

CIFOR infobriefs provide concise, accurate, peer-reviewed information on current topics in forest research



No. 138, May 2016 DOI: 10.17528/cifor/006108 cifor.org

Results-based payments for REDD+

Lessons on finance, performance, and non-carbon benefits

Grace Wong^{1,2}, Arild Angelsen^{1,3}, Maria Brockhaus¹, Rachel Carmenta¹, Amy Duchelle¹, Stephen Leonard¹, Cecilia Luttrell¹, Christopher Martius¹ and Sven Wunder¹

Key messages

- Results-based finance is a cornerstone in the approach to REDD+, as outlined in the Paris Climate Agreement.
- Results-based finance will need to consider not only carbon/emissions-related payments but also incentives for intermediate outputs (such as policy performance) in order to effectively reduce deforestation and forest degradation.
- A major gap in the current guidance for REDD+ finance is a lack of clear, context-relevant criteria and metrics to help justify and mobilize payments.
- Negotiation and agreement on performance outputs and outcomes and their indicators are critical to ensuring national/local ownership and compliance.
- Understanding the variation in costs and who is bearing the different costs of REDD+ will be critical in setting payment levels that can incentivize both carbon-effective and equity outcomes.

A renewed focus on REDD+

Since 2005, an international policy framework has been in development to financially incentivize emissions reductions from deforestation and forest degradation and to conserve and enhance carbon sinks (REDD+). The framework was completed in 2015 and REDD+ became a central part of the Paris Agreement,⁴ which emerged from the 21st Conference of Parties (COP 21) in December 2015. A key element of the Agreement (Article 5):

Recognizes the importance of adequate and predictable financial resources, including for results-based payments, as appropriate, for the implementation of policy approaches and positive incentives for reducing emissions from deforestation and forest degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks; as well as alternative policy approaches, such as joint mitigation and adaptation approaches for the integral and sustainable management of forests; while reaffirming the *importance* of non-carbon

benefits associated with such approaches; encouraging the coordination of support from, inter alia, public and private, bilateral and multilateral sources, such as the Green Climate Fund, and alternative sources in accordance with relevant decisions by the Conference of the Parties. [emphasis added]

REDD+ financing (or the lack thereof) has dominated policy discussions at all levels (Sunderlin et al. 2014). The Green Climate Fund (GCF), a financial institution within the United Nations Framework Convention on Climate Change (UNFCCC), is designed to contribute to global climate change mitigation and adaptation efforts through mobilizing, and providing, financial resources to invest in low-emission, climate-resilient development plans. This finance will enable the implementation of the Nationally Determined Contributions (NDCs). The GCF is expected to provide important funding for REDD+. It was agreed at the 12th meeting of the GCF Board in March 2016 that it would operationalize the results-based payment aspect of REDD+ finance disbursement before the end of the year.⁵

Center for International Forestry Research, Bogor, Indonesia

Center for Southeast Asian Studies, Kyoto University, Kyoto, Japan

School of Economics and Business, Norwegian University of Life Sciences,

See Article 5 of the Paris Agreement, https://unfccc.int/resource/ docs/2015/cop21/eng/l09r01.pdf

⁵ http://www.greenclimate.fund/documents/20182/184476/ GCF_B.12_32_- _Decisions_of_the_Board___Twelfth_Meeting_ of_the_Board__8_10_March_2016.pdf/020edfa1-53b2-4abf-af78fccf5628db2a?version=1.0



Article 5 of the Paris Agreement raises three critical considerations in the design of results-based payments: structuring *adequate and predictable financing* in a way that fosters confidence in delivery of REDD+ results, including financing for REDD+ readiness and performance in *policy approaches and incentives* that are part of the piloting stages of REDD+ (or *ex ante* payments), and which can also motivate delivery of *noncarbon benefits* that are not required in the reporting of REDD+ results.

This brief draws on CIFOR's extensive climate change and REDD+ research⁶ to provide insights into these challenges and to inform the operationalization of results-based payment mechanisms in the GCF and other REDD+ financing institutions.

Key areas for REDD+ results-based finance to consider

Having tracked the evolution of REDD+ in over a decade of research, we draw lessons from this work to answer three sets of important questions related to results-based payments under REDD+:

- 1. What is adequate and predictable finance, and how can it be structured to effectively incentivize REDD+ results? In essence, what is the 'right' payment size for REDD+? Whose and which costs are considered when determining payment size? What is the appropriate timing and sequencing of payments?
- 2. What should qualify as *performance* in REDD+, given that the different phases of REDD+ implementation require different definitions of performance: installing institutional/technical infrastructure, policy change, equity and livelihoods outcomes, and reduced carbon emissions? How can performance and results be measured?
- 3. How can *non-carbon benefits* be integrated into a results-based payment mechanism? How can non-carbon benefits be safeguarded?

This brief does not claim to provide answers to all dimensions of the questions outlined above, the key objective here is to inform REDD+ decision makers and practitioners, as well as researchers, about critical issues and potential trade-offs when designing results-based finance instruments. We also highlight core areas where further guidance and clearer targets are required to manage these trade-offs.

1 How can adequate, predictable and effective REDD+ finance be achieved?

An important consideration for the GCF in the design on a results-based payment mechanism is related to the setting of payment levels and timing for release of payments. For the incentive to be truly effective for each recipient country, one has to understand the type, size and distribution of the costs of emissions reductions.

Variation in the opportunity costs of deforestation

On national policies, our research in Brazil has shown that command-and-control disincentives (forest law enforcement, protected areas, etc.) are the most cost-effective instrument for achieving the national REDD+ target of an 80% reduction in deforestation. However, an overemphasis on command and control transfers the burdens to private landowners who would incur over USD 1 billion annually in opportunity costs (Börner et al. 2015). This may not be politically feasible for Brazil over the long term when the costs are largely borne by a single group. Hence, integrating incentive policies such as payment for ecosystem services (PES) into the policy mix can make REDD+ strategies more equitable and, at least, partially compensate landowners for lost opportunities (Börner et al. 2014, 2015). As such, the level of what would be considered as adequate REDD+ payments will vary with opportunity costs at different locations, and thus will also result in potential trade-offs between cost efficiency and equity/human welfare objectives.

Hence, a key question relating to trade-offs between effectiveness, cost efficiency and equity for a financing body such as GCS: how much variation can be considered when setting payment levels, whether across or within countries? Setting a fixed price for reduced emissions, as the Norwegian Government has done in their performance-based REDD+ contracts with Brazil, Indonesia and Guyana, will likely focus emission reduction efforts in regions within the country where opportunity costs are low. Arguably, in many cases, this will be where forests are least threatened and have little additionality, unless efforts are coupled with effective threat-targeting mechanisms. This also relates to how reference levels are set. If set at a national level, similar across all locations, a payment mechanism will often go to areas not under threat, and thus have limited or no additionality. The problem of adverse selection bias is common in other voluntary results-based mechanisms such as PES or forest certification, as those with low or zero opportunity costs would likely have complied even without an incentive.

Understanding who is paying for the costs

In a survey of 22 subnational pilot REDD+ projects and programs in six countries (Sunderlin et al. 2014), we find that stakeholder institutions at the subnational level (as supposed to the project level) are highly involved in implementation of REDD+ and that there is a high level of subsidization particularly by subnational government institutions (Luttrell et al., in review). A total of 84% of stakeholder institutions

⁶ See e.g. Global Comparative Study on REDD+ (http://www.cifor.org/gcs/), REDD+ Benefit Sharing (http://www.cifor.org/redd-benefit-sharing/).

at the subnational level are incurring higher costs than the benefit they receive from the REDD+ initiative. Many of these costs are not financial.

In places where there is unclear tenure, there are barriers to recognition and compensation of costs. In the survey of subnational REDD+ pilot projects and programs (Sunderlin et al. 2014), we find that only 9 out of 21 sites have clear legal tenure and these are associated with land uses that have the highest financial opportunity cost. More predictably, the opportunity costs of the informal sectors and small-scale actors engaged in customary (though sometimes legally ambiguous) land uses are often not considered and thus not compensated for.

Timing and sequencing of payments

One important aspect is understanding the time profile of costs. In contrast to results-based approaches, lessons from our policy performance research (described in next section), on-the-ground Fairtrade and certification projects (Tjajadi et al. 2015) and the experience of PES (Loft et al. 2014) suggest that some level of upfront payment to cover some of the costs is important to incentivize participation, particularly of the poor. However, whether at the national or project level, payments in advance transfer the risk of non-performance to the buyer or donor. Conversely, payments based exclusively on *ex post* results might lead to high rates of non-participation, particularly for lower-income countries, or poor subnational regions or socioeconomic groups. This may be an issue where the financing institutions needs to weigh effectiveness objectives with those of widespread and equitable participation.

A mix of upfront and non-results-based finance will be required in some cases and this can provide positive signals of financing certainty and predictability (Angelsen 2013), with *ex post* payments upon delivery being perhaps the more significant portion of the financing (Loft et al. 2014). Having a payment mix will require clear performance criteria and credible reference levels (as discussed in next section), including clarity on such matters as definitions and assessments or measurements of performance (Brockhaus et al. 2016), as well as clear triggers for releasing the results-based payment.

Key issues when designing adequate, predictable and effective REDD+ finance:

- The devil is in the detail: understanding variation in costs and deforestation levels, and who is bearing the costs of REDD+, will be required for the design of a results-based payment that is effective, efficient and equitable.
- Timing is crucial: In ex ante payments for policy performance, developing a reporting schedule that enables payments based both on the time profile of costs and performance will be critical.

2 What should qualify as 'performance' in REDD+, and how can it be measured?

REDD+ performance or results are quite different in the different phases of REDD+ implementation. In this section, we examine REDD+ performance in the implementation phase of policy approaches for REDD+ and subnational pilot REDD+ projects and programs. Paying for policy performance requires that performance is clearly defined and their metrics are appropriate and measurable. Experiences from subnational pilot projects provide insights for the implementation of payment for emissions reductions.

Payment for performance in the implementation of policy approaches for REDD+

REDD+ was originally conceived as a PES-like concept for carbon emission reduction between countries, to be financed through global and national carbon markets and funds. It has since evolved into having a broader mandate (i.e. including policy reforms), with funding primarily from development aid budgets (Angelsen 2013). Conditional aid to induce policy change is not a new concept.

However, conditionality of REDD+ policies and measures may call for some new approaches. Savedoff (2016) argues that a cash-on-delivery model⁷ for REDD+ could increase cost efficiency, be more effective, and improve governance as recipient governments would realign behavior to achieve results - if the targeted outcomes are well-defined, agreed upon and adequately rewarded. Findings from a comparative policy study in 13 countries showed that the three countries with access to performance-based finance for REDD+ (combined with national ownership over the REDD+ process) tended to advance relatively more quickly in implementing policy reforms than the others (Brockhaus et al. 2016). However, the same study also found that overall progress with REDD+ was very slow, a tedious, sticky process. Hence, to realize intended behavioral changes within governance in the forest and land sector to reduce deforestation will require more than the promise of resultsbased finance. Research has also shown that established institutions with vested interests in deforestation that have benefited from existing institutional path dependencies will tend to resist change (Pierson 2000; Young 2010; Karsenty and Ongolo 2012). As Brockhaus et al. (2014) pointed out, implementing policy reforms that counter business-asusual (BAU) policies supporting deforestation and forest degradation involves some risks, for example: (i) increased resistance of powerful BAU interests can lead to serious conflicts, and harm governments' overall interests (e.g. tax revenues); (ii) development aspirations that build on forest exploitation and conversion to other uses can be seen

⁷ Under a cash-on-delivery model, a fixed payment is offered to recipient governments for each additional unit of progress toward a commonly agreed goal (Birdsall and Savedoff 2010). It is argued that such models may not only improve performance, but also increase transparency, national ownership, cost-effectiveness and accountability.

as threatened, especially if the alternative development policies are not clearly mapped out; (iii) changes in cross-sectoral coordination entails trial-and-error that can bring unexpected consequences and unintended side-effects, often affecting those who are already marginalized (Ostrom 1999).

Thus, a challenge for GCF and other institutions financing RBP is in identifying unambiguous performance indicators for policy or institutional reforms that are part of the REDD+ piloting activities. Lessons from the aid sector suggest that it is more difficult to measure improvements in governance than in infrastructure (Wertz-Kanounnikoff and McNeill 2012; Angelsen 2013). REDD+ is a combination of improving policies and governance to achieve emissions reductions. Wertz-Kanounnikoff and McNeill (2012) argue that good performance indicators for the REDD+ policy approaches in the readiness and implementation stages are needed, as they act as preconditions for cost-effective REDD+ outcomes; expert judgment will be needed in defining indicators. This is supported by findings from Brockhaus and Di Gregorio (2014) who analyzed cooperation patterns within domestic REDD+ policy arenas in six countries and find that to induce behavioral chance away from BAU, performance throughout the policy process needs to be rewarded. To identify appropriate performance measures, it is necessary to take into account (and incentivize) shifts in power structures in REDD+ policy domains over time. This requires the political process occurring during each of the three phases of REDD+ to be unpacked in terms of a detailed analysis of which issues are on the policy agenda at specific times, and of the influence, interests and relations of key policy actors" (Brockhaus and DiGregorio 2014:25).

A challenge with results-based finance is the question of who will bear the responsibility for under- or nonperformance. Achieving reduced emission results is influenced by a complex and varied set of political, socioeconomic and environmental factors (e.g. El Niñoinduced forest fires) including institutional bureaucracies, enabling conditions and opportunity costs (Angelsen 2013; Brockhaus et al. 2016). If countries are to bear the costs of implementing policy reforms, they may be unwilling to participate in REDD+ because of the risks that come with these, in part, non-controllable risks (Clist and Dercon 2014). However, large upfront investments (or ex ante payments) are a problem for the logic of results-based payment, which relies on the donor's credible leverage to reduce or withdraw payments when performace is not met. Assuming the full risk for non-delivery of reduced carbon emissions would miss out on the conceptual advantages of resultsbased payment.

Another challenge is in the setting of forest reference (emission) levels (FREL/FRL). The UNFCCC has invited countries to submit their national FREL/FRL, and, as of May

2016, 15 countries have done so⁸. These are subject to a technical assessment by UNFCCC. If these are to be used as the basis for result-based payments, strong incentives exist for countries to bias these reference levels upwards by selecting favorable historical reference periods, scopes of activities, forest definitions, inclusion of degradation or not. Currently, no independent review mechanism is in place to address these issues at the national level.

Without a system to manage risks related to a country's non-performance and bias in reference levels, particularly when there is investment in reform, disagreements may lead to what we call the 'politics of numbers', where a stalemate might occur with none of the involved parties moving forward.

Payment for REDD+ results: lessons from pilot subnational initiatives

Since 2007, hundreds of REDD+ pilot projects and programs have emerged across the tropics. Research on these initiatives has highlighted that in the majority of cases, results-based payments to local landholders have barely gained traction (Sills et al. 2014; Simonet et al. 2015), in part due to unstable REDD+ financing. In CIFOR's analysis of 23 initiatives across six countries, only four have sold carbon credits, with the remainder dependent on inconsistent public and philanthropic funding (Sunderlin et al. 2015).

The source of funding, however, does not solely determine the application of conditionality in payments on the ground. For instance, in the Jari/Amapá REDD+ project in Brazil, where carbon credits have been sold through the voluntary market since 2013, no conditional payments are made to local landholders (Cromberg et al. 2014). Furthermore, public funds can be performance-based, such as the KfW REDD+ Early Mover's Program that supports Acre's State System of Incentives for Environmental Services. While the government of Acre has experimented with conditional payments to farmers engaging in more sustainable agricultural practices, this is only one of many strategies for promoting low emissions development across the state (Duchelle et al. 2014). Given the limited funding for REDD+, converting forest to other land uses is still more profitable than conserving it.

While conditionalities (particularly when accompanied by monitoring and penalties for noncompliance) can demonstrate vastly improved outcomes, they do come with costs. Their feasibility depends on the capacity of countries to set and monitor conditions. The experience of conditional cash transfer programs suggests that complex eligibility criteria to address additionality and equity outcomes will often result in a trade-off with cost efficiency (Wong 2014).

⁸ http://redd.unfccc.int/fact-sheets/forest-reference-emission-levels.html, accessed on May 6, 2016.

Key issues when assessing and measuring performance in REDD+ for results-based finance:

- Incentivizing reform: There is still a long way to go to work out the details of result-based payments. Furthermore, results-based payments by themselves may be insufficient to drive needed policy and governance reforms for REDD+.
- Identifying indicators: Payments for policy performance will require negotiated and mutually agreed metrics or indicators that are context specific and relevant to the institutional-political process.
- Managing the politics of numbers: Reference levels are a particularly critical issue as they set the baseline for results-based payments. An independent review mechanism should be in place to avoid bias and ensure additionality.
- Security of funding: Without stable and sufficient funding, REDD+ cannot change the fundamental rationale of deforestation and land use at the local level, which is often more profitable than maintaining forests.

3 How can non-carbon benefits be integrated and safeguarded in a results-based payment mechanism?

Safeguard indicators and the need for counterfactuals

The UNFCCC COP16 in Cancun articulated seven safeguards for countries implementing REDD+ (Duchelle and Jagger 2014). These relate to governance, rights, participation, consent, environmental and social co-benefits, permanence and leakage. The intention is to ensure that REDD+ does not harm local people and the environment and to verify that new REDD+ institutions are complementary to existing environment and development policies. To be eligible for resultsbased compensation, REDD+ countries must develop national-level Safeguard Information Systems (SIS) to monitor and regularly report on the social and environmental impacts of REDD+ (Duchelle and Jagger 2014). Often, jurisdictions and projects engaged with multi- and bilateral donors and third-party certifiers may need to consider additional standards for demonstrating social and environmental performance, such as those of the World Bank Forest Carbon Partnership Fund, the UN-REDD Programme, the Climate Community and Biodiversity Alliance and the REDD+ Social and Environmental Standards Initiative. The multitude of safeguard requirements can mean that countries will choose the minimum safeguard requirements or

have generic indicators in the SIS to lower the costs of monitoring and reporting to access results-based payments (Menton et al. 2014).

Given the complexity of monitoring the social and environmental outcomes of REDD+, a key challenge is developing simple, yet adequate, methods and performance indicators that are appropriate to the scale of analysis (Duchelle et al. 2015). Social performance encompasses respect for knowledge and the rights of indigenous people and local communities; full and effective participation of local stakeholders; and enhancement of other social benefits. Environmental performance focuses on promoting biodiversity conservation and ecosystem services provision. Furthermore, while the notion of the counterfactual is intrinsic to carbon monitoring through reference level setting, there is little use of counterfactual scenarios that could provide stronger understanding of the social or other environmental outcomes related to REDD+ (Caplow et al. 2011). To select and monitor social and environmental performance indicators, countries can draw on existing national socioeconomic monitoring programs and leverage both secondary and primary datasets. The use of mixed methods at multiple scales can help provide a more accurate understanding of the results-based performance of REDD+, which could be misinterpreted through the use of one dataset or method alone (Jagger et al. 2010). As SIS are consolidated, there is clear opportunity for learning among REDD+ countries on the use of appropriate indicators, data collection methods and reporting frameworks for monitoring and evaluating the non-carbon performance of REDD+.

Safeguards also have a role in managing risks to enable REDD+ results. The legitimacy of REDD+ benefit-sharing arrangements, for example, can be compromised by the lack of broad consultation with local actors, including customary authorities, and can result in local conflicts that affect deforestation behavior (Kowler et al. 2014; Myers et al. 2015). While participation is part of the social safeguards, the indicators will need to be grounded in the local contexts to be relevant.

Learning from other experiences for REDD+ safeguard monitoring and verification: harmonizing standards and managing civil society engagement

An important part of the verification aspect of results-based payments is the grievance mechanisms within benefit sharing. How safeguards could act as effective reporting on grievance and conflict resolution will depend on how countries develop their criteria and indicators. The GCF and other financing instutions will need to consider its role in relation to the determination or verification of safeguards relative to disbursement of results-based payments, and the potential role of its own grievance mechanisms with regard to the different levels of dispute resolution and the legal capacity in different countries.

arief

The GCF could look to other approaches for resolution of issues. The Forest Carbon Partnership Facility (FCPF) Carbon Fund is one obvious example, however there are important differences between the FCPF and the GCF. For example, the FCPF purchases emissions reductions in the form of credits, some of which can be sold on a market, and accessing the carbon fund requires adherence to different safeguards, to those required by the UNFCCC. The GCF has adopted the International Finance Corporation's (IFC) Performance Standards (as opposed to safeguards) as an interim solution, which are different again. For example the IFC standard concerning free, prior and informed consent of indigenous peoples is to apply 'in certain circumstances', whereas the REDD+ Safeguard requires the full and effective participation of indigenous peoples and local communities. Further, the IFC interim standards provide no provision concerning permanence or leakage.

There are also lessons from the process of establishing Voluntary Partnership Agreements in the Forest Law Enforcement, Governance and Trade (FLEGT) mechanism, in particular relating to independent and formal civil society monitors and multi-stakeholder processes (Luttrell and Fripp 2015). By formalizing access to information and, hence, allowing for a broad review of performance, these processes can provide credibility by enhancing accountability and transparency. In this way, they increase commitment and confidence in the system.

Key issues for integrating and safeguarding non-carbon benefits within a results-based payment mechanism:

- Monitoring local realities: The establishment and reporting of SIS is one of the triggers for resultsbased payments: for safeguards to be effective in monitoring issues of social equity and environmental outcomes, use of mixed methods at multiple scales and indicators that are relevant to local realities will be needed.
- Managing risks: Safeguards not only support more equitable outcomes, they can also be structured to manage risks (such as the nonlegitimacy of participatory processes) to delivery of carbon emission reduction results.
- Learning from other experiences: Those that monitor and verify safeguards might be also exposed to risks, in particular, local civil society actors. Building on other experiences and indicators can help to identify and manage these risks.

Moving results-based financing forward

This brief has outlined several challenges to consider in the design of results-based financing for achieving effective, efficient and equitable outcomes. Existing research and experiences from related interventions, such as PES and FLEGT, provide valuable lessons. However, current guidance to respond to the wide variation and complexities between national contexts will require substantive fine-tuning of global indicators and criteria into adequate performance and results metrics that are grounded in realities, and the setting and reviewing of credible reference levels for setting and triggering payments. While this brief cannot provide such detailed guidance, we highlighted some core areas that require further action and outlined potential tradeoffs and ways to manage these. The parties involved, namely financing institutions such as the GCF, will have to find a balance between having global standards and cohesiveness and adequately addressing national-local complexity. It can do so by sending strong signals to its accredited institutions and partners to invest in understanding these complexities and building on datadriven solutions.

Acknowledgement

The authors gratefully acknowledge funding received from the European Commission, Norwegian Agency for Development Cooperation (Norad), the Australian Department of Foreign Affairs and Trade (DFAT), the International Climate Initiative (IKI) of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) and the CGIAR Research Program on Forests, Trees and Agroforestry (CRP-FTA) for supporting the research contained in this brief.

References

- Angelsen A. 2013. *REDD+ as performance-based aid:* general lessons and bilateral agreements of Norway. WIDER Working Paper No. 2013/135. Shibuya, Japan: United Nations University.
- Birdsall N and Savedoff WD. 2010. *Cash on Delivery: A New Approach to Foreign Aid*. Washington, DC: Center for Global Development.
- Börner J, Wunder S, Wertz-Kanounnikoff S and Hyman G. 2014. Forest law enforcement in the Brazilian Amazon: Costs and income effects. *Global Environmental Change* 29:294–305.
- Börner J, Marinho E and Wunder S. 2015. Mixing carrots and sticks to conserve forests in the Brazilian Amazon: A spatial probabilistic modeling approach. *PloS ONE* 10 (2):e0116846.

- Brockhaus M, Korhonen-Kurki K, Sehring J, Di Gregorio M, Assembe-Mvondo S, Babon A, Bekele M, Gebara MF, Kambire H, Kengoum F, Khatri DB, Kweka D, Menton M, Moeliono M, Paudel N, Pham TT, Resosudarmo IAP, Sitoe A, Wunder S, and Zida M. 2016. REDD+, transformational change and the promise of performance-based payments: A qualitative comparative analysis. *Climate Policy*, forthcoming.
- Brockhaus M and Di Gregorio M. 2014. National REDD+ policy networks: From cooperation to conflict. *Ecology* and Society 19(4):14.
- Brockhaus M, Di Gregorio M and Mardiah S. 2014. Governing the design of national REDD+: An analysis of the power of agency. *Forest Policy and Economics*.49:23–33.
- Caplow S, Jagger P, Lawlor K and Sills EO. 2011. Evaluating land use and livelihood impacts of early forest carbon projects: Lessons for learning about REDD+. *Environmental Science & Policy* 14:152–67.
- Clist P and Dercon S. 2014. *12 Principles for payment by results (PbR) in international development*. London: DflD. Accessed 12 May 2016. http://r4d.dfid.gov.uk/pdf/outputs/Misc_Infocomm/clist-dercon-PbR.pdf
- Cromberg M, Pereira MG and Caramez RB. 2014. Jari/ Amapá REDD+ Project, Brazil. *In* Sills EO, Atmadja SS, de Sassi C, Duchelle AE, Kweka DL, Resosudarmo IAP, Sunderlin W, eds. *REDD+ on the Ground: A Case Book of Subnational Initiatives Across the Globe*. CIFOR, Bogor, Indonesia. 86–105.
- Duchelle AE, Herold M, and de Sassi C. 2015. Monitoring REDD+ impacts: Cross-scale coordination and interdisciplinary integration. *In* Latawiec A and Agol D, eds. *Sustainability Indicators in Practice*. De Gruyter Open, Warsaw, Poland. 55–79.
- Duchelle AE and Jagger P. 2014. *Operationalizing REDD+* safeguards: Challenges and opportunities. Safeguards Brief no.1. Bogor, Indonesia: Center for International Forestry Research.
- Duchelle AE, Greenleaf M, Mello D, Gebara MF and Melo T. 2014. Acre's state system of incentives for environmental services (SISA), Brazil. *In* Sills EO, Atmadja SS, de Sassi C, Duchelle AE, Kweka DL, Resosudarmo IAP, Sunderlin W, eds. *REDD+ on the Ground: A Case Book of Subnational Initiatives Across the Globe.* CIFOR, Bogor, Indonesia. 68–85.
- Jagger P, Sills EO, Lawlor K and Sunderlin WD. 2010. A Guide to Learning about Livelihood Impacts of REDD+ Projects.

 CIFOR Occasional Paper 56. Bogor, Indonesia: Center for International Forestry Research.
- Karsenty A, and Ongolo S. 2012. Can 'fragile states' decide to reduce their deforestation? The inappropriate use of the theory of incentives with respect to the REDD mechanism. *Forest Policy and Economics* 18:38–45.

- Kowler L, Tovar J, Ravikumar A and Larson A. 2014. The legitimacy of multilevel governance structures for benefit sharing REDD+ and other low emissions options in Peru. CIFOR Info Brief 101. Bogor, Indonesia: Center for International Forestry Research.
- Loft L, Pham TT and Luttrell C. 2014. Lesson from payments for ecosystem services for REDD+ benefit-sharing mechanism. CIFOR Info Brief 68. Bogor, Indonesia: Center for International Forestry Research.
- Luttrell C and Fripp E. 2015. Lessons from voluntary partnership agreements for REDD+ benefit sharing. CIFOR Occasional Paper 134. Bogor, Indonesia: Center for International Forestry Research.
- Lutrell C, Sills EO, Aryani R, Ekaputri AD and Evinke MF. In review. Who will bear the cost of REDD+? Evidence from the incidence of implementation and opportunity costs in subnational REDD+ initiatives.
- Menton M, Ferguson C, Leimu-Brown R, Leonard S, Brockhaus M, Duchelle AE and Martius C. 2014. Further guidance for REDD+ safeguard information systems? An analysis of positions in the UNFCCC negotiations. CIFOR InfoBrief 99. Bogor, Indonesia: Center for International Forestry Research.
- Myers R, Ravikumar A and Larson A. 2015. *Benefit sharing in context: A comparative analysis of 10 landuse change case studies in Indonesia*. CIFOR Infobrief 118. Bogor, Indonesia: Center for International Forestry Research.
- Ostrom E. 1999. Coping with the tragedies of the commons. *Annual Review of Political Science* 2:493–535.
- Pierson P. 2000. Increasing returns, path dependence, and the study of politics. *American Political Science Review* 94(2):251–267.
- Savedoff WD. 2016. How the Green Climate Fund could promote REDD+ through a cash on delivery instrument: Issues and options. CGD Policy Paper 072. Washington DC: Center for Global Development.
- Sills EO, Atmadja SS, de Sassi C, Duchelle AE, Kweka DL, Resosudarmo IA and Sunderlin WD, eds. 2014. REDD+ on the Ground: A Case Book of Subnational Initiatives Across the Globe. Bogor, Indonesia: Center for International Forestry Research.
- Simonet G, Karsenty A, Newton P, de Perthuis C, Schaap B and Seyller C. 2015. REDD+ projects in 2014: an overview based on a new database and typology. Information and Debate Series No. 32. Paris: Paris-Dauphine University, Climate Economics Chair.
- Sunderlin WD, Sills EO, Duchelle AE, Ekaputri AD, Kweka D, Toniolo MA, Ball S, Doggart N, Pratama ED, Padilla JT, Enright A, Otsyina RM. 2015. REDD+ at a critical juncture: assessing the limits of polycentric governance for achieving climate change mitigation. *International Forestry Review* 17(4):400–413.



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

Tjajadi J, Yang A, Naito D and Arwida S. 2015. Lessons from environmental and social sustainability certification standards for equitable REDD+ benefitsharing mechanisms. CIFOR Infobrief 119. Bogor, Indonesia: Center for International Forestry Research. Wertz-Kanounnikoff S and McNeill D. 2012. Performance indicators and REDD+ implementation. In Angelsen A, Brockhaus M, Sunderlin WD, Verchot LV, eds. Analysing REDD. Bogor, Indonesia: Center for International Forestry Research. 233-246.

Wong G. 2014. The experience of conditional cash transfers: Lessons for REDD+ benefit sharing. CIFOR Infobrief 97. Bogor, Indonesia: Center for International Forestry Research.

Young OR. 2010. Institutional dynamics: Resilience, vulnerability and adaptation in environmental and resource regimes. Global Environmental Change 20(3):378-385.



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 blog.cifor.org



Center for International Forestry Research (CIFOR)



