Chapter 11

People and communities

Well-being impacts of REDD+ on the ground

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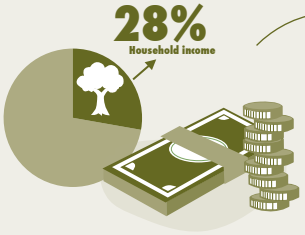
Key messages

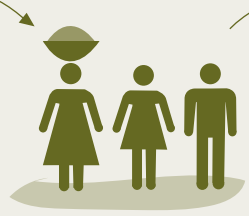
- Several studies on well-being outcomes of REDD+ interventions found small or mixed effects on livelihoods or welfare, which were more likely to be positive when incentives were offered.
- The slow pace of REDD+ implementation, and lack of robust studies quantifying both its forest/land-use and well-being outcomes, make it difficult to draw conclusions about trade-offs. But separate evidence on similar local-level PES initiatives points to challenges for designing REDD+ initiatives that are both effective at reducing forest carbon emissions and strongly pro-poor.
- Results that are more equitable and long-lasting are more likely when local people are genuinely involved in REDD+ programme design and implementation.

Well-being impacts of REDD+ in a nutshell

Tropical forests play a key role in meeting global climate and development objectives.



Natural forests and wildlands provide an average of 28% of total household income for communities in and around tropical forests – in the form of food, woodfuel and fibre for consumption and sale.



Given the importance of forests to local well-being, REDD+ must minimise risks to local people and produce livelihood benefits, to be effective and equitable.

Studies on well-being outcomes of REDD+ interventions found small or mixed effects on livelihoods or welfare, which were more likely to be positive when incentives were offered.

The lack of robust studies quantifying both forest/land-use and well-being outcomes makes it difficult to draw conclusions about trade-offs.

Separate evidence on PES points to challenges in designing REDD+ initiatives that both reduce emissions and are strongly pro-poor.

Meaningful participation in the design and rollout of interventions – as a way to achieve more equitable and lasting results – is still a frontier for REDD+.

11.1 Introduction

Halting deforestation, along with other 'natural climate solutions' such as restoring degraded lands, could provide at least 37% of the cost-effective emissions mitigation needed by 2030 to meet the Paris Agreement goal of keeping global warming below 2°C (Griscom *et al.* 2017). And natural forests and wildlands provide an average of 28% of total household income for communities in and around tropical forests, in the form of food, woodfuel and fibre for consumption and sale – almost as much as agricultural crops (Angelsen *et al.* 2014). Given the importance of forests to local well-being, it is widely accepted that REDD+ must minimise risks to local people and produce livelihood benefits, to be both effective and equitable (Brown *et al.* 2008; Agrawal *et al.* 2011). At a minimum, REDD+ and other forest-based mitigation efforts should not harm local people, but they can also go further towards being pro-poor (Campbell 2009).

The UNFCCC REDD+ social and environmental safeguards – which include respect for the rights of indigenous peoples and local communities, effective participation in REDD+ design and implementation, and promotion of social co-benefits – demonstrate international policy consensus around the need to protect and strengthen local rights and livelihoods as part of climate action (UNFCCC 2011). Although REDD+ safeguards are designed for national-level REDD+ programmes, we can glean early lessons on the potential well-being benefits and risks of REDD+ interventions from on-the-ground experiences. Of the more than 350 REDD+ projects and programmes being implemented across the tropics as of May 2018, nearly half had attained third-party certification (e.g., Climate, Community & Biodiversity Alliance, Plan Vivo) (Simonet *et al.* 2018a), which requires – but does not necessarily guarantee – adherence to social and environmental safeguards.

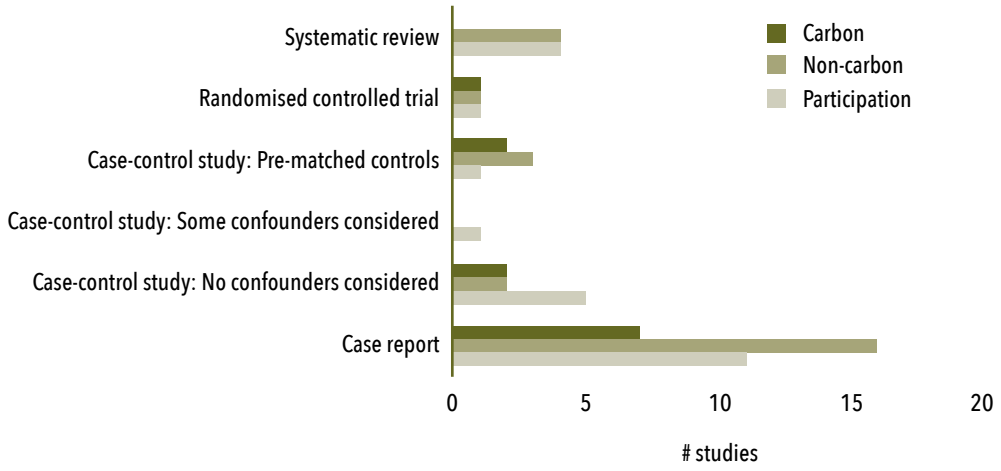


Figure 11.1 Studies (*ex post*) of REDD+ impacts on participation and non-carbon (mostly well-being) outcomes

Source: Adapted from Duchelle *et al.* (2018b)

Given global attention to the potential social risks of REDD+, most of the recent REDD+ impact studies – although still scarce – focus on well-being outcomes, rather than on forest/land-use outcomes (Duchelle *et al.* 2018b; Figure 11.1). This chapter summarises what is known about how REDD+ interventions and related payments for environmental services (PES) can affect local well-being.

11.2 Expected impacts from REDD+ interventions

Although there are many possible frameworks for conceptualising and measuring well-being, the common impacts assessed in recent REDD+ literature are income or livelihoods, project costs, perceived well-being, distributive equity and social capital (Duchelle *et al.* 2018b; Figure 11.2). Beyond these, REDD+ can also affect land tenure security (Chapter 8), local capacities, institutions and networks. Given the variety of possible social impacts, it is important to understand what REDD+ implementers set out to achieve, and through which types of interventions.

Typically, a bundle of interventions is applied at REDD+ sites, including enabling measures, disincentives, and conditional and non-conditional livelihood enhancements (Sunderlin *et al.* 2015; Figure 11.2). Enabling measures include ensuring free, prior, informed consent (FPIC), engaging local people in REDD+ design, and clarifying land tenure, which can help set the stage for forest protection.

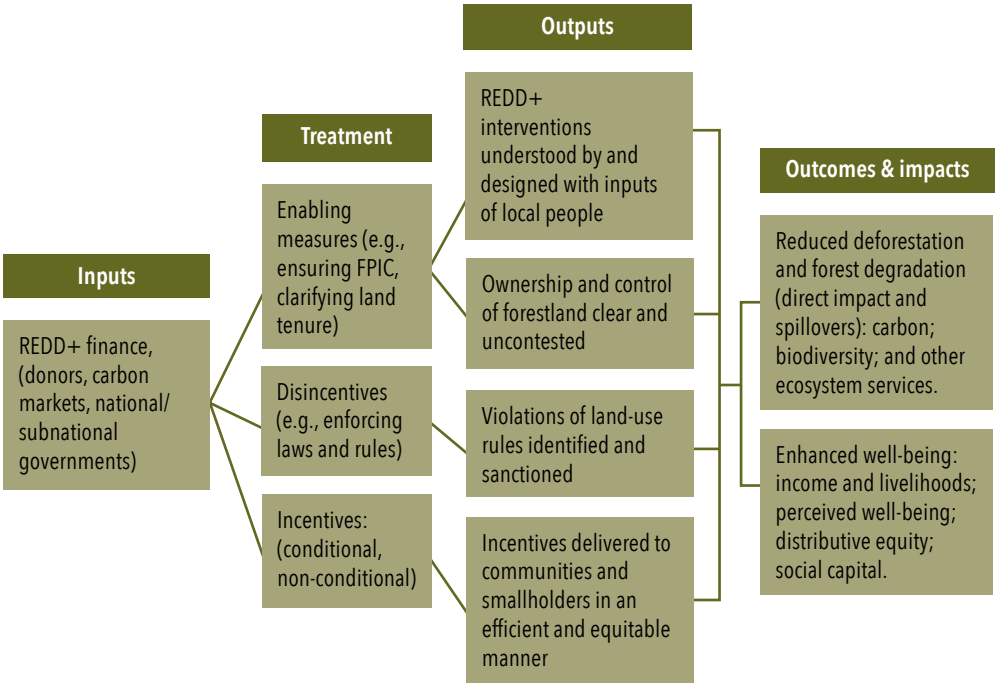


Figure 11.2 Theory of change for positive outputs and outcomes in local REDD+ initiatives

Disincentives include regulation and enforcement of restrictions in access to, or conversion of, forests. In theory, violations of forest and land-use rules should be identified and sanctioned through effective monitoring and enforcement by village associations and governmental agencies, and thus protect forests. Conditional incentives like PES require participants to protect or improve local forests in exchange for benefits. Non-conditional livelihood support does not, in direct exchange, require local stakeholders to alter their forest-use behaviour, but aims to promote forest conservation by investing in productive alternatives (e.g., more sustainable agricultural practices). To deliver maximum well-being benefits, conditional and/or non-conditional livelihood enhancements should be distributed equitably. Specifically, a substantial proportion of households – and not just the village elites – should receive these interventions, and local perceptions of equity (i.e., perceived fairness of benefits) should be taken into account (Loft *et al*. 2017a).

Box 11.1 Pan-tropical analysis of REDD+ income impacts

In addition to potential adverse effects on local welfare, the risks of REDD+ exacerbating existing inequality within communities – with elites absorbing a disproportionate share of the benefits – are well-recognised (Ghazoul *et al.* 2010; Andersson *et al.* 2018). To understand the effects of REDD+ interventions on income and inequality, detailed income data (all cash and subsistence sources, following Angelsen *et al.* 2014) were collected for over 4,000 households in 150 villages at 16 REDD+ sites in 6 countries in 2010/2011 and 2013/2014, using a before-after-control-intervention (BACI) study design. Treated and control villages were reasonably well balanced at baseline (Sills *et al.* 2017), but we used matching combined with difference-in-difference analysis to maximise accuracy in the comparison of intervention against control groups.

Overall, we observed an increase in income over time at sites in Indonesia and Brazil, a decrease at sites in Cameroon and Peru, and no change at sites in Vietnam and Tanzania. REDD+ had no effect on these trends in the pooled global sample or at the country level except for Cameroon, where REDD+ led to decreased income, primarily due to its effect on households in one site (Figure 11.3). Indeed, site-level results were extremely heterogeneous. For instance, income change (both decreases and increases) at some sites exceeded 25–30%, highlighting the dynamism of local livelihoods in places where REDD+ is operating. At the site in Cameroon where REDD+ resulted in lower household income, the decrease was concentrated in the two highest quintiles, while the poorest quintiles became marginally better off over time. So, on one hand REDD+ reduced average household income at this site, but it protected the poor and arguably reduced inequality. At one site in Tanzania, while there was no overall income effect from REDD+, we found similar effects among quintiles as in the case above: the rich were negatively affected by REDD+, the middle quintiles were unaffected, and the poorest quintiles were marginally better off.

While these cases reduced inequality, it came at the cost of wealthiest households, which lost substantial income. At one site in Peru, while the income decrease and existing inequality were not caused by REDD+, it failed to buffer negative trends or protect the poor. Similarly, at several sites in Brazil and Indonesia, with generally increasing income in both treatment and control areas, REDD+ did not affect underlying trends; thus in many cases it failed to tackle increasing inequality, but did not exacerbate it. These results demonstrate the importance of understanding heterogeneity both across and within sites, in order to judge whether and how social safeguards are being met.

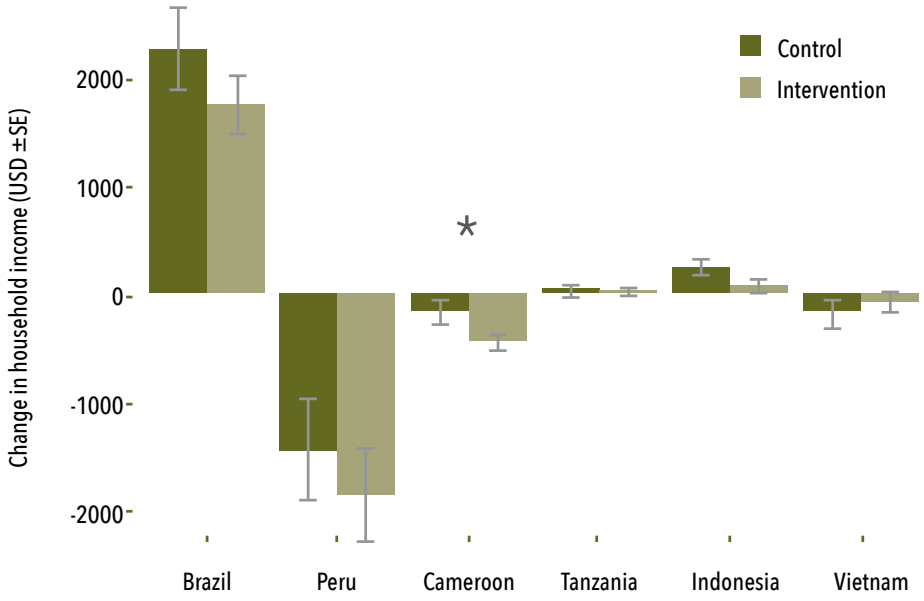


Figure 11.3 Change in household income after REDD+ initiatives were introduced (intervention) and in non-REDD+ (control) areas

Note: * denotes a significant difference ($p<0.05$)

Since an important focus of REDD+ is to restrict or replace forest-damaging activities, local people are likely to incur opportunity costs (Rakatama *et al.* 2017). Yet they may also benefit from forest protection interventions, especially when the damaging activities are caused by outsiders (Clements *et al.* 2014). In addition, REDD+ implementers may err on the side of caution by intentionally overcompensating for local opportunity costs, which are difficult to quantify, so that participating communities experience some net welfare gains. These benefits may take time to materialise, however, as new activities start to pay off. One challenge is that the costs of forest conservation may be felt most strongly by certain groups; for instance, sometimes the poorest are the most dependent on clearing forest and are thus most heavily affected by conservation restrictions (Poudyal *et al.* 2018). There is also increasing evidence of elite capture in benefit distribution from REDD+ schemes (Poudyal *et al.* 2016). At the same time, wealthier households often glean more absolute benefits from forests, meaning they would need higher compensation for foregone forest uses than poorer households (Ickowitz *et al.* 2017). In general, voluntarily participating smallholders and communities could still see net declines in their incomes if they underestimate the opportunity costs of conservation or expect to derive non-income gains from REDD+ participation (e.g., attracting development donors).

11.3 Evidence reveals nascent forest and well-being impacts

Recent *ex-post* studies of REDD+ interventions on the ground highlight small or mixed well-being results, which are more likely to be positive when incentives are part of the offered intervention mix (Duchelle *et al*. 2018b). One collection of studies from 23 REDD+ sites in 6 countries, which are part of CIFOR's Global Comparative Study on REDD+ and based on a before-after-control-intervention (BACI) approach, analysed early impacts of REDD+ interventions in 150 communities and nearly 4,000 households (Sills *et al*. 2014). Results showed that REDD+ had minimal impact on household and village-level perceptions of well-being, as well as on income sufficiency (Sunderlin *et al*. 2017). An analysis of REDD+ impacts on household incomes found that welfare improvements also remain elusive (Box 11.1). It is clear, however, that women's well-being may be affected more adversely by REDD+ than men's if gender aspects are ignored in intervention design (Box 11.2).

In terms of potential trade-offs between conservation and well-being, impacts on forests at these sites have also been minimal: there was a reduction in tree cover loss at the village level in about half of the REDD+ sites studied, and no effect in a third of sites when compared to control areas (Bos *et al*. 2017; Chapter 10). Looking more closely at the types of REDD+ interventions applied at these sites, restrictions were most effective at curbing reported forest clearing. However, they negatively affected local perceptions of well-being; adding livelihood enhancements cushioned these negative effects, helping alleviate the burden of land-use restrictions, which highlights the importance of incentives in the offered intervention mix (Duchelle *et al*. 2017; Figure 11.2).

Other studies have focused on negative well-being effects of REDD+. Jagger and Rana (2017) demonstrate the use of secondary, publicly available data to evaluate the impacts of REDD+. They found some evidence of potential negative impacts on human welfare at 18 REDD+ project sites in Indonesia, but point out the challenges with interpreting such evidence. For example, they found that REDD+ increased the number of government issued certificates verifying that households are poor. This could indicate increased poverty, or increased awareness of rights and possibilities of accessing services for the poor, in REDD+ villages. Case study results from Nigeria and Vietnam reported that forest-clearing restrictions compromised agricultural livelihoods (Asiyanbi 2016; McElwee *et al*. 2017). A case study from Indonesia argued that alternative livelihood strategies proposed by the project implementer did not make sense for the local context (Lounela 2015). At a REDD+ site in Tanzania, new strategies introduced by project implementers were not considered financially viable for local people (Svarstad and Benjaminsen 2017), nor did they create long-term livelihood opportunities (Lund *et al*. 2017). In-depth studies of a REDD+ pilot project in Madagascar showed substantial uncompensated costs, which were felt especially strongly by the poorest (Poudyal *et al*. 2016, 2018). At another site in Kenya, while REDD+ positively impacted local

assets, focus groups revealed that these benefits did not match local expectations or compensate for the opportunity costs of restricting forest use (Atela *et al.* 2015a). Indeed the failure of many REDD+ projects to deliver local benefits – including prospects of substantial cash transfers that never materialised due to the lack of predictable finance – led to local frustrations with and scepticism about REDD+ (Angelsen and Vatn 2016; Milne *et al.* 2018).

While REDD+ was initially conceived as a multi-level PES scheme (Angelsen 2014), only a few initiatives have actually offered conditional payments to local households (Sunderlin *et al.* 2015). Therefore, we have turned to other types of PES for lessons on how conditional REDD+ incentives could affect local well-being. A recent systematic literature review found that contracted environmental service providers (those who receive the payments) typically do obtain higher incomes as a result of participating in PES, but there is little available evidence on non-monetary impacts (Blundo-Canto *et al.* 2018). Jayachandran *et al.* (2017) demonstrated the potential of PES under ideal conditions (i.e., careful implementation in the context of high deforestation and low opportunity costs), showing that it can reduce deforestation without imposing a welfare cost on local forest users. Yet there is also evidence that PES is less accessible to credit-constrained households at the

Box 11.2 Gendered impacts of REDD+ on perceived well-being

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We used the BACI method discussed in Box 11.1 to analyse changes in perceived well-being over time in REDD+ and non-REDD+ villages. The results were compared between focus groups with mixed participants (68% male on average) and with women only, and the focus groups elaborated their own definitions of well-being. For the analysis, each village was classified as having overall positive, negative or no movement in well-being between the two phases of research; for example, even if focus groups reported improved well-being for some members of the group in Phase 2 (2013–2014), the change was noted as 'negative' if this was true for a smaller portion than in Phase 1 (2010–2011). Overall, the results showed a net drop in perceived well-being for both women and the village as a whole in REDD+ sites, and no change (for women) or positive change (for the village as a whole) in the control group. A regression model found declines in well-being for women to be significantly associated with being in a REDD+ village.

These results are somewhat puzzling: when women rated specific REDD+ related interventions in their villages, 46% of the interventions were seen to have a positive effect and only 7% a negative one. Unrealised expectations may explain some of the results, as well as the many specific and varied factors that affect overall well-being (such as illness). Women's responses suggest that well-being is more likely to improve if interventions specifically support women's employment, economic conditions and empowerment. The overall analysis points to better results for women's well-being if women are fully engaged in design, implementation and decision-making, and when explicit strategies are included to address their priorities (Larson *et al.* 2018).

same site (Jayachandran 2013). In another recent review of the literature, Alix-Garcia and Wolff (2014) concluded that PES has led to long-term investments (e.g., in schooling and off-farm labour) but not to any short-term increase in assets, based on quasi-experimental evaluations in China and Mexico. Another study showed that PES had reduced poverty in Mexico, but most significantly where the risk of deforestation was low, suggesting a trade-off between targeting for forest conservation versus poverty alleviation (Alix-Garcia *et al.* 2015). In sum, the literature on PES finds that there is often little effect – but certainly no negative effect – on the well-being of participants. This suggests that direct conditional payments by REDD+, at least under a voluntary system, are likely to be consistent with the objective of 'do no harm'. At the same time, the evidence on PES points to key challenges in designing REDD+ initiatives that are both effective at reducing forest carbon emissions and strongly pro-poor, contradicting the theoretical win-win outcomes presented in Figure 11.2.

The lack of robust studies on forest/land-use outcomes in the REDD+ literature (Chapter 10) also makes it difficult to draw general conclusions about carbon versus well-being trade-offs. At sites where there are at least some positive forest outcomes, albeit small or insignificant well-being effects (e.g., those analysed in CIFOR's Global Comparative Study on REDD+), the results could be interpreted as successful 'do no harm' REDD+. At others, there are clear trade-offs between effectively reducing forest clearing and improving well-being, if livelihood enhancements are not included in the mix (e.g., at Brazilian sites in Duchelle *et al.* 2017). Finally, in the absence of reduced deforestation and degradation, REDD+ interventions may still lead to local welfare gains – possibly because livelihood objectives have a stronger weight in the initiative's design (Börner *et al.* 2013).

11.4 Despite efforts, local participation remains limited and uneven

To maximise both positive forest and well-being outcomes, there are strong arguments for involving farmers, smallholders and communities – in a meaningful way – in the design of REDD+ interventions, particularly those that affect their livelihoods (Duchelle *et al.* 2017; Myers *et al.* 2018). Although the primary purpose of REDD+ (climate change mitigation) is globally defined and thus transcends local interests, local people often know best how to effectively realise forest-based mitigation options while minimising costs. Inclusive participation in the setting and modification of rules for resource management is one of Ostrom's core design principles for successful governance of the commons (Ostrom 1990). Further, from the perspective of social justice, participation matters as an end in-and-of itself (Fraser 2009). While REDD+ safeguards should help ensure stakeholder consultation and free, prior, informed consent (FPIC), as well as promote effective participation in REDD+ design and implementation, most implementers do not yet seem to be fully capturing the alleged benefits of local decision-making and input.

FPIC is a minimum ethical requirement for REDD+. It begins with effective information sharing about REDD+ initiatives with local stakeholders, as a key enabling measure (Figure 11.2). While multiple countries have seen progress on developing policies and processes for FPIC in REDD+ (Jagger *et al.* 2014), in places where indigenous peoples' rights are politically sensitive, such as Vietnam, FPIC may be more challenging to implement (Pham *et al.* 2015). Moreover, implementers of local REDD+ initiatives have faced difficulties in securing the resources (financial and time) needed to carry out comprehensive FPIC processes on the ground, and to ensure local people have a clear understanding of REDD+ – a concept that is still evolving (Jagger *et al.* 2014). Given such challenges, a plethora of recent studies has highlighted limited awareness of local REDD+ projects among affected communities (e.g., Bayrak and Marafa 2016; Saeed *et al.* 2017; Milne *et al.* 2018). Case reports from Guyana (Airey and Krause 2017), Indonesia (Harada *et al.* 2015), Tanzania (Scheba and Rakotonarivo 2016; Khatun *et al.* 2017), and in REDD+ sites across five countries (Larson *et al.* 2015) found that despite a focus on information sharing, awareness was uneven among locals, with women and poorer villagers being least informed about project activities. In addition, different approaches to FPIC, the quality of facilitators, and consultation venues all influence its effectiveness. FPIC is often carried out in a very rushed manner due to time constraints and pressure from donors, but comprehensive consultation takes time (Pham *et al.* 2015).

Beyond FPIC, there are opportunities to involve local communities directly in the design and implementation of REDD+ initiatives. Although many REDD+ implementers find it challenging and costly to do more than passive consultation, there are clear examples of more meaningful participation. In a REDD+ project in Kenya, villagers were more involved in decision-making than in integrated conservation and development projects (ICDPs) in the same area, likely due to REDD+ implementers' attention to safeguards (Atela *et al.* 2015b). At the same site in Kenya, and at another in Nepal, the studied REDD+ initiatives also enhanced the participation of women in village-decision making (Kariuki and Birner 2016; Sharma *et al.* 2017). And case studies from REDD+ sites in Indonesia and Brazil highlighted how local engagement in REDD+ project activities increased social learning and trust among villagers (Mulyani and Jepson 2015; West 2016).

11.5 Lessons and ways forward

Lessons on the local well-being effects of early REDD+ initiatives can inform the design and implementation of future forest-based climate change mitigation policies and programmes at jurisdictional scales. Although the aim of REDD+ is to protect and enhance forests, there are legal, moral and practical reasons for making sure that this objective is achieved while at a minimum not harming, and ideally ensuring benefits for, local people.

This chapter highlights the challenges of promoting social benefits in complex local contexts, given the varying impacts of REDD+ interventions on heterogeneous local populations, including across income groups and between men and women in the same community. Findings also show that, in many places, impacts on both forests and well-being have remained incipient. The lack of results reflects both the slow implementation of REDD+ and low financial flows, which have limited the intensity of action on the ground. Conditional payments can be effective in reducing deforestation, and this is likely to be consistent with the 'do no harm' objective of REDD+. But the anticipated win-win outcomes of forest protection and enhanced well-being through PES may still be elusive.

Finally, interventions designed with local people, and based on their perceptions of equity, will likely be better adapted to local realities and have greater legitimacy (Wong *et al.* 2017). It appears that REDD+ implementers are, typically, attentive to some degree of local participation, and that the principles of social safeguards are being integrated in the early design of REDD+ projects – arguably more so than in many traditional conservation projects (Jagger *et al.* 2014). However, meaningful participation in the design and rollout of interventions still represents a challenge for REDD+. It is clear that local participation in REDD+ could be enhanced, both through better FPIC, and through engagement with local communities as right-holders and not just as project beneficiaries (Chapter 8). Such engagement, despite the costs, could help capture the potential complementarities between forest conservation and local well-being, leading to better climate and development outcomes over the long term.