; determining high value conservation areas; legal and enforcement approaches involving laws, regulations, permit systems, restricted entry, monitoring and patrols; inclusion of biodiversity in spatial planning; and economic alternatives to dependence on forest resources for local people. Other ideas included linking REDD+ incentives to achievement of biodiversity goals, and using REDD+ licensing as a protective measure against agro-industrial conversion and thereby, biodiversity protection.

Annex E. Data on specific initiatives prior to REDD+

Country	Abbreviated name	Status of site prior to move towards REDD+					
		Efforts to stop deforestation and forest degradation within site boundaries prior to REDD+? (yes/no)	[If yes] Beginning in what year did these forest protection interventions begin?	[If yes] Was the proponent organization involved in pre-REDD+ efforts to stop D and D?	Sources of pressure mainly from inside, outside, or both?	Nature of forest protection activities (see codes at bottom of page)	Proponent rating of success of pre-REDD+ efforts
Brazil	Acre	Yes	2009	No	Both in equal measure	1, 2, 3, 4, 5, 7, 13, 14	Moderately successful
Brazil	Cotriguaçu	Yes	1995	No	Actors living inside site boundaries	8, 9, 13	Respondent does not know
Brazil	Transamazon	Yes	2003	Yes	Actors living inside site boundaries	1, 5, 9, 10, 11, 14	Moderately successful
Brazil	SFX	Yes	2004	Yes	Actors living inside site boundaries	1, 2, 5, 8, 9, 11	Moderately successful
Brazil	Bolsa Floresta	Yes	2006	No	Actors living inside site boundaries	1, 13, 14	Moderately successful
Brazil	Jari/Amapá	Yes	2001	No	Actors living inside site boundaries	14	Moderately successful
Peru	BAM	Yes	2002	No	Both in equal measure	8, 14	Neither successful nor unsuccessful
Peru	AIDER	Yes	2002	Yes	Actors living inside site boundaries	1, 2, 5, 6, 7, 9, 11 12, 13	Moderately successful
Cameroon	CED	Yes	1995	No	Both in equal measure	5, 8, 9	Mostly unsuccessful
Cameroon	Mt. Cameroon	Yes	2006	Yes	Both in equal measure	1, 2, 5, 7, 8, 9, 11, 12, 13	Moderately successful
Tanzania	Tatedo	Yes	1986	Yes	Both in equal measure	1, 2, 3, 4, 5, 7, 8,9, 11, 12, 13, 14	Moderately successful
Tanzania	TFCG-Lindi	No	Does not apply	Does not apply	Does not apply	Does not apply	Does not apply
Tanzania	TFCG-Kilosa	No	Does not apply	Does not apply	Does not apply	Does not apply	Does not apply

continued on next page

Annex E. Continued

Country	Abbreviated name	Status of site prior to move towards REDD+					
		Efforts to stop deforestation and forest degradation within site boundaries prior to REDD+? (yes/no)	[If yes] Beginning in what year did these forest protection interventions begin?	[If yes] Was the proponent organization involved in pre-REDD+ efforts to stop D and D?	Sources of pressure mainly from inside, outside, or both?	Nature of forest protection activities (see codes at bottom of page)	Proponent rating of success of pre-REDD+ efforts
Tanzania	CARE	Yes	2006	Yes	Both in equal measure	1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13	Moderately successful
Tanzania	JGI	Yes	2007	Yes	Actors coming from the outside	1, 2, 5, 7, 8, 11, 14	Moderately successful
Tanzania	Mpingo	Yes	2004	Yes	Both in equal measure	7, 8, 11, 12, 14	Highly successful
Indonesia	Ulu Masen	Yes	2000	No	Both in equal measure	1, 2, 3, 4, 5, 7, 13	Moderately successful
Indonesia	KCCP	Yes	2003	Yes	Both in equal measure	5, 12	Neither successful nor unsuccessful
Indonesia	KFCP	Yes	2006	No	Actors living inside site boundaries	1, 3, 6, 8, 9, 10, 11	Moderately successful
Indonesia	RRC	Yes	1998	No	Actors coming from the outside	1, 2, 5, 8, 9	Mostly unsuccessful
Indonesia	Katingan	No	Does not apply	Does not apply	Does not apply	Does not apply	Does not apply
Indonesia	Berau	Yes	2002	Yes	Both in equal measure	1, 2, 3, 5, 6, 7, 8,9, 10, 11, 12, 13, 14	Moderately successful
Vietnam	SNV	Yes	1996	No	Actors living inside site boundaries	1, 2, 3, 7, 8, 10, 11, 13	Moderately successful

Codes:

1 = Reduction of deforestation
2 = Reduction of forest degradation
3 = Reforestation
4 = Afforestation
5 = Protection of biodiversity
6 = Carbon sequestration
7 = Forest access restrictions
8 = Enhancement of forest-based livelihoods
9 = Enhancement of non-forest livelihoods
10 = Rewards for environmental services
11 = Environmental education
12 = Tenure clarification
13 = Collaboration with government on PAMs
14 = Other (specify)

Annex F. Data on specific initiatives after REDD+ initiative established

Country	Abbreviated name	Sources of pressures on forest	Intended approaches	Have set up reference level	Type of forest carbon market	Interventions B= begun; WB=will begin; WNBD = will not be done						
						RFAC	FE	NCLE	CLE	EE	TC	OI
Brazil	Acre	4, 5, 6, 7, 13, 14	1, 2, 3, 4, 5	No	Voluntary; national compliance/ regulated; international compliance	B	B	B	B	WB	B	B
Brazil	Cotriguaçu	1, 2, 4, 5, 6, 7, 8, 10, 11, 14, 15	1, 2, 3, 4, 5	Yes	national compliance; international compliance	B	WNBD	B	WNBD	B	WNBD	WNBD
Brazil	Transamazon	2, 5, 6, 10, 14, 15	1, 2, 3	Yes	Not planning to sell credits	B	B	WNBD	B	B	B	WNBD
Brazil	SFX	2, 4, 5, 6, 8, 9, 14, 15	1, 2, 3, 4, 5	No	international compliance	B	WB	B	B	B	B	WNBD
Brazil	Bolsa Floresta	5, 6, 10	1, 2, 4	N/A	N/A	B	B	B	B	B	B	WNBD
Brazil	Jari/Amapá	4, 5, 6, 10	1, 2, 5	Yes	voluntary; international compliance	B	WNBD	WNBD	B	B	WB	WNBD
Peru	BAM	4, 5, 6, 9, 10, 11, 14, 15	1, 2, 3	Yes	Voluntary	WNBD	B	WNBD	B	B	B	WNBD
Peru	AIDER	4, 5, 6, 9, 10, 13	1, 2, 5	No	N/A	B	WNBD	B	WNBD	B	B	WNBD
Cameroon	CED	4, 5, 9, 10, 15	1, 2, 3, 5	Yes	Voluntary	B	B	B	B	B	B	B
Cameroon	Mt. Cameroon	1, 3, 4, 5, 10, 11, 12, 13, 15	1, 2, 3, 4, 5	No	Voluntary	B	B	B	B	B	B	B
Tanzania	Tatedo	4, 5, 6, 9, 10, 11, 12, 15	1, 2, 3, 4, 5	No	Voluntary	B	B	B	B	B	B	B
Tanzania	TFCG-Lindi	4, 5, 9, 10, 11, 12, 13, 14	1, 2	No	voluntary; international compliance	B	WNBD	B	B	B	B	WNBD
Tanzania	TFCG-Kilosa	4, 10, 11, 12, 14	1, 2	No	voluntary; international compliance	B	WNBD	B	B	B	B	WNBD
Tanzania	CARE	4, 5, 10, 11, 12, 13, 16	1, 2, 3, 4, 5	No	voluntary	B	B	B	B	B	B	B
Tanzania	JGI	4, 5, 6, 11, 12, 14, 16	1, 2, 3, 5	No	voluntary	B	WNBD	B	B	B	B	B

continued on next page

Annex F. Continued

Country	Abbreviated name	Sources of pressures on forest	Intended approaches	Have set up reference level	Type of forest carbon market	Interventions B= begun; WB=will begin; WNBD = will not be done						
						RFAC	FE	NCLE	CLE	EE	TC	OI
Tanzania	Mpingo	4, 8, 10, 12, 14	2, 5	No	voluntary	B	WNBD	B	B	B	B	WNBD
Indonesia	Ulu Masen	1, 3, 10, 14, 15	1, 2, 3, 4, 5	No	voluntary	B	WNBD	B	WNBD	B	B	WNBD
Indonesia	KCCP	3, 4, 5, 9, 10	1, 2, 3, 4, 5	Yes	voluntary	B	B	B	WB	B	B	WNBD
Indonesia	KFCP	3,4,9,10,11,13,14	1,2,3,4,5	No	Not linked to markets or credits	B	B	B	WB	B	B	B
Indonesia	RRC	1,3,10,11,13,14	1,2,3,4	Yes	voluntary	WB	WB	B	WNBD	B	WNBD	WB
Indonesia	Katingan	3,4,5,10,16	1,2,3,4,5	No	voluntary	WB	WB	B	WB	B	B	WNBD
Indonesia	Berau	3,4,5,7,15,16	1,2,3,4,5	No	voluntary and national compliance	B	WB	B	WB	B	B	B
Vietnam	SNV	4,9,10,11,13,16	1,2,3,4,5	Yes	not planning to sell credits	WNBD	B	WNBD	WNBD	B	WNBD	B

Codes for sources of pressure on forests:

1 = Large-scale agriculture (for example, by agribusiness)

2 = Large-scale ranching (for example, by agribusiness)

3 = Large-scale plantations (timber or perennials such as oil palm)

4 = Small-scale traditional agriculture (for example, swidden by local inhabitants)

5 = Small-scale frontier agriculture (for example, slash and burn by colonists)

6 = Small or medium ranchers

7 = Large-scale timber harvest (legal mechanized extraction by companies)

8 = Large-scale timber harvest (illegal mechanized extraction by companies)

9 = Small-scale legal timber harvest (low-technology, by small local operators)

10 = Small-scale illegal timber harvest (low-technology, by small local operators)

11 = Subsistence fuelwood/charcoal collection

12 = Commercial fuelwood/charcoal collection

13 = Non-wood forest products harvesting

14 = Forest fire

15 = Mining

16 = Other, specify

Codes for intended approaches:

1 = Avoid/reduce deforestation

2 = Avoid/reduce degradation

3 = Restore, rehabilitate, or enhance carbon stocks in existing forests (e.g. improve forest management)

4 = Afforest/reforest or regenerate new forest

5 = Other (please specify)

Codes for interventions:

RFAC = restrictions on forest access and conversion

FE= forest enhancement

NCLE = non-conditional livelihood enhancement

CLE = conditional livelihood enhancement

EE = environmental education

TC =tenure clarification

OI = other intervention

CIFOR Occasional Papers contain research results that are significant to tropical forest issues. This content has been peer reviewed internally and externally.

This CIFOR Occasional Paper presents research results on challenges experienced by proponents in their efforts to establish REDD+ subnational initiatives in Brazil, Peru, Cameroon, Tanzania, Indonesia, and Vietnam. On the basis of in-depth interviews with 23 organizations collaborating in CIFOR's Global Comparative Study on REDD+, it was found that the biggest challenges are tenure and the (currently) disadvantageous economics of REDD+. The study observes several patterns connected with these challenges. Performance-based conditional incentives are judged important but are not as central as once envisioned. Although most organizations are forging ahead with REDD+ in spite of the difficulties, some are drifting away from the label "REDD+." Most of the organizations rely heavily on "integrated conservation and development" as a mode of operation, which enables them to move forward in anticipation of more favorable conditions for REDD+, but raises questions about whether REDD+ will fulfill its promise as an innovative and more effective form of conservation. The study proposes some options for overcoming the main challenges, and observes that there are some grounds for hope that REDD+ can eventually turn the corner and fulfill its potential for greatly reducing deforestation and forest-based carbon emissions.

CGIAR RESEARCH PROGRAM ON Forests, Trees and Agroforestry

This research was carried out by CIFOR as part of the CGIAR Research Program on Forests, Trees and Agroforestry (CRP-FTA). This collaborative program aims to enhance the management and use of forests, agroforestry and tree genetic resources across the landscape from forests to farms. CIFOR leads CRP-FTA in partnership with Bioversity International, CATIE, CIRAD, the International Center for Tropical Agriculture and the World Agroforestry Centre.

cifor.org

ForestsClimateChange.org

Norad

Australian Aid

European Commission

UKaid from the British people

CGIAR Fund

CIFOR

Center for International Forestry Research (CIFOR)
CIFOR advances human well-being, environmental conservation and equity by conducting research to help shape policies and practices that affect forests in developing countries. CIFOR is a member of the CGIAR Consortium. Our headquarters are in Bogor, Indonesia, with offices in Asia, Africa and Latin America.

CGIAR