

Chapter 6

Key Findings: The Evolving Role of REDD+ for Climate, Forests and People

Lead Authors: Stephanie Mansourian and John Parrotta

Contributing Authors: Emily Donegan, Valerie Kapos, Constance McDermott, Marieke Sandker, Bhaskar Vira, Nelson Grima and Christoph Wildburger

During the past ten years since the first GFEP assessment on REDD+ was published, much progress has been made in the development and implementation of REDD+ as a means to address the climate crisis. At the same time, there has been significant development and refinement of the evidence base needed to critically assess how REDD+ is being implemented, its potential and actual role in halting and reversing deforestation and forest degradation, as well as its implications for affected communities, conservation of biodiversity and enhancement of forest-related ecosystem services. This follow-up GFEP assessment by IUFRO comes at a pivotal time as several related international initiatives are gaining ground, notably the Glasgow Leaders' Declaration on Forests and Land use, the UN Decade on Ecosystem Restoration, the Convention on Biological Diversity (CBD) Global Biodiversity Framework, among others.

One major conclusion from this assessment is that while REDD+ has provided a convenient umbrella for many forest and land use related activities aimed at reducing deforestation and forest degradation – and associated greenhouse gas emissions – the complexities involved in the nexus between forests/land use and climate are profound. They touch squarely on political and governance issues at international, national and sub-national scales that remain to be resolved and require fundamental transformations.

Based on the extensive review of available evidence presented in Chapters 2 to 5 of this assessment, six key messages emerge.

1. Ongoing deforestation and forest degradation are altering the critical role of forests in the global carbon cycle

The role of forests in the global carbon cycle and in climate change is fundamental. Forests absorb approximately 11 GtCO₂/yr as they grow, which is as much as 29% of annual anthropogenic CO₂ emissions. Yet deforestation and forest degradation also result in significant emissions, estimated at 4.1± 2.6 GtCO₂/yr, or 10% of the annual anthropogenic CO₂ emissions. According to data compiled in FAO's Forest Resources Assessment 2020 (FRA 2020) report, an estimated 420 million hectares of forest were lost between 1990 and 2020, with more than 90% of this loss occurring in the tropics. Globally, although the rate of deforestation is slowing, we were still losing an estimated 10 million ha per year between 2015 and 2020. Forest degradation, which is harder to detect and measure than deforestation, is estimated to generate between 25% and >65% of total forest-related

emissions. FAO's FRA 2020 estimates that 34% of emissions in UNFCCC reference levels arise from forest degradation.

Estimates of the mitigation potential from reducing deforestation vary widely between 0.4 and 5.8 GtCO₂/yr. Recent research suggests that the capacity of existing forests to continue acting as a carbon sink is reaching saturation. Extreme weather events, fire, drought, and forest pest and disease outbreaks, exacerbated under climate change, will likely further erode forest area, and a tipping point may be reached beyond which forests will not recover and will instead become large sources of emissions.

Activities under REDD+ offer different potentials for reducing GHG emissions. In the short term (the next decade) conservation and sustainable management of forests are likely to be the most effective REDD+ activities for reducing emissions from the land use, land-use change and forestry (LULUCF) sector. The cost-effective mitigation potential of forest management alone has been estimated at 0.9 GtCO₂eq/yr, which is reduced to 0.6 GtCO₂eq/yr if developed (i.e., high income) countries are excluded from the estimate. In the longer term, afforestation/reforestation (A/R) activities are believed to offer the largest mitigation potential. The technical potential of A/R has been estimated at 8.5 GtCO₂eq/yr, while the practical cost-effective mitigation potential has been estimated to be much lower, approximately 1.2 GtCO₂eq/yr.

2. REDD+ governance is distributed across a complex landscape of institutions with different sources of authority and power dynamics that influence its outcomes

Ultimately, REDD+ governance determines its performance. Disparate actors situated at local, national and international scales create a complex web of interactions around REDD+, with those holding power frequently disconnected from those most dependent on forests. The resulting landscape of REDD+-related governance and finance has exposed the challenges inherent to land-based (or more specifically, forest-based) climate measures. At the international level, these include 'legitimacy', the overall architecture of REDD+ and 'carbon colonialism', with those holding power imposing forest management measures at national and sub-national levels that may not reflect local priorities. In contrast, at the national level, a pervasive and deep-rooted challenge is the lack of alignment across sectors (e.g., forest, agriculture, mining) that shape land-

scapes. Both local forest-dependent people and forests frequently suffer as a result of the contradictory policies influencing REDD+ implementation. A lack of transparency and accountability in relevant sectors exacerbate inequities and power imbalances.

States, finance and markets also influence the way in which REDD+ is implemented, with the relative power of each determining national and sub-national outcomes. The political ecology of REDD+ is shaped by ongoing friction between global, national and locally driven environment and development agendas, and between the need to rein in the global finance and commodities sectors (as drivers of deforestation) while also courting them as critical sources of REDD+ funding.

Attempts have been made to finance progress towards REDD+ objectives through various forms of supply chain governance that aim to provide financial incentives (e.g., individual and jurisdictional certification, 'deforestation-free' supply chains and 'green finance') or focus on sanctions and divestments from commodities tied to forest loss (e.g., through government mandated import restrictions and financial due diligence requirements). All of these initiatives are subject to tensions between more inclusive, participatory approaches to forest management (including REDD+) and the logic of market-based governance centred on commodification, standardisation and profit accumulation.

Multiple forest (and climate) schemes have emerged in the last ten years, leaving the boundaries between REDD+ and other initiatives more porous. Several of these initiatives, such as forest landscape restoration, potentially contribute to meeting REDD+ objectives but also exist outside of the REDD+ processes. Overlapping and disjointed actions and institutions around these initiatives add further complexity, and often generate confusion and uncertainty among key stakeholders.

3. REDD+ plays an important role in climate change mitigation, but this role is limited given the magnitude of the problem and actions required in other greenhouse gas emitting sectors

REDD+ is only a partial solution to forest loss and degradation, with fundamental drivers underlying greenhouse gas emissions remaining to be addressed. The Sixth IPCC report is unequivocal: climate change is already affecting every inhabited region across the globe with human influence contributing to many observed changes in weather and climate extremes. Given the magni-

tude and main sources of emissions, forests can only be one part of the solution. A focus on the emissions and forest-related mitigation actions in tropical countries addresses neither the principal sources of the problem nor those responsible. Instead, what is needed includes strengthening regulation of carbon-intensive industries and reducing emissions from the transport and energy sectors, among others.

Nonetheless, forests and actions under REDD+ have the potential to make significant contributions to reducing greenhouse gas emissions while addressing deforestation and forest degradation. Unfortunately, it is not yet possible to reach any firm conclusions regarding REDD+ impacts to date (or evaluate questions related to 'permanence' and 'leakage') given the limited information available from national reporting on REDD+ results, the relatively early stage of REDD+ implementation at sub-national levels, and the short period of time during which REDD+ activities have been implemented. Despite these limitations, indirect evidence suggests that deforestation is declining more in REDD+ than in eligible non-REDD+ countries. For example, based on information from FRA 2020 and the Tropical Moist Forest (TMF) dataset, 46–85% of REDD+-engaging countries reported a reduction in deforestation over the past decade, while only 16–33% of countries not engaging in REDD+ reported reductions. By 1 January 2022, 17 countries had reported a combined amount of 11.4 GtCO₂eq REDD+ results (i.e., increased emission reductions and removals relative to reference levels) achieved over the period 2006–2020, or an average of 0.8 GtCO₂eq/yr. The causal evidence between REDD+ and reduced deforestation, however, remains elusive at this stage due to both monitoring gaps and other complexities surrounding REDD+.

Where REDD+ interventions have been integrated with national development strategies and plans, this appears to have allowed for greater convergence of development finance and other resources towards addressing the ultimate drivers of deforestation and forest degradation. Such integration makes it more likely to secure lasting changes, avoid risks of leakage and secure additionality of REDD+ activities.

4. Safeguards to address the social and environmental outcomes of REDD+ are complex and have yet to be fully operationalised in REDD+ implementation, reporting and accountability

It is widely understood that REDD+ success and permanence of results are contingent on the par-



Sunset in the forests of Cambodia

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ticipation and support of local stakeholders who may be directly or indirectly affected, as well as on ensuring positive biodiversity and other environmental impacts of REDD+ activities. However, there is as yet limited direct evidence of the degree to which such social and environmental outcomes are being achieved.

Social and environmental safeguards were intended to ensure that outcomes beyond carbon were central to REDD+. To date, however, measuring implementation of safeguards has been limited, with no requirements concerning performance and outcomes. Complexity surrounding safeguards and proliferation of diverse standards, affect not only their implementation but also accountability in their application.

Thus far, the available evidence indicates that impacts of REDD+ interventions on biodiversity, as well as on livelihoods and other economic and social outcomes, are uneven and often highly context dependent. So far, positive impacts on biodiversity and ecosystem services from REDD+ actions have been assessed largely through their association with improved forest outcomes that increase extent, connectivity and function of key ecosystems and habitats. Such benefits can make important contributions to achieving policy and development objectives, including enhancing climate resilience of both ecosystems and people.

Evidence from social evaluations of REDD+ interventions indicates that, where direct and indirect benefits are clearly visible to local stakeholders, and have been delivered, community engagement is strong and projects have achieved positive carbon and social outcomes, at least in the short term. Such evidence, primarily from project level analyses, demonstrates the importance

of meaningful engagement of local stakeholders. Explicit attention to rights and tenure issues in REDD+ planning and implementation provides more transparent mechanisms for the reporting and monitoring of environmental and social co-benefits, as well as better, more equitable outcomes, particularly for more vulnerable communities. Conversely, lack of attention to rights and tenure concerns, unclear governance arrangements, unequal power relations and elite capture of benefits at local to national levels all contribute to adverse social and economic outcomes that can undermine realisation of the objectives of REDD+. Limited evidence of linkages between environmental and socio-economic outcomes of REDD+ relates in part to challenges around valuing and accounting for environmental and social benefits in monetary or even economic terms. Approaches such as natural capital and inclusive wealth accounting may help to bridge this evidence gap, by taking account of environmental services (and 'disservices') and their impacts on livelihoods.

5. Although technological improvements are supporting better quantification of forest and carbon changes, measurement, reporting and verification of both carbon and non-carbon outcomes need to be improved

Given the limited information available from national reporting on REDD+ results, and the short period of time during which REDD+ activities have been implemented, it is difficult to reach firm conclusions regarding the impacts of REDD+ to date.

Recent years have seen significant progress in the use of remote sensing to assess forest area change. Improvements are observed in data quality, availability and abundance. Yet, while forest cover change (deforestation) can be assessed through such remote imagery, degradation is much more difficult to monitor. Estimates of global emissions from forest degradation vary widely from 25% to over 65% of total forest-related emissions.

Persistent knowledge gaps hamper measurement, reporting and verification of carbon outcomes of REDD+. These include, among others, discrepancies between different datasets; lack of country-specific data; inadequate reporting on estimate uncertainty; insufficient resolution of satellite imagery to monitor forest degradation; lack of inclusion of other carbon pools such as deadwood or soil carbon; and the uncertainty surrounding the impact that climate change will have on forests and their carbon sink function.

At the same time, quantifying non-carbon benefits of REDD+ also faces monitoring limitations, hindering our ability to determine the degree to which non-carbon objectives are being met. For example, long-term biodiversity monitoring during REDD+ implementation is relatively rare while monitoring of social impacts tends to be project-based, at best. Frameworks for assessing, measuring, reporting and verifying non-carbon benefits remain underdeveloped, resulting in significant limitations for assessing these outcomes. Biodiversity and other environmental and social benefits of REDD+ interventions are mostly inferred by association with positive environmental values of the areas where REDD+ activity is taking place, rather than being explicitly monitored. Further, few studies involve comparative analyses of outcomes in areas that are not part of REDD+ interventions to determine REDD+ additionality.

Monitoring REDD+ non-carbon outcomes could be enhanced by drawing on (and strengthening) monitoring for other policy areas such as the implementation of National Biodiversity Strategies and Action Plans (NBSAPs) under the CBD. Cross-sectoral collaboration and cost sharing in monitoring environmental and social impacts of REDD+ can also help to keep overall monitoring costs to a minimum. Similarly, alignment of monitoring efforts with reporting requirements for other international processes, such as the CBD's

post-2020 Global Biodiversity Framework and the Sustainable Development Goals, can lower costs for national governments and other actors, and contribute to greater harmonisation of international efforts.

6. The recent proliferation of global commitments and initiatives aimed at halting and reversing deforestation and forest degradation is creating additional complexities and burdens, but also offers opportunities for synergies with REDD+

Interest in forests as a 'nature-based solution' has probably never been higher, with multiple initiatives aimed at conserving, sustainably managing and restoring forests. Such private and public initiatives contribute to REDD+ but also overlap with it, potentially creating additional demands on, and confusion among, national and sub-national stakeholders. For example, there has been growing interest in forest landscape restoration (FLR) since the launch of the Bonn Challenge in 2011. This approach to restoration could in principle contribute significantly to REDD+ but typically disparate initiatives are led by different groups, under different banners, with different partners and different funding sources. As a result, rather than aggregating under a common umbrella, they may lead to competition, confusion and added reporting burdens on local stakeholders.

At the same time, lessons from initiatives such as FLR may prove useful to REDD+ and vice versa. For example, issues such as tenure and rights are of direct relevance to both FLR and REDD+, and collaboration, cross-learning and the combining of resources and efforts to tackle such structural challenges could provide a constructive path forward.

A key focus of REDD+ is to move the scope of interventions beyond climate impacts towards an integrated view of climate-nature-livelihoods, recognising the overlapping risks associated with each of these domains, but also the positive synergies associated with joint action. Having raised expectations about the potential of interventions to deliver positive synergies across these multiple objectives, more even progress is essential to build the confidence of different sectors and stakeholders that will be necessary to achieve the overall objectives of REDD+.