

Beyond the technical

The politics of developing the MRV system in Peru

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Key findings

- There is very little clarity even among experts on the broader implications of the different carbon accounting methods, or of the design of the MRV system as a whole, particularly for the social, political and economic outcomes (e.g. outcomes related to benefit sharing).
- Greater understanding of the needs and interests of different actors through improved communication, dialogue, and trust between national and regional governments, and between scientists and policy makers, could lead to a more useful and effective institutional architecture for MRV.
- The development of the MRV system in Peru demonstrates the challenges inherent in vertical and horizontal (multilevel) coordination, including between the national government and regional governments, and across sectors, particularly the environment and agriculture sectors.
- Better intra- and inter-institutional coordination could help mitigate the costs associated with investment in overlapping activities, such as unhealthy competition, inefficient use of resources and the need to adapt or abandon work in progress.
- The technical complexities of MRV, particularly methods of monitoring and verifying carbon emissions analysis and changes in forest cover through high resolution spatial images, influence which actors are involved in the design process and the nature of their involvement. In Peru, this process has excluded those without this expertise, such as subnational governments that have limited technical capacity and funding and, in many cases, suffer from institutional instability.

Introduction

Many countries are in the process of developing national MRV systems, and anecdotal evidence suggests that this has been harder than expected. This Infobrief aims to understand some of the reasons why. In particular, it focuses on the challenges of multilevel politics in order to find ways to better address them in the design of MRV systems.

MRV is usually approached as a technical issue, and the problems associated with it are seen as technical in nature. Nevertheless, there is also divergence in opinions and competition among scientists responsible for informing the science-based decisions affecting MRV. In addition, technical decisions can have social, economic and political implications that should be better understood and transparently negotiated.¹ Broad-based MRV systems require strong institutional design and governance in order to provide accurate and useful data in ways that meet multiple needs: that is, these investments will be more sustainable and promote greater buy-in if they are designed to meet not only international reporting requirements on carbon emissions, but also national, regional, and local data and monitoring needs.

In many countries, national MRV systems have been designed after, rather than before, the establishment of relevant systems at project level or in subnational government jurisdictions. As REDD+ moves toward national accounting, countries must face the challenge of building a single system, often referred to as “jurisdictional and nested REDD” (VCS 2013). The Verified Carbon Standard (VCS) defines ‘nested’ as the integration of project level carbon credits into broader-scale (jurisdictional) accounting mechanisms. ‘Jurisdictional’ refers to the actual carbon monitoring that will occur over an entire political administrative region, which could be subnational or national in scale (ibid.). In Peru, the development of MRV began at the subnational level before the national government was able to dedicate time and resources to its development. This Infobrief examines this process in Peru in 2013-15 to extract broader lessons regarding the multilevel governance challenges and opportunities associated with managing technical processes in often complex political spheres.

Data collection involved a total of 32 semi-structured interviews with representatives from the national government, regional governments and civil society organizations, in addition to extensive observation of REDD+ processes, participation in numerous related meetings in 2014, and selected follow-up interviews in 2015.

¹ ‘Technical’ decisions may also involve attempts to use (or potentially manipulate) calculations to one’s advantage, though this was not found in the case presented here.

We found little *technical* understanding outside of a small sphere of experts, who often had little understanding of the broader implications of different methodologies used for MRV. Greater understanding of the needs and interests of different actors and efforts to build alliances across fragmented governance institutions would enhance the legitimacy of the development process and expected outcomes. The findings of this research are relevant not only for the consolidation of nested jurisdictional MRV systems, but also to the understanding of multilevel coordination in general, and particularly for the difficulties and particularities of navigating technical processes in political waters.

International framework for MRV

As part of international climate change mitigation efforts and in the context of the implementation of the UNFCCC, developing countries are encouraged to undertake what are referred to as REDD+ activities in the forestry sector to reduce GHG emissions, and conserve, enhance, and sustainably manage forest carbon stocks. In order to avoid, reduce, and capture forest carbon emissions, any country planning to carry out REDD+ activities must establish a monitoring system that provides accurate data on emissions. Developing countries implementing REDD+ are required to establish a National Forest Monitoring System (NFMS) along with a Monitoring, Reporting, and Verification (MRV) system (UNFCCC 2009; 2010), both of which form part of the larger National Greenhouse Gas Inventory System. The NFMS provides information on the status of forest cover in areas designated for conservation and carbon stock enhancement purposes. The 'monitoring' function of the NFMS is primarily a domestic tool to allow countries to assess a broad range of forest information.

The MRV function for REDD+, on the other hand, refers to the estimation and international reporting of national-scale forest emissions and removals (see Box 1). It is based on three main components, or 'pillars': 1) a satellite land monitoring system (SLMS); 2) a national forest inventory; and 3) a national GHG inventory. The monitoring required for the NFMS and MRV system should be based on satellite imagery supported by field observations, allowing countries to obtain rapid and up-to-date information to act against illegal deforestation and forest degradation (UNFCCC 2009). Mapping and monitoring of secondary forests and expansion of forest plantations (i.e. reforestation and afforestation) are also necessary for reporting the net carbon forest balance estimates for the forestry sector, as required for MRV.

The MRV system, central to the provision of results-based finance, requires REDD+ countries to develop a national Reference Emissions Level (RELS/RLs)² to serve as a benchmark for assessing each country's performance in implementing REDD+ activities. Reference levels are to be established transparently, taking into account historical data on deforestation and forest degradation, and allowing for countries to adjust for national circumstances based on forest carbon stocks and their changes over time (FAO 2015).

The UNFCCC does not prescribe the length, period, or number of data points (in years) that countries should use in the analysis of historical data (ibid.), and the length of the reference period may depend on the availability and quality of the data.

² Also referred to as Forest Reference Emissions Level (FREL).

Box 1. MRV

Measuring: Refers to information on the area and extent to which human activity takes place in forests (activity data – AD) with coefficients that quantify the emissions or removals per unit activity (emission factors – EF). For REDD+ this translates to measurements of forest area and area change (AD) and forest carbon stock and carbon stock changes (EF). This information provides the basis for a greenhouse gases (GHGs) inventory. Countries may also be required to measure safeguard indicators and other forest benefits.

Reporting: Implies the compilation and availability of national data and statistics for information for a GHG inventory. Reporting requirements to the UNFCCC may include information on emissions and removals of GHGs, and details of the activities a country has undertaken to fulfill its commitments under the UNFCCC.

Verification: The process of independently checking the accuracy and reliability of reported information or the procedures used to generate information. This verification is an independent, external review. The UNFCCC Secretariat uses a team of experts to verify the reported data based on: 1) the degree to which reported data is capable of being verified; 2) the actors conducting the verification; and 3) the way in which verification is performed.

Source: Adapted from UN-REDD Program (2015)

The NFMS and the MRV system will both play an essential role in how information for national REDD+ programs is managed and how countries and jurisdictions are compensated for reducing emissions. (ibid.). Countries are expected to use their NFMS to assess results from REDD+ implementation and report their emissions and removals from the forest sector in their national GHG inventories. Countries must also develop their own methodologies for MRV that can be adapted or improved over time.

At the center of the MRV debate is how countries can "reliably account for the amount of forest carbon, including changes over time" (FAO 2015). This refers to national level reporting to the UNFCCC, and the accounting of carbon credits for the country as a whole.³

The UNFCCC indicates several avenues for developing RELs, which include a national approach and a subnational or step-wise approach. Though the ultimate objective of REDD+ under the UNFCCC is a national REL, countries may initially submit a subnational REL. The approaches are compatible as the national REL could be a combination of subnational RELs. Subnational

³ Initial methodological guidance in relation to MRV for REDD+ was provided at COP 15, Copenhagen (2009), which recommended the establishment of "robust and transparent national forest monitoring systems and, if appropriate, sub-national systems as part of national forest monitoring systems that: i. Use a combination of remote sensing and ground-based forest carbon inventory approaches for estimating, as appropriate, anthropogenic forest-related greenhouse gas emissions by sources and removals by sinks, forest carbon stocks and forest area changes [Monitoring and Measurement]; ii. Provide estimates that are transparent, consistent, as far as possible accurate, and that reduce uncertainties, taking into account national capabilities and capacities [Reporting]; iii. Are transparent and their results are available and suitable for review as agreed by the Conference of the Parties [Verification]" (FAO 2015).

Box 2. Jurisdictional and Nested Approach to MRV

One of the principal motivations for a jurisdictional and nested approach to REDD+ is to enable implementation at different rates, depending on the technical capacities and efforts made at the regional level (Che Piu and Menton 2014). This approach allows a country to initiate REDD+ activities at project or regional levels, as long as they are scaled up within a given time frame (Angelsen et al. 2008). Under a jurisdictional system, subnational entities, such as regions, scale up their carbon accounting to larger jurisdictions, which are then scaled up to the national level. A nested approach allows for the existence of several baselines so that REDD+ credits can be transferred to successful subnational activities, even if the national target cannot be achieved (Zelli et al. 2014). In addition, a nested approach may be advantageous for decentralized political systems, as it allows different administrative units to regulate their own REDD+ initiatives according to local needs and conditions (Cortez et al. 2010).

measures may be developed either simultaneously or at different times and are produced using subnational methodologies⁴ and data. Establishing a national REL, however, may reduce costs related to calculating and updating RELs, and ensure that estimations for various activities are performed in a consistent manner (FAO 2015).

Subnational RELs are considered an interim measure (see UNFCCC, Decision 12/CP.17, par.11). Starting at the subnational scale may provide more flexibility to define the scope of the REL and select data most appropriate to the local context (see Box 2). A step-wise approach also allows countries to update and incorporate new data and methodologies over time. On the other hand, a step-wise approach makes it difficult to maintain consistency among various subnational RELs, particularly if these are developed by different actors. If coordination is limited, this may also cause problems associated with transparency and cost-effectiveness when scaled up (FAO 2015). Furthermore, technical challenges may include higher transaction costs, particularly when RELs are developed for smaller land units.⁵ According to FAO (2015), other factors must be considered to help assess the approach to establishing RELs, such as subnational capacity to implement early warning activities; the availability of data; and the scale and nature of drivers.

4 Estimations of emissions and removals can be obtained in various ways. The Intergovernmental Panel on Climate Change (IPCC) classifies the methodological approaches into three 'Tiers' (1-3, from lower to higher quality), according to the quantity of information required and the degree of analytical complexity. Greater quantity of information and analytical complexity corresponds to a reduction in the uncertainty of estimates (IPCC 2003 and 2006, cited in FAO 2013).

5 RELs can also be developed at the project level, which adds a layer of complexity to carbon accounting. Countries that decide to recognize these project-based RELs must subtract their results from the national or subnational results to avoid double counting the same emission reductions (FAO 2015).

The Development of Peru's MRV System

In 2010, Peru committed to meeting zero net emissions in the Land Use, Land-Use Change and Forestry (LULUCF) sector by 2021, through the conservation of 54 million ha of primary forest (Che Piu and Menton 2014). To reach this goal, the Ministry of Environment's (MINAM's) National Forests and Climate Change Program (Programa Nacional de Conservación de Bosques para la Mitigación del Cambio Climático, PNCB) began efforts to meet the various UNFCCC requirements for REDD+. Since 2011, MINAM's REDD+ Project has taken a lead role in the establishment of the country's MRV system. In 2012, MINAM and the Ministry of Agriculture (MINAGRI) joined the Amazon Cooperation Treaty Organization (OTCA) Project,⁶ which is dedicated to developing the NFMS by 2021. The OTCA Project has provided a forum for MINAM and MINAGRI to coordinate and develop shared objectives for the effective management of forests. OTCA focuses primarily on deforestation, degradation, land use change, and reference scenarios.

To date, the national government has not yet established the institutional architecture for the MRV system. Regional governments are likely to play a significant role in this system, with the expectation that it will be more cost-efficient to conduct verification from institutions that are close to the forests to be monitored. The Peruvian national government has already established the institutional architecture for the NFMS, which follows the international recommendations as outlined by UNFCCC. These recommendations require regions to assume an active role in the process by participating in the National Verification group,⁷ comprised primarily of regional governments, the Peruvian Amazon Research Institute (IIAP), the Peruvian Natural Protected Areas Service (SERNANP), and civil society organizations (native and rural community organizations). Regional governments will be responsible for: monitoring change in forest cover by verifying and monitoring data from spatial resolution imagery; coordinating with local governments on forest monitoring on the ground; and responding to alerts from the national government as part of the early warning system. The NFMS will monitor forest cover change across the country and send the maps to the regional governments for ground validation.⁸

Pilot regions for MRV development, and national-regional contention

The early stages of REDD+ in Peru were characterized by the development of project-level initiatives beginning in 2008, and

6 The OTCA project received funding from ITTO and GIZ. The project brings together all of the Amazonian countries: Guyana, Suriname, Peru, Bolivia, Ecuador, Venezuela, Colombia and Brazil. OTCA's Amazon forest monitoring project started in 2007, but was not initiated in Peru until 2012. In Peru, OTCA has two 'focal points': one at MINAM and the other at MINAGRI, comprising the OTCA Forest Observation Room. The OTCA Forest Observation Room provides a 'neutral space' where the two ministries can coordinate.

7 Members of the National Verification Group have a number of responsibilities including the verification of information generated by the Forest Monitoring Body on forest cover changes at the regional level using established protocols.

8 Some national government informants argue that this field verification is not needed and that validation can be carried out using higher-resolution maps.

soon thereafter, the involvement of regional actors, particularly those from the environment sector, in multistakeholder platforms known as REDD+ Roundtables (See Kowler et al. 2016).⁹ Funding for developing the MRV system was provided by the Gordon and Betty Moore Foundation and the German Development Bank. In these early stages, MINAM decided to support the development of MRV at the subnational level, as it did not yet have the technical capacity or human resources to dedicate to a national system. San Martin and Madre de Dios were chosen as the two pilot departments (referred to here as regions) that would receive funding to develop regional-level baselines to track carbon emissions, which would then feed into the development of the national-level baseline and reference scenarios. An informant from MINAM explained, "We need to [implement] REDD+ at the departmental level, because forest management is under the powers of the regional government, while the national system will determine carbon reductions." San Martin and Madre de Dios were chosen as both regions are characterized by: a large number of active REDD+ projects, the presence of a regional REDD+ Roundtable, and significant levels of past or projected deforestation.¹⁰

Different levels of support from MINAM affected the two regions' ability to effectively develop MRV tools, such as the establishment of an REL and reference period, and a deforestation map. MINAM hired two representatives to support the regional government of San Martin over a three-year period. In contrast, just one consultant was employed to support the regional government of Madre de Dios over a six-month period, after which, according to regional informants, the region was "left to advance alone without financial support". Regional informants from Madre de Dios were generally dissatisfied with the support from MINAM. One informant felt that MINAM had "abandoned" them. According to both regional and national informants, MINAM invested more in San Martin for several reasons, including the ease of working there due to institutional stability and technical capacity, which provided better conditions for potential impact. However, despite these challenges and differences, both regions made similar progress in meeting their MRV requirements, as various NGOs involved in the REDD+ Roundtable in Madre de Dios supported the data collection necessary for developing deforestation and carbon maps and a regional REL.

During this period, MINAM's REDD+ project began work at the national level. MINAM decided to divide the country into three 'eco-regions'—the Amazon, coast and highlands—to establish baselines and reference scenarios. MINAM began its work in the Amazon, where the vast majority of REDD+ projects are located.

Since the San Martin and Madre de Dios MRV programs progressed more rapidly than the MINAM national project, problems arose when MINAM began to consolidate in earnest the national system. For example, the two regions used different methodologies (e.g. to determine forest cover loss), which were also different than those used by the national program.

9 The REDD+ Roundtables are regional forums that bring together primarily REDD+ project proponents and regional government representatives to discuss and develop tools for REDD+.

10 San Martin has the highest historical rate of deforestation and Madre de Dios has one of the highest projected rates of deforestation among the Amazon regions.

During the consolidation process, San Martin chose to align its methodology, which had fewer differences, with the national program in order to prevent further delays. According to several respondents from other regions, it seems likely that this decision could be attributed to San Martin's stronger relationship with MINAM, and the national government's investment in the region's MRV system.

In contrast, the disparity between the data generated by Madre de Dios and the national government has been more contentious. During interviews with REDD+ Roundtable members from Madre de Dios, respondents argued that their data is of higher quality than that generated by MINAM at the national level: their land cover maps are more detailed and more accurately reflect diverse vegetation types and carbon stocks¹¹. Although informants from MINAM recognized that the data from Madre de Dios is more detailed, they reported that they were unsure of how to integrate it into a national carbon accounting system. According to informants from NGOs, regional governments and MINAM, discussions on how to make the results from Madre de Dios and MINAM compatible were extremely challenging, due to discrepancies in the methodologies used and insufficient information and analysis on the effects of these methodologies on the resulting REL.

Different methodologies were also used under MINAM's REDD+ Project and MINAM's Territorial Planning Directorate (MIANM-DGOT) to produce national deforestation maps. Due to differences in the methodologies, such as the different forest classification systems, these were not possible to combine. According to the interviewees, it was not until May 2014, when MINAM-DGOT was invited to participate in the OTCA project,¹² that the two offices began to address these coordination problems.

Emergence of a national baseline

In 2014, MINAM finished the national deforestation map and established 2000 as the reference year for the NFMS, based on a historical analysis of deforestation in the Amazon region. The reference period for the national reference baseline is 2001-2014. Once MINAM had completed the national maps, it decided to centralize the MRV system by using only data produced at the national level. According to regional informants, this was the "breaking point" that paralyzed the discussions. Madre de Dios, in particular, had expected that their data would be incorporated. One informant from Madre de Dios said, "The national government was very authoritarian...it didn't value what had been done at the regional level." Some regional informants believed that the rush of preparations to host the Conference of Parties (COP) in Lima in December 2014 led to more centralized processes in the interest of efficiency and the determination to demonstrate progress to the international community.

11 This issue relates to the scale of data collected: Various institutions involved in the Madre de Dios REDD+ Roundtable collected field data for biomass analysis in 608 parcels throughout the region for carbon mapping, whereas MINAM's REDD+ project used satellite images. The former is considered to be more detailed and accurate Tier 3 data (see Goodman 2013).

12 DGOT was not included in discussions on MRV prior to 2014, although it had developed deforestation maps.

MINAM's decisions generated considerable frustration among those who had invested time, money and effort into collecting data and developing deforestation maps at the regional level, particularly in Madre de Dios.

Nevertheless, not all of the regional governments are so critical, nor are they necessarily as invested. The Amazon regions have different levels of interest (in REDD+ in general, and in MRV in particular), capacity, and funding, as well as differences in forest area and condition. Loreto had not yet begun to develop its baseline in 2014, and exhibited little interest in REDD+ or the development of an MRV system. Regional informants from Loreto attributed this to the region's low deforestation rates; its main concern is degradation, while nationally Peru has prioritized deforestation. Similarly, regional informants from Amazonas were more concerned about efforts to reduce illegal logging rather than deforestation per se. They also welcomed the development of a national baseline, as they believed progress made by the national government would help to facilitate the alignment of methodologies. These informants also recognized the region's lack of capacity and resources to dedicate to tasks such as the development of deforestation maps for MRV. Informants were aware of the potential discrepancies between regional and national level methodologies and expressed concerns about the resolution of these differences, given that such conflicts have already held up progress on MRV.

In 2014, MINAM, with support from the Inter-regional Amazonian Council (CIAM), held three meetings to strengthen regional capacity to develop and implement MRV systems, and disseminate information on progress made at the national level. Participants reported that the meetings were focused mainly on disseminating information, however, and that they would have appreciated more capacity building and encouragement to contribute to the design phase. Regional actors from Madre de Dios considered that these meetings did not provide them with an opportunity to address their concerns about their methodological discrepancies. In a meeting organized by CIAM in July 2014, all regional governments, except for Madre de Dios, expressed their support for MINAM's efforts to establish a national baseline in order to avoid further delays in the process.¹³ Since that meeting, regional governments took little initiative while they waited for MINAM to determine the methodology to be used for establishing RELs. Regional initiative also waned due to elections in late 2014, which led to changes in administration in most Amazon regions, and a lack of activity from CIAM due to these internal changes.

The Challenges of Inclusion

The immediate backdrop for the development of the MRV system is tied to UNFCCC requirements, as discussed above. It is fundamentally a technical process, but there are a number of considerations that suggest it is not *only* a technical process. Whether it *should* be technical or not, the Peru experience demonstrates that negotiation and conflict with multiple stakeholders have permeated, and delayed, the process. Though MRV is a technical system that serves REDD+ specifically, it is embedded in political, economic and policy

processes of great interest to multiple stakeholders: attempts to slow or stop deforestation and forest degradation, and the search for conservation or low emissions alternatives.

Also, if a national government is going to make substantial investments in the design and implementation of an MRV system that complies with REDD+ requirements, most stakeholders agree that such a system should be tied to other data and monitoring needs that are useful for the country. This is a more efficient use of resources, supports more national 'ownership' and permits 'no regrets' investments, for example if REDD+ itself does not develop to the extent originally expected. The Peruvian government has demonstrated its support for such a model in the attempts to harmonize methods to address multiple needs, such as MRV for REDD+ and the National Forest Inventory¹⁴ as part of the NFMS.

In addition, monitoring and verification are likely to include civil society actors, including communities,¹⁵ and regional governments – hence they should understand the broader process and the potential implications of the technical options being considered. In fact, regional governments in particular are strategic actors in land use decision making and land use change, given their responsibilities and powers in land use planning as well as their decision to support (or not) low emission options such as REDD+ initiatives (Kowler et al. 2016). Among other things, there is an opportunity to ensure that the kind of tools and data collection planned also serve the needs of subnational government decision-makers.

Clearly, centralizing the design of the MRV system has certain advantages. By limiting who and how many people are involved, the national government can establish a national baseline and more easily align with UNFCCC requirements. A centralized process would likely be more efficient, limiting expenditure in capacity-building and negotiations, and eliminating discrepancies with pilot regions that want their work to be recognized and validated. This also eliminates the burden of managing different carbon scenarios across regions and designing nested systems that can integrate different tiers of data. It does not preclude regional jurisdictions from aligning their results with the baseline over time, nor should it discourage regional initiatives to control deforestation and degradation.

Nevertheless, most subnational government and civil society respondents argued that when MINAM began to develop the national MRV system, further stakeholder dialogue was needed, as well as stronger involvement in the design process. Informants argued for a more decentralized system and believe that participatory monitoring is critical to REDD+ effectiveness. Most were unclear as to what their role would be in MRV implementation, and some had insufficient understanding to consider what their role *should* be. Those who were more aware of their proposed role were dissatisfied with the tasks allocated.

14 The National Forest Inventory includes data on forest resources, deforestation and degradation, carbon, biodiversity and ecosystem services, as well as socioeconomic data.

15 PNCB is expanding its efforts to encourage community forest monitoring in indigenous communities through their Direct Conditional Transfers (Transferencia Directas Condicionadas) Program.

13 This was the last meeting held to discuss MRV with regional governments.

Regional government actors ranged from disinterested to believing they should participate in the process on principle. One respondent said regional actors want “a seat at the decision-making table,” but it was not necessarily clear to these actors what difference this would make. That is, their understanding of the implications of different options placed on the table during the design phase remains limited.

Evidence suggests that the very technical nature of MRV has hindered the interest, participation and inclusion of different actors in the design of the system. Though many regional informants argued that they should be involved, they also understood that MRV is a highly technical system that requires specific capacity and knowledge to participate. Many informants were concerned about the lack of preparedness of regional governments. At the time of this research, there were only a small number of technical specialists at the regional level, and thus, few participated in national MRV discussions. According to one NGO respondent, “Every technical process is accompanied by technical language (and acronyms!)... The inconsistency of regional government participation and lack of consistent capacity strengthening leads to the regional government’s difficulties in understanding concepts, and in some cases this has affected their level of interest and motivation in the development of MRV.” Regional informants suggested that greater participation in these discussions could be achieved with training funded by the national government.

One respondent from an NGO argued that those who have an interest in REDD+ should be involved in the design of the MRV system. He noted that experts are involved because their technical opinion is important, and not because the result of the process will affect them. He explained, “It’s different when one is participating in something that will produce results that actually affect them...”.

Conclusions: Multilevel governance of MRV

In 2014, the national government took steps to centralize the MRV system to facilitate the integration of the regions involved in REDD+ into the larger system, by standardizing reference levels and tools used to determine deforestation rates. In doing so, the national government intended to address the confusion caused by the use of different methodologies by the national and regional governments. At this time, all discussions on MRV were discontinued, as the national government had not yet made a decision regarding which methodology to use. In this context, the process discussed in this Infobrief elucidates the political undertones of the MRV design process, which capture, yet go beyond, the technical foundation of the topic itself.

The findings of this study indicate that while opportunities exist for multilevel and cross-sectoral dialogue,¹⁶ several barriers inhibit the inclusion of strategic actors in the development of MRV, potentially undermining the legitimacy of the process. First, the technical complexities of MRV have influenced which actors are involved in its design and the nature of their

involvement. Actors with technical capacity related to MRV were highly involved, while others expected to participate in its implementation (e.g. regional governments and actors with an ‘interest’ in the process) have been somewhat excluded. Explanations for this include the regional governments’ limited technical capacity, funding and, in many cases, institutional instability. It may also be rooted in the interests of experts who prefer that politicians not interfere in technical decisions.

Second, many subnational respondents reported that there was insufficient stakeholder dialogue or consultation with regional governments. Informants from those regions that were actively involved felt excluded when the national government decided to centralize the system. Some scientists in these regions thought that their science was of higher quality, while non-technical actors, such as government officials, argued they should understand more about the system.

Third, there is very little clarity, even among experts, regarding the broader implications of the different carbon accounting methods, or of the design of the MRV system as a whole, particularly related to possible social, political and economic outcomes. As a result, technical experts demonstrate a failure to effectively communicate the broader implications of their technical decisions to policy makers and civil society actors. For regional governments, this uncertainty is frustrating, as they want answers that the experts cannot seem to provide.

In summary, regional governments and other laypersons want to participate in the design phase of MRV, but do not understand enough even to know what questions to ask. While the technical experts from MINAM’s REDD Project and DGOT and from Madre de Dios argue over their methodologies, regional governments and laypersons seek information on the implications of these options, how MRV will be useful to their region, and the role that they should play in the process.

MRV is not just about maps and algorithms, but also about creating an institutional infrastructure that indicates who reports what and how, and how this information is used. Although it is not necessary for all actors to participate in each stage of infrastructure development, policy makers and members of civil society should at least understand the elements of the process and how they will be affected. While technical discussions between experts are necessary, the public should have a voice in the decisions that will affect them. Technical processes should be scientific and unbiased, while political processes should be participatory, inclusive and transparent. In order to satisfy the relevant stakeholders and develop an MRV system that is legitimate, the design process should facilitate dialogue and communication that transcends science and policy and engenders mutual trust.

Recommendations

- Improve communication between science and policy; in particular, technical experts should be better able to explain the non-technical (e.g. social, economic) implications of MRV options. This requires further research into how MRV relates to the benefit-sharing system and safeguards, as well as the implications of these systems for MRV.

16 Cross-sectoral dialogue refers to discourse between different sectors, such as agriculture and environment in this case.

- Strengthen coordination between the national government and regional governments to support the development of an appropriate jurisdictional and nested approach, in which regions assume an important role, and have a voice in the development and effective implementation of the MRV system.
- Strengthen regional government platforms such as CIAM, to build alliances among regional governments, enable opportunities for capacity building and improve communication among the regions and between national and regional governments.
- Use OTCA and similar platforms to improve coordination between national government institutions (i.e. MINAM-REDD+ Project and MINAM-DGOT) to ensure complementarity (i.e. to strengthen synergies and minimize overlaps).
- Improve capacity building efforts related to MRV systems by supporting more consistent technical training for policy makers, civil society actors, and regional government employees.

Glossary

CIAM	Consejo Interegional Amazonico, Inter-regional Amazonian Council
DGOT	Dirección General de Ordenamiento Territorial, General Directorate of Land Use Planning
GHG	Greenhouse Gases
IIAP	Instituto de Investigaciones de la Amazonía Peruana, Peruvian Amazon Research Institute
IPCC	Intergovernmental Panel on Climate Change
MINAM	Ministerio del Medioambiente, Ministry of Environment
MINAGRI	Ministerio de Agricultura y Riego, Ministry of Agriculture and Irrigation
MRV	Monitoring, Reporting, Verification
NFMS	National Forest Monitoring System
OTCA	Amazon Cooperation Treaty Organization
PNCB	Programa Nacional de Conservación de Bosques, National Forests and Climate Change Program
REDD+	Reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries
RELS	Reference emissions levels
SERNANP	Servicio Nacional de Áreas Naturales Protegidas, National Protected Areas Service
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard

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