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No. 365, July 2022 | Translation of No. 364 DOI: 10.17528/cifor/008599 | cifor-icraf.org

Lessons from early REDD+ initiatives to inform effective and equitable carbon mitigation efforts in Peru

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Key messages

- The experiences of subnational REDD+ initiatives in the Peruvian Amazon provide valuable lessons for the design and implementation of national greenhouse gas mitigation efforts.
- We identify lessons that could contribute to enhancing the effectiveness and equity of some of the greenhouse gas mitigation measures adopted by Peru under its Nationally Determined Contributions.
- We highlight the importance of spatial targeting, customised rewards and conditionality of rewards to contribute to achieving more effective results in REDD+ initiatives.
- Mechanisms to ensure transparency, participation and accountability are also key to implementing equitable and sustainable carbon mitigation initiatives.

Introduction

More than half of greenhouse gases (GHG) emitted in Peru come from the expansion or establishment of new agricultural areas (MINAM, 2021). During the update of its Nationally Determined Contributions (NDCs) to the Paris Agreement, Peru set a target to unconditionally reduce its GHG emissions by 30% by 2030 and by an additional 10% (i.e. up to 40%) conditional on international financing (Peru, 2020). In order to meet the country's climate commitments, it is therefore necessary to implement Reducing Emissions from Deforestation and Forest Degradation (REDD+) initiatives that guarantee effective and equitable results.

The Peruvian government has identified eight REDD+ actions to meet its NDCs (MINAM, 2020): 1) deforestation-free sustainable agricultural production; 2) sustainable forest management; 3) mitigation and adaptation activities in indigenous, Andean and coastal communities; 4) community forest management; 5) forest conservation in native and peasant communities; 6) titling, oversight and governance in native and peasant communities, with community monitoring; 7) strengthening of conservation areas; and 8) afforestation, reforestation and restoration. While this is an important step forward, uncertainty still surrounds the strategies that will be taken to ensure that these actions are widely adopted, these actions' true potential to reduce deforestation and forest degradation throughout the country and the possible impacts on the wellbeing of stakeholders, particularly those whose livelihoods are linked to forest resources.

Some 35 early REDD+ initiatives have been implemented in the Peruvian Amazon since 2008 (Simonet et al., 2018). At its original conception, REDD+ was designed to serve as a mechanism to offset the costs of conserving and/or sustainably managing forests. However, the mechanism has evolved over the years into a platform that seeks to address multiple social and environmental objectives simultaneously (Angelsen, 2017). In this regard, knowing the true impacts of REDD+ initiatives is useful for multiple actors, such as donors, implementers, participants, governments and others. Given the current climate emergency, this knowledge is urgently needed to design and implement more effective and equitable mitigation strategies.

In this document we condense the findings of the evaluation of two subnational projects in the Madre de Dios and Ucayali regions of the Peruvian Amazon that were included as part of the Global Comparative Study on REDD+ (GCS REDD+), led by the Center for International Forestry Research (CIFOR). Since its launch in 2009, the GCS REDD+ has collected evidence on REDD+ design and implementation in 22 tropical countries, including Peru.

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One of the most innovative aspects of this study has been the application of quasi-experimental methods (for more details see Sills et al., 2017) to evaluate the environmental and socioeconomic impacts attributable to the subnational REDD+ initiatives considered in the study.

Initiatives evaluated by the CIFOR GCS REDD+

The two initiatives evaluated over more than 10 years by the GCS REDD+ are those involving the Brazil nut concessions in Madre de Dios and the project implemented in seven native communities in Ucayali, both located in the Peruvian Amazon (Figure 1) and presented in more detail below.

The Madre de Dios REDD+ initiative

The scope of the Madre de Dios REDD+ initiative overlaps to Brazil nut concessions granted by the Peruvian state since 2002. Launched in 2009, this initiative has been implemented by Bosques Amazónicos SAC (BAM) and the Federación de Productores de Castaña de Madre de Dios (Federation of Brazil Nut Producers in Madre de Dios, Feprocam) (Garrish et al., 2014). Some 400 concession operators voluntarily participating in this project have committed to *"reducing deforestation in the forests and the Madre de Dios Brazil nut concessions and protecting existing biodiversity"* (BAM, 2014) for a 31-year period. In exchange for this commitment, concession operators receive technical and legal assistance for the formalities involved in harvesting timber and nontimber forest resources in their concessions, loans to cover the costs of participating in the REDD+ mechanism, construction of at least one Brazil nut processing plant and direct payment of 30% of the actual sales on voluntary carbon markets. However, some of these promises, such as the construction of Brazil nut processing plants and the direct payment of the percentage of carbon sales, have not yet been fulfilled. As a result of its incomplete implementation, a recent study by Montoya-Zumaeta et al. (2022) shows that the project's impacts on deforestation and forest degradation in the participating concessions are not significant. According to the study, these findings can also be extended to the initiative's effects on income from the sale of forest products by participating households, at least for the period from 2012 to 2018.

The study authors discuss the multiple reasons for the initiative's lack of significant impacts. For example, the project was implemented in an area with a low annual rate of forest cover loss (0.0046% for the period 2005-2011), a factor that could explain the project's low impacts.

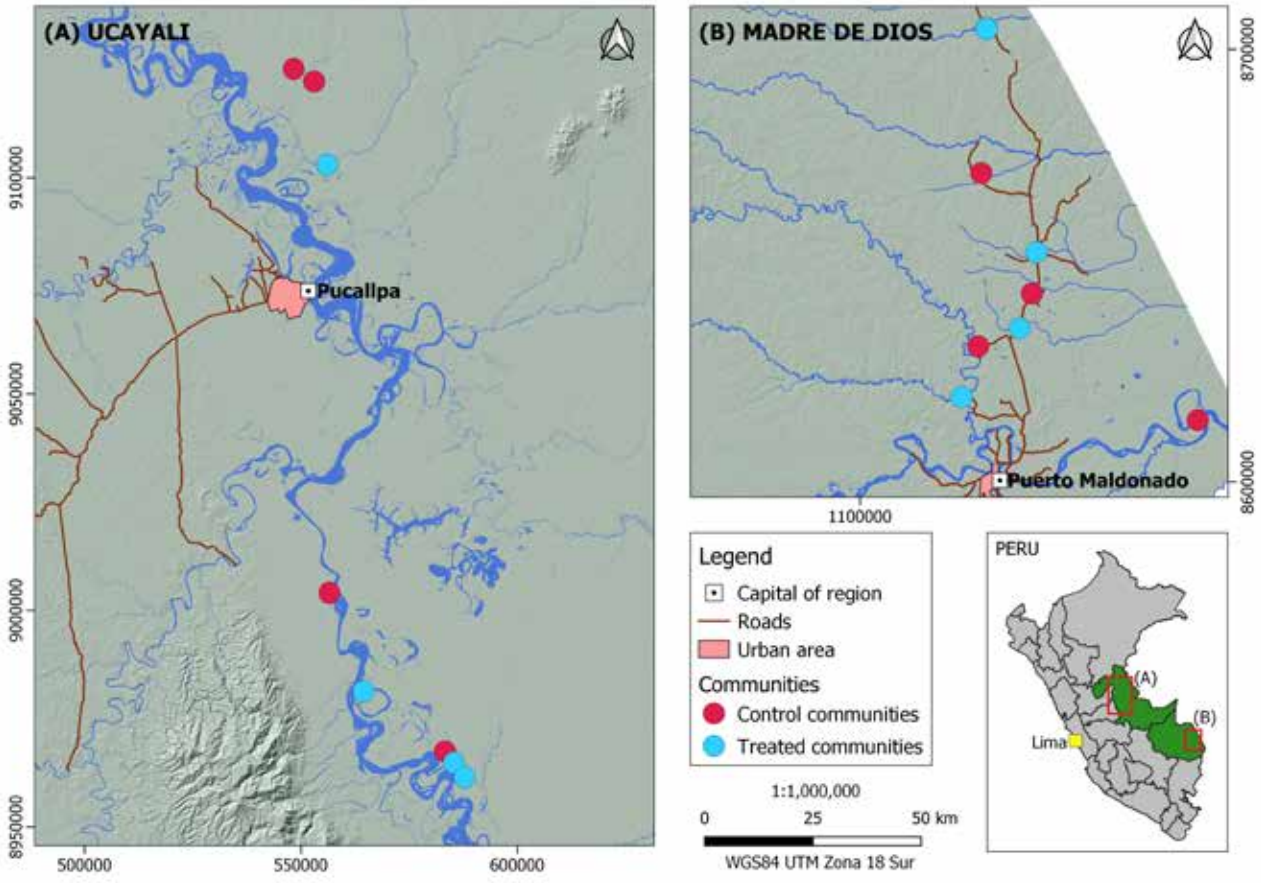

Figure 1. Location of communities participating in the two REDD+ projects evaluated in Ucayali (panel A) and Madre de Dios (panel B).

Furthermore, the rewards provided under the project have not taken into account the varying capacities of its participants to provide ecosystem services, and the distribution of incentives to participants has not been conditional on strict compliance with their commitments. In addition, significant negative impacts on the perceived wellbeing of participating households are reported due to the dissatisfaction arising from the fact that the delivery of certain benefits provided by the initiative (such as technical and legal assistance) is not exclusive to the signatories of the conservation agreements (Montoya-Zumaeta et al., 2022).

The REDD+ initiative in Ucayali

The second initiative includes the territories of seven native communities covering more than 128,000 hectares in the Coronel Portillo and Padre Abad provinces in Ucayali. This project is implemented by the nongovernmental organisation Asociación para la Investigación y Desarrollo Integral (AIDER) in conjunction with the native communities. The project started in 2012 and has included activities for the sustainable harvesting of timber and nontimber products, as well as capacity building for forest monitoring (Naime et al., 2022). Although the project obtained certification for its carbon credits in 2015, a buyer was not found for them until 2017. The time between the generation of the carbon credits (in 2015) and the communities' receipt of the economic benefits (which started in 2018) made it possible to assess whether there were anticipation effects of this initiative by its participants (Naime et al., 2022). Anticipation effects are the changes in land use and household income that are generated before REDD projects are implemented. Such effects are explained by changes in expectations of access to natural resources or future income. For example, the promise of future financial compensation for conserving the forest may decrease the number of agricultural crops being set up, leading to changes in the livelihoods of participating households.

In this study, Naime et al. (2022) investigate whether the REDD+ project in Ucayali generated these anticipation effects on three categories of income from: 1) forest products (timber and nontimber), 2) agricultural crops and 3) other income. The authors also evaluated the project's effects on the agricultural area in use, the forest area in use, the area abandoned in the last two years and the area deforested in the last two years. The results show that the project has not yet succeeded in generating significant changes in household incomes or land use.

Despite the delay in project implementation and difficulty in selling carbon credits, 60 households participating in the initiative and interviewed in the framework of the GSC REDD+ perceive that, in general, the REDD+ initiative has generated positive impacts on both natural resource management and their wellbeing. In particular, 75% of the households interviewed acknowledged that the REDD+ project had an impact on their use of natural resources, and 73% considered that the initiative's impact on their wellbeing has been neutral or positive. The reasons for the positive impacts include the perceived increase in their capacity to monitor the forest and the development of complementary capacities for the sustainable management of their natural resources. The reasons why households perceive negative impacts are mainly associated with the lack of transparency and participation during project planning and implementation. These results emphasise the importance of the "non-tangible" effects of REDD+ initiatives (Blundo-Canto et al., 2018).

Lessons from evaluated REDD+ initiatives

Despite their particularities, both initiatives share common objectives and strategies, such as the reduction of deforestation within their areas of intervention through the promotion of the sustainable management of forest products (timber and aguaje in Ucayali and Brazil nuts in Madre de Dios). A prior study by Solis et al. (2021) focused on the earliest stages of both projects (period 2012-2014) showed that these strategies had not significantly contributed to increasing income from these resources for households participating in these initiatives.

In addition, the slow and limited availability of funding in both initiatives has adversely affected their impacts. In both cases, voluntary carbon markets were used as the main strategy to finance their actions. However, the volatile nature of prices in these markets has led to long delays in the investments planned by implementers. In both the Ucayali and Madre de Dios initiatives, identifying buyers and selling the bonds issued have become difficult tasks, such that many of the bonds issued that were eventually sold were traded at lower prices than originally planned. Were favourable expectations in these markets consolidated in the medium term (Ecosystem-Marketplace, 2021), it would still remain to be seen whether they translate into greater positive impacts on forests and the livelihoods of the households involved.

Another significant finding in both initiatives is that there are still difficulties relating to land tenure security, such as the occasional occupation of certain external actors in the intervention areas to engage in activities that are incompatible (intensified agriculture, mining and illegal logging, among others) with the objectives of the initiatives analysed. Overcoming land tenure problems has been highlighted as a fundamental condition for achieving REDD+ targets (Sunderlin et al., 2018).

The limited impacts of REDD+ initiatives evaluated in the GCS REDD+ are also due to the fact that their designs do not incorporate elements associated with higher levels of environmental effectiveness such as spatial targeting, customised rewards, and conditionality of the rewards provided (Wunder et al., 2018). First, both initiatives include large tracts of nonthreatened forests due to their difficult accessibility. Second, in both cases the rewards disbursed do not take into account the varying capacities of the

participants to ensure the actual provision of ecosystem services. Third, the rewards in both initiatives are not conditional on the level of ecosystem services actually provided, partly due to the lack of adequate monitoring and compliance systems. The latter is a major challenge in many incentive-based ecosystem service provision initiatives, given the potentially high costs of implementation.

Table 1 summarises the findings of the REDD+ initiatives evaluated under the GCS REDD+ in Peru, as well as lessons synthesised using the analytical framework proposed by Montoya-Zumaeta et al. (2021). The framework distinguishes between three types of items: those that form part of the conditions exogenous to the initiative, those related to components of the intervention's design and those directly linked to its achieved impacts.

How generalisable are our findings in Peru to other REDD+ initiatives? In a recent analysis that sought to find patterns in the implementation of REDD+ initiatives globally, Wunder et al. (2020) found that the characteristics we identified in the two projects evaluated by the GCS REDD+ in Peru are quite common: more than 47% of the 467 initiatives studied intervene on relatively smaller areas in comparison with REDD+ interventions that apply, for example, jurisdictional approaches. Furthermore, initiatives are mainly implemented by nongovernmental actors and tend to involve outsourced certification processes for the ecosystem services offered, also these usually provide incentives unconditionally. In this connection, the lessons summarised in Table 1 have considerable potential to be incorporated into other initiatives identified globally.

Furthermore, these lessons can be incorporated to improve the effectiveness of national GHG mitigation efforts considered by the State in the framework of its NDCs, particularly those that propose the conditional granting of incentives, such as the Conditional Direct Transfers implemented in the framework of the National Forest Conservation Programme (PNCB) and the Cessions in Use for

Table 1. Findings and associated lessons in the initiatives evaluated by the GCS REDD+ in Peru

Category	Findings	Lessons learned
Exogenous conditions	• Volatility of the carbon price in voluntary markets affects financing and thus the planning of interventions. • In both initiatives, the boundaries of the area of intervention are defined but threats to property rights are reported in both initiatives due to incompatible economic activities (mining, intensive agriculture, etc.).	• The need for multiple and permanent sources of funding to ensure continuity of interventions. • The project intervention area must not only be well defined, but there also must be an institutional capacity to enforce property rights.
Intervention design	• Low spatial targeting as areas with low risk of deforestation are mostly included. • Incentives do not incorporate differences in the participants' capacity to provide ecosystem services. • Monitoring of project actions is infrequent and, most of the time, the delivery of incentives is not conditional on the fulfilment of environmental commitments assumed by the participants. • Low perception of equity by participants (particularly in Madre de Dios). • Low levels of transparency are perceived in the financial management of both initiatives.	• Inclusion of deforestation risk as a criterion in the selection of intervention areas. • Tailored incentive design, taking into account the heterogeneity and varying motivations of households to increase their agricultural areas. • Monitoring actions should be regular and have rules determined alongside initiative participants. • Implementers should implement regular accountability activities. • In particular, more fluid mechanisms should be incorporated to make financial management transparent in these initiatives.
Impacts achieved	• Negligible impacts on deforestation and forest degradation within intervention areas for the period 2012-2018. • Negligible impacts on improving household income from forest products for the same period. • Mixed impacts on participants' perceived wellbeing.	• Decision-making in the design and implementation of these initiatives must be based on rigorous evidence. • Consider implementing, monitoring and evaluating pilot experiences before launching large-scale interventions. • Consider carrying out regular and participatory activity planning.

Agroforestry Systems (CUSAF). The lessons would allow the PNCB to reformulate its actions to broaden their impact and the CUSAFs to sustainably scale up their implementation. These initiatives should also implement mechanisms to make reward monitoring and disbursement transparent in order to consolidate trust with the various stakeholders that participate in them, seeking to generate conditions for impacts to be sustainable and resilient over time.

Conclusions

In this paper we have summarised lessons from the analysis of more than 10 years of 2 subnational REDD+ projects implemented in Peru. We found that these initiatives have not significantly affected the forest cover or participant income, although they have had noticeable impacts on the perceived wellbeing of their participants. The limited impacts of these initiatives are partly due to the slow and limited availability of the funding on which they depend. These findings also highlight the need to improve the implementation of future initiatives by incorporating greater levels of transparency and participation and considerations such as spatial targeting, differentiated incentives and conditionality of rewards. Land tenure security and continued funding for the required field activities are two other crucial conditions that determine the sustainability of the outcomes achieved by such initiatives.

Recommendations

Listed below are recommendations from the GCS REDD+ evidence to support more effective and equitable national GHG mitigation initiatives in Peru:

- Decision-making on GHG mitigation policies, strategies and actions must be based on rigorous evidence to help ensure favourable impacts on both forest conservation and stakeholder livelihoods.
- Targeting interventions in areas at higher risk of deforestation should be prioritised in national GHG mitigation efforts in order to increase their effectiveness.
- Monitoring and compliance systems in the framework of such initiatives should incorporate principles of transparency, equity and gradualism. Transparency and the participation of the population directly involved in the design and implementation of these systems should be fostered.
- For example, REDD+ initiative implementers should consider clear and disaggregated accountability systems that ensure transparency of the investments made, thereby lending visibility to the application of the principles of efficiency and equity.
- Furthermore, initiative activities should be planned in a regular and participatory manner in order to adequately manage the unreasonable expectations of certain stakeholders regarding the potential environmental and socioeconomic outcomes that the initiatives are capable of achieving.

Acknowledgements

Special thanks to Juan Pablo Sarmiento, Valentina Robiglio and Erin Sills for their valuable comments and contributions to the document, which helped to improve it substantially. We also thank Martín Reyes for his support in preparing the maps presented in Figure 1. This document is part of the GCS REDD+ (www.cifor.org/gcs), funded by the Norwegian Agency for Development Cooperation (Norad), the International Climate Initiative (IKI) of the German Federal Ministry for the Environment, Nature Conservation, Infrastructure and Nuclear Safety (BMUB) and the CGIAR Research Program on Forests, Trees and Agroforestry (CRP-FTA) with financial support from CGIAR Fund donors.

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