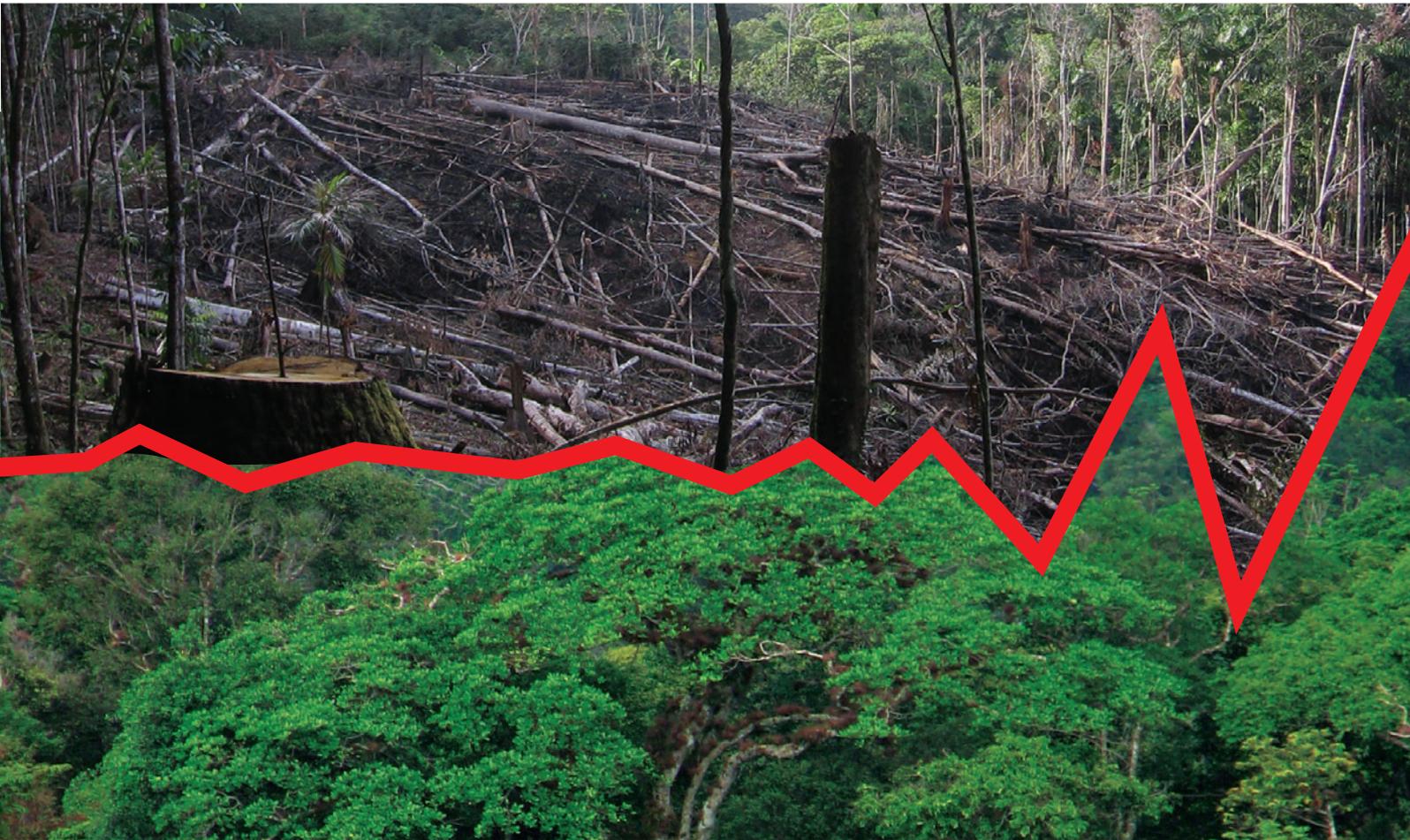


Pathways for Implementing REDD+

Experiences from Carbon Markets and Communities



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The ‘Nested Approach’ to REDD+: How Could it Be Implemented?

Abstract

The ‘Nested Approach’ is a framework for structuring effective incentive mechanisms for reducing GHG emissions from deforestation and forest degradation at multiple scales. The approach is designed to encourage immediate emission reductions in developing countries at a scale compatible with their capacities and levels of governance. Subnational and national mitigation activities are both eligible for international performance-based incentives, and a negotiated but limited time has been granted to governments for moving from sub-national to national implementation. The proposed framework creates the conditions needed for early involvement of the private sector in mitigation initiatives, which is essential to complement public efforts and achieve meaningful emission reductions to keep the global average temperature increase below 2°C in this century.

1. Introduction

One of the main issues being discussed within the context of the ongoing negotiations on an international mechanism for Reducing Emissions from Deforestation and Forest Degradation, conserving and enhancing carbon stocks and sustainable forest management (REDD+) under the United Nations Framework Convention on Climate Change (UNFCCC) relates to the ‘scale’ of initiatives to be incentivized by such a mechanism.

Many Parties to the Convention have proposed that only emission reductions achieved at the national level should be incentivized, arguing that only a country-wide accounting of emissions could ensure that emissions caused by leakage from specific initiatives carried out within the country would be accounted for, and due to the political need to demonstrate meaningful, large-scale participation

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by developing countries in global mitigation efforts in the post-2012 period. National approaches would be led by national governments, and the international incentives generated through the REDD+ mechanism would be granted to them if country emissions are reduced compared to a historical reference level during a determined period (e.g. a commitment period). Governments would be in charge of managing such incentives to enhance their policies and measures or of distributing them among communities and individuals representing successful REDD+ initiatives.

Other countries have supported sub-national approaches, based on the concept of the Clean Development Mechanism and building on its national and international infrastructure. In this case, incentives would flow directly to successful projects and programs (e.g. through the issuance of carbon credits), and the role of the government would be limited to issuing letters of acceptance of such activities on the grounds of their sustainable development benefits.

A third approach, called the 'Nested Approach' (NA), was introduced in the UNFCCC negotiations by a group of observers,² and Latin American countries³ as an alternative to an exclusively national approach. The idea was originally elaborated by Pedroni et al. (2009) and is further described in this paper.⁴

2 FCCC/SBSTA/2006/L.25: Submission to the UNFCCC by the Tropical Agricultural Research and Higher Education Center (CATIE) and the German Emissions Trading Association (BVEK) regarding Reducing Emissions from Deforestation in Developing Countries.

3 FCCC/SBSTA/2007/MISC.14: Submission of 'Paraguay on behalf of Honduras, Mexico, Panamá, Paraguay and Perú' and the submission of Chile.

4 I.e., a scheme through which international incentives would only be granted to developing-country governments for reducing national emissions compared to national reference emission levels, and which would not allow individual sub-national initiatives to access such international incentives.

Today, the concept of 'nesting' sub-national mitigation activities in broader national frameworks is frequently mentioned in the discussions on REDD+ (e.g. Angelsen et al., 2008; Parker et al., 2009; Cortez et al., 2010; Estrada, 2010). Many stakeholders in the political process realize that developing-country governments are faced with REDD+ related demands and initiatives from sub-national governments, indigenous groups, civil society and the private sector, that national capacities and capabilities may take more time to be developed, and that public funding alone may not be sufficient to induce mitigation activities at the scale required to keep the global average temperature increase below 2 °C in this century. There is a need to find effective approaches to incentivize public and private actors responsible for addressing the drivers of deforestation, to integrate sub-national REDD+ initiatives in national REDD+ frameworks and to leverage private investment in mitigation activities, whilst maintaining the overall environmental integrity of the system. In this paper, we aim to clarify how a 'Nested Approach' to REDD+ could achieve these objectives.

In essence, the NA enables immediate reductions of GHG emissions in developing countries at a scale compatible with their capabilities and levels of governance. It encourages improvements in forest governance by providing a negotiated but limited time frame for developing countries that are unable to achieve emissions reductions from deforestation and forest degradation at the national level in the near term to start acting through sub-national mitigation activities (projects and programs) and proceed over time to fully national (wall-to-wall) emission reduction schemes. Sub-national activities could encompass areas as large as entire biomes (such as the Legal Amazon in Brazil), individual states or provinces (political and administrative units), and smaller units of lands under specific projects, such as indigenous territories, protected areas, forest concessions, and private lands. In fact, sub-national

efforts are supposed to scale-up over time from one such scale to a larger one, until they reach a point where a national scheme becomes feasible.

The NA requires sub-national and national mitigation activities to be implemented under consistent and credible frameworks for reference emission levels and monitoring, reporting, and verification (MRV). It is therefore based on a registry system that maintains separate carbon accounting records for each sub-national initiative carried out in a country, thus avoiding double counting of emission reductions where these are sold as offset credits to governments or private entities with legally binding emission reduction commitments. To prevent the creation of non-permanent emission reductions, the NA proposes an insurance mechanism that sets aside part of the emission reductions, which is kept as a reserve, or 'buffer', to compensate for any possible future deforestation that could undermine the environmental credibility of REDD+ credits.

Mobilizing private-sector investment is essential to reach the levels of finance required to cover the costs of REDD+, which may well be higher than the USD\$ 5 to 15 billion per year estimated by Nicolas Stern (2006) and Johan Eliasch (2008)⁵. The accounting framework put forward by the NA guarantees developers of successful mitigation initiatives direct access to international incentives, regardless of the scale at which the initiatives may be implemented and the aggregate performance of all mitigation efforts of the host country vis-à-vis a national emission reference. This is done whilst maintaining overall environmental integrity, as explained later in this paper. By giving direct access to international incentives and delinking invest-

ment risk from national performance, two critical conditions are met for inducing the early engagement of the private sector in REDD+ efforts.

In addition, the flexibility and transparency of the NA may facilitate the recognition and incorporation of current REDD+ initiatives in future schemes regulated by the United Nations, and, as the case may be, in emission reduction schemes that certain countries and states could establish independently.

There is a need to find effective approaches to incentivize public and private actors responsible for addressing the drivers of deforestation, to integrate sub-national REDD+ initiatives in national REDD+ frameworks and to leverage private investment in mitigation activities, whilst maintaining the overall environmental integrity of the system.

The implicit goal of the NA is to promote the widest participation by countries and stakeholders from the outset, in order to achieve real, fast and significant emission reductions in a rational way, based on countries' capacities, circumstances and development needs. This will ensure the permanence of carbon (and wider development) benefits, thus contributing to early, deep, and cost-effective climate-change mitigation.

2. Assumptions and conditions for implementing the NA

The NA assumes that Parties to the UNFCCC will adopt market-based approaches to incentivize

⁵ Stern estimated the opportunity costs of forest protection in eight countries responsible for 70% of emissions from land use to be around USD 5 billion per year. Eliasch's review increased this estimate to about USD 15 billion per year. The costs of institutional capacity-building, MRV, enforcement, permanence and supplementarity, etc. are not included in these estimates.

REDD+ and that such approaches will be linked to developed countries' emission reduction commitments that are ambitious enough to generate demand for REDD+ carbon credits, ideally by following IPCC-recommended levels of global emission reductions to keep global warming within an acceptable range. It also assumes that developed countries will assist developing countries with technical and financial support, at least initially, to build the infrastructure required to run mitigation activities at the national scale.

In principle, the NA allows developing countries to start implementing their mitigation initiatives at either the sub-national or national levels, depending on their national circumstances

The NA may be adapted to an international system of performance-based incentives for REDD+ solely relying on public funds (e.g. Official Development Assistance). However, the scale of emission reductions that could be achieved by a system that does not mobilize private-sector investments at an early stage is likely to be lower than a system combining direct private-sector investment in mitigation activities and public investment in national 'readiness'⁶ planning and implementation.

In principle, the NA allows developing countries to start implementing their mitigation initiatives at either the sub-national or national levels, de-

pending on their national circumstances. In both cases incentives may be channeled directly to the promoters of successful initiatives. However, the approach might also be adapted through national arrangements in developing countries in case only national schemes would be allowed internationally.

Additionally, the following conditions will facilitate the implementation of the NA:

- (i) *Political will and leadership* to encourage intra- and inter-sectoral dialogues on forest governance, enabling the design and implementation of policies, institutions, financing arrangements and management plans for the adoption of a national REDD+ implementation scheme in a defined time frame.
- (ii) *Transparent and expeditious procedures* for the evaluation of sub-national REDD+ initiatives and their approval by the national government. Such procedures should be effective enough to exclude initiatives that do not meet national criteria of sustainable development.
- (iii) *A registry system* of approved initiatives, reference emission levels, monitoring reports and carbon transactions, enabling transparent carbon accounting and avoiding the double counting of sub-national and national emission reductions. Such a system may be under national or international institutions.
- (iv) *Clearly defined rights of ownership of emission reductions* under differing circumstances of use, possession, concession, administration, etc., of forested areas.
- (v) *Clarity and fairness on the definition of tributes, duties and royalties* to be paid on

⁶ 'Readiness' is a term coined in the context of the World Bank's Forest Carbon Partnership Facility (FCPF) to indicate planning activities that developing country's governments should consider to enhance national policies and institutions in getting 'ready' for implementing REDD+ at the national level.

REDD+ investments, credit transactions and benefit distributions.

- (vi) *A national monitoring system*, which may consist of sub-national monitoring systems properly organized and coordinated by a national entity, able to ensure consistency between reports from initiatives of varying scales and having the capacity to deliver timely, reliable, accurate and verifiable information to all REDD+ initiatives in the country, creating economies of scale in MRV.

3. Major differences of the NA with an exclusively national approach

The process of preparing and implementing REDD+ at the national level currently considered in the negotiations is viewed as falling into three phases:⁷

- Phase 1: Development of action plans or national strategies, including the design of policies, measures and capacity-building ('readiness');
- Phase 2: Implementation of national policies and measures;
- Phase 3: Actions centered on results, which should be measured, reported and verified.

Consequently, a national approach would generate tradable emission reductions only in Phase 3, once all the required capacities have been built and the governance of the country has been strengthened. Under an exclusively national approach, successful sub-national initiatives would not be rewarded if emission

reductions do not occur nationally, unless governments are willing to reward them with resources from their own budgets, which is unlikely to happen given the financial situation in developing countries. If national emission reductions are achieved, rewarding sub-national activities would depend on national benefit distribution policies. In both scenarios, public and private promoters of sub-national initiatives would have no control over the factors that determine the return on their investments, making it too risky for them to invest in REDD+. Under these circumstances, large guarantee funds need to be established to reduce risks and to motivate private and local government action, thus increasing the overall costs of REDD+.

With the NA, sub-national initiatives could generate emission reductions and earn credits even if the country as a whole does not achieve an overall reduction in emissions compared to a national reference emission level. In this way, the risk of investing in sub-national activities would not be linked to the performance of national governments, of their policies and programs, or of other projects over which promoters of sub-national initiatives have no control. This is an essential condition for the private sector to invest in REDD+ activities, and a reason why the NA could lead to greater levels of funding for REDD+, which in turn could accelerate the enhancement of capacities in developing countries and the achievement of more emission reductions globally in the near term. By not requiring the immediate existence of nation-wide MRV capacities and high governance levels, the NA would allow a greater number of countries to participate in REDD+ from the beginning, thus achieving early and larger reductions in emissions and diminishing the risk of international leakage.

⁷ See Meridian Institute (2009) and AWG-LCA, Non-paper No. 39, paragraph 7 (outcome of the AWG-LCA meeting in Barcelona, 2-6 November 2009).

The cost of reducing emissions at the national level is often too high⁸ for developing countries to cover with their own budgets, particularly considering the many other pressing needs that such countries normally face. With an exclusively national approach, public budgets (including those of developed countries providing ‘readiness’ and implementation funds) would have to cover most if not all of the cost of REDD+, since there would be virtually no incentive for private investment. In contrast, with the NA, private actors could participate in covering such costs by investing in specific and independently rewarded activities, with identifiable counterparts and manageable risks. Additionally, this would incentivize local stakeholders and institutions with better knowledge of the local conditions and greater flexibility to adopt innovative solutions to improve local governance and increase efficiency in land use and forest management. Numerous national and international technical and financial stakeholders, with great capacities to generate innovative solutions, could actively seek to implement projects in areas where the presence of public institutions is weak and the threat of deforestation high, given the potential to generate emission reductions in these hotspots. In this scenario, governments could focus their programs on forests with lower pressure levels, where opportunity costs are lower, allowing them to cover larger areas with the same budget. Directing government incentives outside areas subject to sub-national initiatives could also have an important effect on reducing the risk of leakage that such activities could give rise to, thus achieving greater efficiency and effectiveness for all stakeholder interventions.

⁸ As an example, a recent study published by SERNANP (Armas et al., 2009) in Peru assessed the opportunity costs of reducing expected deforestation at somewhere between 54% and 88% in the next 10 years, i.e. between 127 and 170 million dollars annually. This estimate does not include the costs of institutional capacity-building, MRV or enforcement, among other costs that a country would have to cover to implement REDD+ at the national level.

The NA would also facilitate site-level tracking and reporting of the impact that REDD+ interventions would have on local stakeholders (including marginalized groups, such as indigenous peoples and forest-dependent communities), which could help build support for REDD+ from the development and pro-poor constituency. Similarly, the NA would enable conservation organizations to focus on, and be rewarded for, REDD+ interventions in specific regions of high biodiversity value⁹.

4. How would the NA work in practice?

4.1 Level of participation

Developing countries would voluntarily decide their initial scope of participation in the REDD+ mechanism, according to their circumstances and national interests. In this way, a country could adopt a full national implementation regime early on, defining national reference levels and reduction targets for its forest emissions; or, if national circumstances require more time and resources to strengthen technical capacities, institutional frameworks, policies, etc., a country could begin to participate with sub-national REDD+ activities. A variant proposed in the literature (applicable to the NA) is the ‘committed forests approach’ (Forner et al., 2006), whereby a country initially commits only a certain percentage of its forests in defined areas where conditions exist to exercise control, later adding more areas, depending on the evolution of governance capacity.

4.2 Triggers for transition to a national scheme

If a country decides to participate by implementing sub-national REDD+ activities ini-

⁹ For instance, the widely used Climate, Community & Biodiversity Standards enable REDD+ project impacts on local communities and biodiversity to be independently assessed and reported.

tially, two ‘triggers’ would serve to motivate the country’s public sector and to help it establish the infrastructure, capabilities and governmental conditions needed to adopt a national REDD+ scheme. As proposed by the NA, a country should adopt a national scheme when:

- (i) the total area covered by sub-national REDD+ initiatives reaches a certain percentage of national forest land or, alternatively, when
- (ii) an agreed number of years elapse from the date of registration of the first sub-national activity endorsed by the national government.

The level of both triggers – the percentage area (i) and the maximum number of years (ii) – would be proposed by each country and negotiated by the Parties to the UNFCCC. However, the countries that start with sub-national activities could voluntarily adopt a national scheme before reaching the threshold of the ‘triggers’.

4.3 Recognition of sub-national initiatives in the long-term

When countries are ready to implement REDD+ at the national level, they must recognize the previously authorized sub-national initiatives and allow them to continue generating carbon credits throughout their crediting period (which could be 20 to 100 years, as in the VCS¹⁰). In this way, sub-national initiatives would be assured of reaching their investment horizons, which is critical if such initiatives are to be started in the first place.

¹⁰ The ‘Voluntary Carbon Standard’ (VCS) is a program of the voluntary carbon market that works like the Clean Development Mechanism (CDM).

4.4 National authorization

To achieve international recognition, sub-national REDD+ initiatives should be approved and registered by the national government in the first instance. In this way, there is assurance that the initiatives have been designed in accordance with the sustainable development priorities of the host country and its national REDD+ strategy. Therefore, the establishment of project evaluation criteria and transparent and expedient procedures for national authorization are important steps in the process.

“When countries are ready to implement REDD+ at the national level, they must recognize the previously authorized sub-national initiatives and allow them to continue generating carbon credits throughout their crediting period”

4.5 Carbon Credits

Carbon credits for emission reductions generated sub-nationally would be issued directly to participants of the registered sub-national initiatives by a specialized body of the UNFCCC¹¹, following methodologies, procedures and rules agreed upon by the Parties of the REDD+ mechanism. Sub-

¹¹ While this section of the paper talks about potential UNFCCC pathways for operationalizing the NA, it should also be recognized that the House and Senate climate bills currently under consideration in the U.S. provide a clear pathway for supporting sub-national initiatives, spelling out how project- and state-level activities could be directly credited on their own and under national accounting frameworks. Furthermore, the Waxman-Markey and Kerry-Boxer bills would both allow developing countries to participate in sub-national REDD+ activities for a maximum period of 8 years, a proposal highly compatible with the second ‘trigger’ of the NA. The period of 8 years was reduced to 5 years in the Kerry-Liebermann bill (or ‘American Power Act’).

national REDD+ initiatives would receive credits even if the host country has adopted a national implementation scheme. In this case, national governments would receive credits for emission reductions generated in forests that are not covered by sub-national initiatives. These forests should be the primary objective of public policies and programs and other sub-national initiatives promoted by governments themselves. Consequently, after the adoption of a national implementation scheme, communities, local governments and other private actors could choose between developing their own sub-national initiatives to access international incentives directly, or join the REDD+ programs of the national government.

4.6 Reference emission levels¹²

Reference emission levels could be established sub-nationally and nationally as follows, although in practice these procedures would have to be adopted by the UNFCCC:¹³

- a) Sub-national reference emission levels:
 - a.1) In countries that choose to start with sub-national activities, reference emission levels would:
 - Be spatial-temporal projections of historical emissions from deforestation (and deg-

radation or any other eligible activity of the REDD+ mechanism);

- Be established using methodologies or guidelines approved by a body of the UNFCCC designated for such purposes. In principle, the methodologies developed under the Voluntary Carbon Standard (VCS) are rigorous enough and compatible with CDM rules, so that future validation, approval and registration under the UNFCCC REDD+ mechanism, or national schemes that certain countries, such as the USA, may establish independently, should be possible with few if any modifications;
- Be validated by independent auditors accredited under the UNFCCC, following procedures agreed by the Parties of the REDD+ mechanism;
- Be limited to a specific timeframe (e.g. 10 years), after which they should be reviewed and re-validated to take into account changing circumstances in the region where REDD+ activities are carried out. Within the new baseline circumstances, public policies and programs adopted after a specified date (e.g. the date of adoption of the Bali Road Map) would be excluded to avoid a perverse incentive developing for national governments to postpone the improvement of their policies and programs;¹⁴
- Cover reference regions that are wider than the areas covered by the individual sub-national initiatives, ideally regions with socio-economic conditions and deforestation patterns that are similar to those observed in such areas, which may

¹² This section refers only to methods for establishing reference emission levels for unplanned deforestation activities. Approaches for setting reference emission levels for planned activities (legally authorized deforestation) may be different from those described here.

¹³ It must be noted that during its 15th session, held in Copenhagen, the COP adopted guidance for developing-country Parties in implementing REDD+ activities, which recognizes the possibility of establishing, if appropriate, sub-national systems as part of national monitoring systems (although this does not by itself imply the issuing of credits or rewards to sub-national activities, which is a decision to be agreed on by the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention and adopted by the COP). See decision 4/CP.15 (<http://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf#page=11>).

¹⁴ This principle has its precedent in the CDM, under which policies and programs adopted after November 11, 2001 will not be considered in the additionality analysis and the baseline alternatives.

involve the entire territory administered by one or more sub-national governments, or the area covered by entire eco-regions or biomes. This is necessary to ensure that:

- (i) The areas threatened by deforestation inside and outside the geographical boundaries of the initiatives' areas of intervention can be identified; and
- (ii) Leakage can be measured, reported and verified against a validated reference emission level.

Where it makes sense, reference region boundaries should coincide with the boundaries of the territories administered by sub-national governments (e.g., states, provinces, districts, departments), particularly in those countries where sub-national governments have responsibilities in the forestry sector or are designing or implementing REDD+ programs. In that way, a common reference emission level and MRV system could be established for all sub-national REDD+ initiatives within the territory under the oversight of the sub-national government, which may in turn be responsible for applying national guidelines on these issues. This approach would also avoid the cost of establishing reference emission levels and of MRV systems for each of the individual initiatives and facilitate the integration of sub-national reference emission levels and MRV systems in the future national scheme.

- The geographical boundaries of the reference regions and their respective reference emission levels should be registered nationally and internationally¹⁵ to ensure that future sub-national activities implemented in

¹⁵ This is one of the requirements for the VCS to become fully compatible with the NA and the prospective REDD+ scheme regulated by the U.S. and UNFCCC. The VCS is currently assessing how it might best register such regional reference emission levels.

the same region are consistent (using the same regional reference emission level).

a.2) When a country adopts a national reference emission level:

- The validated and registered sub-national reference emission level should remain valid until the date provided for review, after which;
- The national government should ensure coherence between the national reference level and the existing sub-national reference levels by following methodologies adopted under the UNFCCC.

b) National reference emission levels:

- It is likely that developing countries will have to establish historical emissions (tCO₂e per year) or deforestation (ha year⁻¹) reference levels, as such references can be objectively measured, reported and verified (e.g. average emissions or deforestation from the previous ten years). Such historical reference levels may then be adjusted to account for different circumstances (e.g. traditionally high-forest, low-deforestation countries facing increasing conversion pressure) to establish the reference for performance-based incentives.
- Emissions could be estimated and reported periodically using the methodologies and verification procedures similar to those used by Annex B countries to demonstrate compliance with their emission reduction commitments (which would ensure that credits resulting from national REDD+ activities would be of the same quality and, therefore, completely fungible).
- At the beginning of each commitment period, countries would negotiate a national

reference level taking into account the average emissions from the preceding period.

- In principle, these reference levels would be revised downwards as emissions are reduced so as to lead to higher mitigation volumes at each new commitment period. However, this will not be feasible for countries needing to deforest certain areas (in a controlled manner) to ensure development of critical sectors such as energy, infrastructure and food security. Therefore, historical reference emission levels may be disaggregated to differentiate:
 - (i) Emissions from planned deforestation (government approved deforestation to build water reservoirs, road infrastructure and other infrastructure that is vital for national development).
 - (ii) Emissions from unplanned deforestation (basically all non-authorized and illegal deforestation).
- At the beginning of each commitment period, gross emissions reduction targets for non-planned deforestation should be more ambitious than for the previous period, while the targets for planned deforestation (on a gross basis) may vary from one period to the next, and even increase, depending on national circumstances.
- To discourage and offset planned deforestation, countries would commit themselves to increasing their levels of compensatory afforestation and reforestation, which would be subject to measurement, reporting and verification. However, to protect the biodiversity of natural ecosystems, offsetting emissions from unplanned deforestation through afforestation and reforesta-

tion would not be allowed. In other words, developing countries would commit themselves to reducing planned deforestation on net basis and unplanned deforestation on a gross basis.

- It is important to highlight that decisions regarding how deforestation should be reported (planned, unplanned, gross, net, etc.) are not core one for the NA, and that any decision taken on these matters will not affect the applicability of the NA.

4.7 Leakage

To account for the possible displacement of emissions from deforestation (leakage) from areas where sub-national activities are implemented, the NA provides two options:

- (i) Estimate, using approved methodologies, the emissions from leakage, and subtract them from the verified emission reductions within the sub-national initiative's area of influence ($\text{Credits} = \text{Reference emissions} - \text{Monitored emissions} - \text{Leakage}$).
- (ii) Incorporate the sub-national initiatives into the area subject to MRV under a larger scale (sub-national or national) REDD+ program. In this case, it would not be necessary to measure, report and account for leakage of each 'nested' sub-national initiative because emissions would be measured, reported and verified by the monitoring and accounting systems of the larger program. The national or sub-national government responsible for the larger program could opt, following its own policies and

regulations, to collect some sort of compensation (for example, a percentage of the credits or a leakage tax) from the ‘nested’ sub-national activities which have not adopted the first option (i).

Sub-national activities would be able to choose between option (i) and option (ii) where both are available according to national REDD+ policies.

4.8 Permanence

Credits for verified emission reductions could be temporary, without the country or the sub-national developers incurring any liability (similar to the tCERs from forestry CDM projects), or permanent, backed by a ‘buffer’ of credits that would have to be transferred to a national permanence or reserve account, whose function would be to offset for any future emissions above the reference emission level, like the practice under the VCS program for agricultural and forestry projects. This second option is generally preferable from the standpoint of the credits’ fungibility and competitiveness in the carbon market, due to the fact that temporary credits transfer non-permanent liability to the buyer, who must replace them before their expiry date, a feature which is unattractive to buyers of credits. On the other hand, the use of temporary credits allows stakeholders from developing countries to avoid responsibility for future deforestation.

Using a ‘buffer’ approach, national governments and promoters of sub-national activities could sell only a percentage of their credits; the rest would be transferred to the national reserve account to guarantee the permanence of emission reductions sold

from all national and sub-national activities. The number of credits to be transferred to the national reserve account at the end of a MRV period¹⁶ would be calculated using the following equation:

$$CN_{\text{reserve}} = CN_{\text{total}} * RN\% + CSN_{\text{total}} * RSN\% \quad (1)$$

Where:

CN_{reserve} = Credits transferred to the national reserve account at the end of the MRV period.

CN_{total} = Credits issued internationally to the national government for national emission reductions in the MRV period.

CSN_{total} = Credits issued internationally and directly for sub-national emission reductions in the MRV period.

$RN\%$ = Percentage of CN_{total} to be deposited in the national reserve account.

Note: The value of $RN\%$ would be established by the CoP.

$RSN\%$ = Percentage of CSN_{total} to be deposited in the national reserve account.

Notes:

- In countries applying a national scheme, the value of $RSN\%$ would be set by the national government, using transparent and previously defined criteria and procedures.
- In countries without a national scheme, the value of $RSN\%$ is deter-

¹⁶ It is assumed that one commitment period (e.g. 5 years) has a fixed reference emission level that will be revised in the subsequent commitment period and that each commitment period is subject to periodical (e.g. every 1-2 years) monitoring, reporting and verification (MRV). The period of time between two events of MRV is called an ‘MRV period’ in this paper.

mined on the basis of a non-permanence risk assessment (similar to that used by the VCS).

4.9 Accounting

If, at the end of its first MRV period, a country reported emissions above its national refer-

ence level, the country would not receive credits, and the excess emissions would not be accounted as debits. However, the country would assume responsibility for the permanence of emission reductions sold in the market (emission reductions sold by sub-national activities would be backed from the start through buffers or temporary credits¹⁷).

Figure 1.a National Reference Emission Level

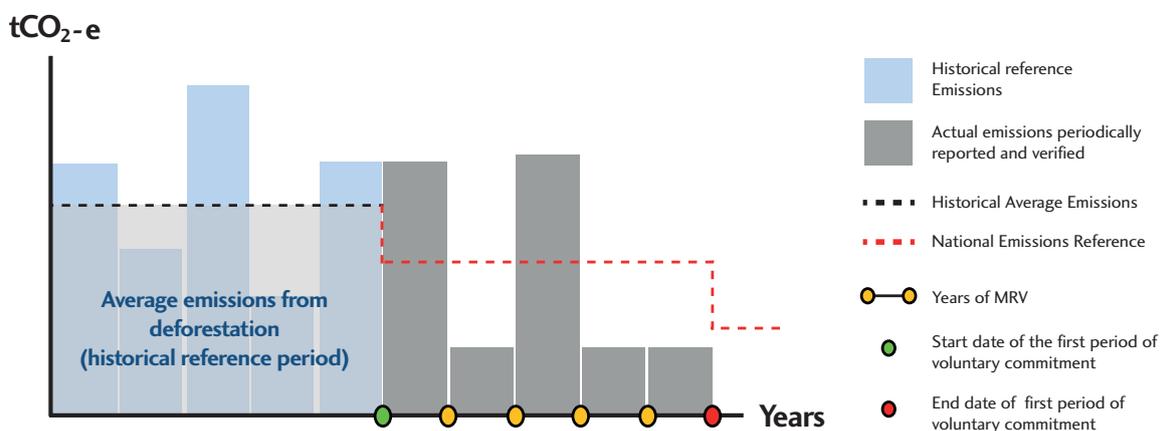
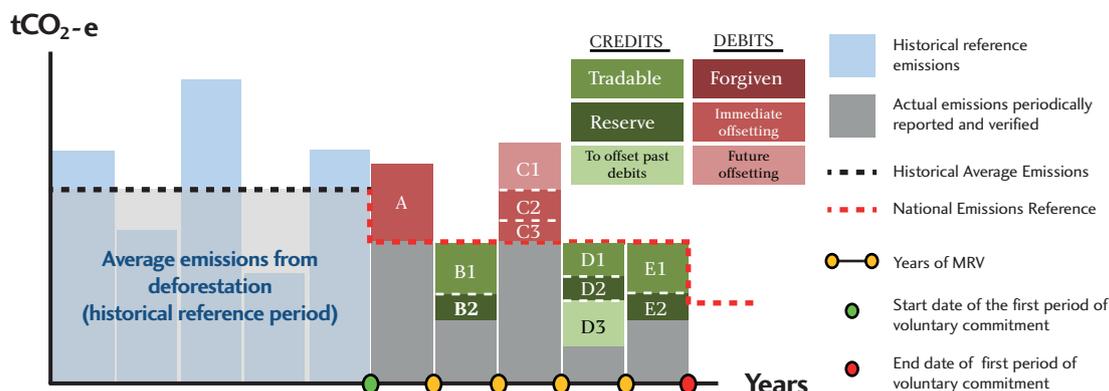


Figure 1.a shows a country's national emissions from deforestation before its voluntary commitment for REDD+ action and its actual verified emission and reference emission levels after the implementation of REDD+ action during the period of voluntary commitment. As indicated in the above Figure, 1.a, in some years its actual emissions re-

ported and verified exceed its reference emission levels, while in some years its actual emissions reported and verified are less than the reference emissions. Upon the end of the voluntary commitment, the national reference emission level is lowered to reflect the commitment to achieve greater emission reductions.

¹⁷ It should be noted that sub-national activities transfer a percentage of their emission reduction credits to the country's national reserve account.

Figure 1.b National Accounting



A, B = Emissions above the baseline

B = B1 + B2 = Credits for reduced emissions; B1 = Credits sold, B2 = Credits reserved

C = C1 + C2 + C3 = Emissions above the baseline

C1 = Emissions to be offset in the following MRV period (C1 = D3)

C2 = Emissions offset by purchasing credits in the market

C3 = Emissions offset by cancelling reserve credits (C3 = B2)

D1 = Credits sold

D2 = Credits reserved

E = E1 + E2 = Credits for emissions reductions; E1 = Credits sold; E2 = Credits in reserve.

D3 = Credits used to offset emissions not offset in the previous period (D3 = C1)

$$C2 + C3 = B1$$

Figure 1.b shows how the amount of credits in the country's national account will change during the voluntary commitment period. During the first MRV period, the country emits more than its reference emission level, but as it is voluntary 'no-lose' commitment and the country has neither received nor sold any emission reduction credits, the excessive emissions will be forgiven. During the second MRV period the country achieved B1+B2 emission reductions, of which B1 is credits sold, while B2 is the buffer credits reserved. From then on, any emissions above the reference emission level in a future MRV period should be compensated by the country. To compensate for the excess emissions, credits would be cancelled in the national reserve account up to the total amount of credits sold and, if that were not enough to back-up the

credits sold, the country would have to buy credits in the market (including reserve credits from other developing countries, if available). Excess emissions above the total amount of credits sold may be offset through greater mitigation efforts in the next MRV period.

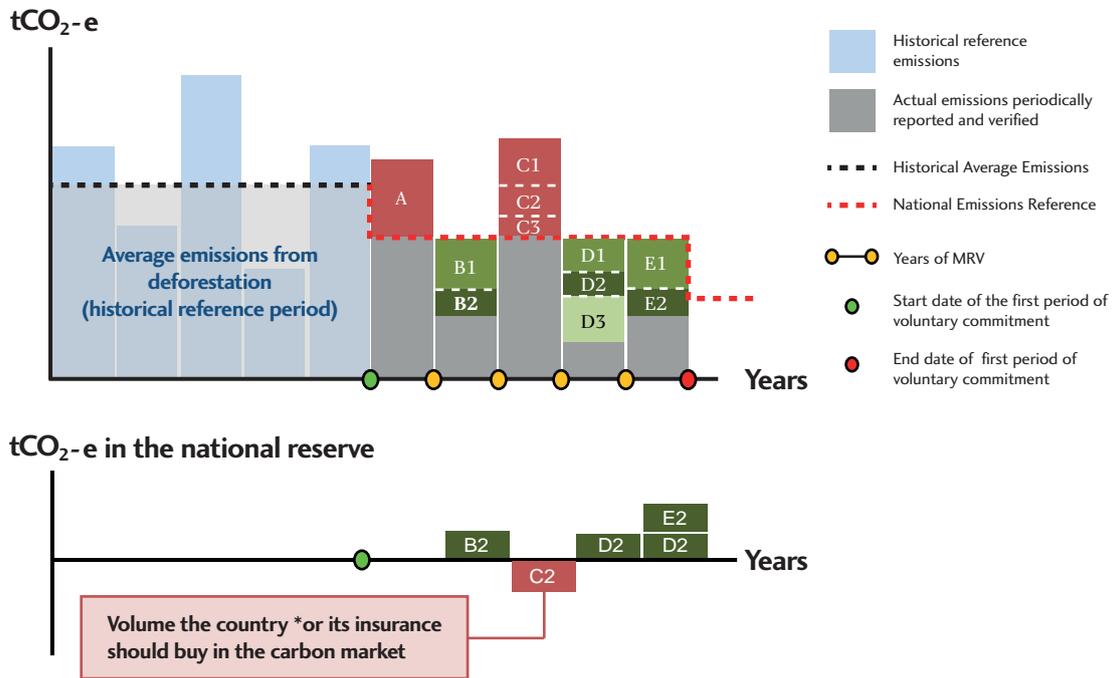
4.10 Net contribution to mitigating climate change

As long as a country does not increase emissions in relation to its national reference emission level, the balance of credits deposited in the national reserve account represents a country's net contribution to mitigating climate change, taking into account the fact that such credits would not be used to offset emis-

sions from developed countries (see Figure 1.c and 1.d). If deforestation continues to be reduced, the stock of emission reductions in

the reserve account is carried over to the next MRV period (e.g. as represented by D2 in Figure 1.c and 1.d).

Figure 1.c. Changes in a country's national reserve under the Purely National Approach



As indicated in Figure 1.c., under a purely national approach, a country only obtains credits at the national level. Hence, during the first MRV period, the excessive emissions A are forgiven and the national reserve account's balance is zero. During the second MRV period, the country's national account achieves a balance of B2 to buffer the B1 credits sold on the market. During the third MRV period, the country's actual verified

emissions are higher than the reference level, to the extent of C1+C2+C3. Among the three parts, C1 will be solved through future offset (the country will not claim credits for the same amount of emission reduction D3 in the next MRV period). The reserve in the national account, B2, will be used to cancel the same amount of excess emissions C2, while the remaining gap C3 will be cancelled by purchasing credits from the market.

Figure 1.d. National account reserve change under the Nested Approach

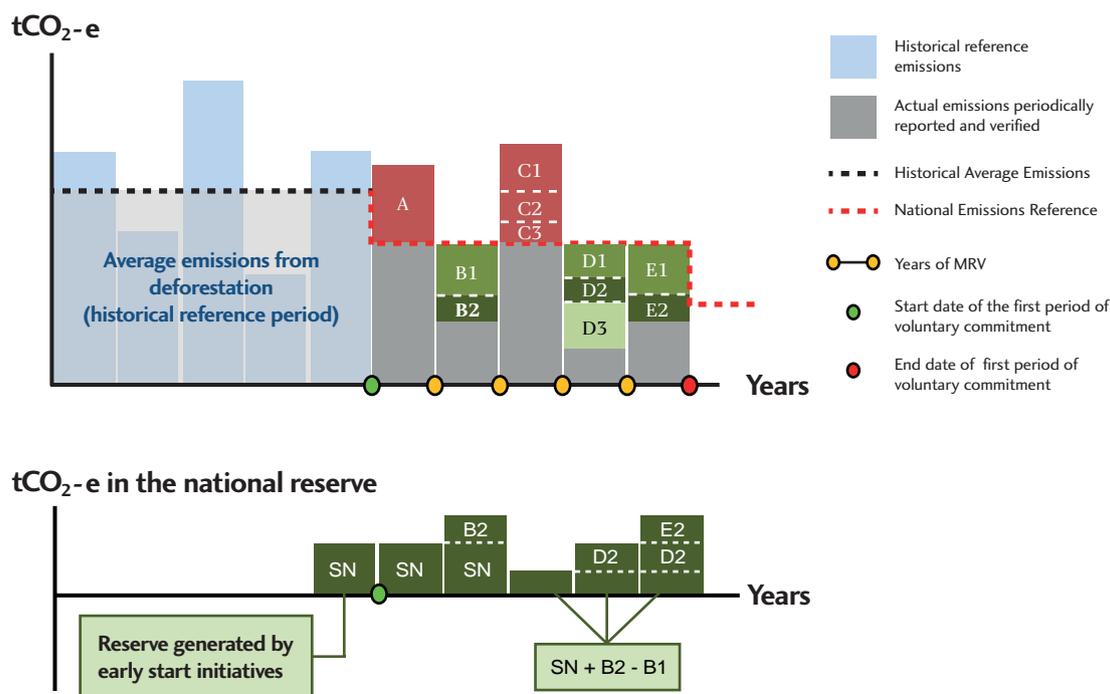


Figure 1.d shows that, using the Nested Approach, sub-national initiatives can start and receive credits before the country makes any voluntary commitment. After the starting of national voluntary commitment, sub-national programs and national programs can co-exist, their geographical scopes being mutually exclusive and their actual and reference emission levels calculated independently. Sub-national programs can continue to earn credits even when national verified emissions exceed the reference level. When they earn and sell credits, they need to transfer buffer credits based on their reserve rate to the national reserve account. If the actual deforestation, and thus emissions, exceed the reference level under sub-national programs or the national program, an equal amount of reserve in the national reserve account will be cancelled.

4.II 'Factoring out' the impact of natural disasters

If, at the end of a MRV period, a country can demonstrate that emissions were caused by natural disasters beyond its control (such as extreme weather events, volcanic eruptions, tsunamis, and other 'forces majeures'), the country would not have to account for these emissions. Methods and principles used to account for the effects of such events should be the same as those that would apply to Annex 1 countries in the post-2012 period (this issue is currently being negotiated). Additionally, to encourage the restoration of areas affected by natural disasters, these should be eligible for activities that generate carbon credits (only if natural re-growth may not be expected to happen), regardless of the date at which the disturbance happened, unless such activities are counted in the reports of planned deforestation.

4.12 Measures to avoid double counting of carbon credits

To calculate the amount of credits attributed to national governments, the volume of credits issued to sub-national initiatives would be subtracted from the emission reductions reported nationally, which would require the establishment of national or/and international REDD+ registries to track the issuance and transfer of credits.

Therefore, the domestic credits a government would receive at the end of a MRV period are calculated as follows:

$$CN_{total} = ENLB_{MRV} - ENMRV_{MRV} - ENE_{MRV-1} - CSN_{total} \quad (2)$$

Where:

CN_{total} = Credits issued internationally to the national government for national emission reductions generated during the MRV period.

$ENLB_{MRV}$ = National reference for emissions for the MRV period.

$ENMRV_{MRV}$ = National emission measured, reported and verified for the MRV period.

ENE_{MRV-1} = National emissions above the reference level for the previous period (MRV-1) that have not been offset by canceling reserve credits or acquiring credits in the market. Note: ENE_{MRV-1} will always equal zero for countries that never received credits for national emission reductions.

CSN_{total} = Credits issued internationally for sub-national emission reductions in the MRV period.

It is important to note that for the same MRV period CN_{total} could be less than zero, in which case the country would not receive credits (and CN_{total}

would be considered equal to zero), while CSN_{total} could be greater than zero – that is, the sub-national initiatives that successfully reduce emissions over a period would receive credits, even if in the same period the entire country has emissions above the reference level. Moreover, if a country started with sub-national activities before adopting a national scheme, the national buffer reserve account would have a positive balance (generated by the same sub-national activities), which would allow the country to offset emissions debits that may occur later at the national level (see Figure 1.d).

The credits issued to sub-national initiative would be calculated using equation (3) in countries that have not yet initiated a national scheme and equation (4) in countries that already have adopted a national MRV scheme.

$$CSN_{total} = ESNLB_{MRV} - ESNMRV_{MRV} - ESNF_{MRV} \quad (3)$$

$$CSN_{total} = ESNLB_{MRV} - ESNMRV_{MRV} \quad (4)$$

Where:

$ESNLB_{MRV}$ = Sub-national emissions reference level for the MRV period.

$ESNMRV_{MRV}$ = Sub-national emissions measured, reported and verified for the MRV period.

$ESNF_{MRV}$ = Leakage emissions by sub-national activities.

Notes:

- In countries that have initiated a national scheme, the $ESNF_{MRV}$ factor is automatically included in the variable EN_{MRV} , which is why leakage does not appear in equation (4).
- National governments can freely decide whether or not to collect a percentage of the CSN_{total} , or a tax, from sub-national activities for leakage as compensation for the sub-national leakage they assume and in order to obtain additional resources to implement

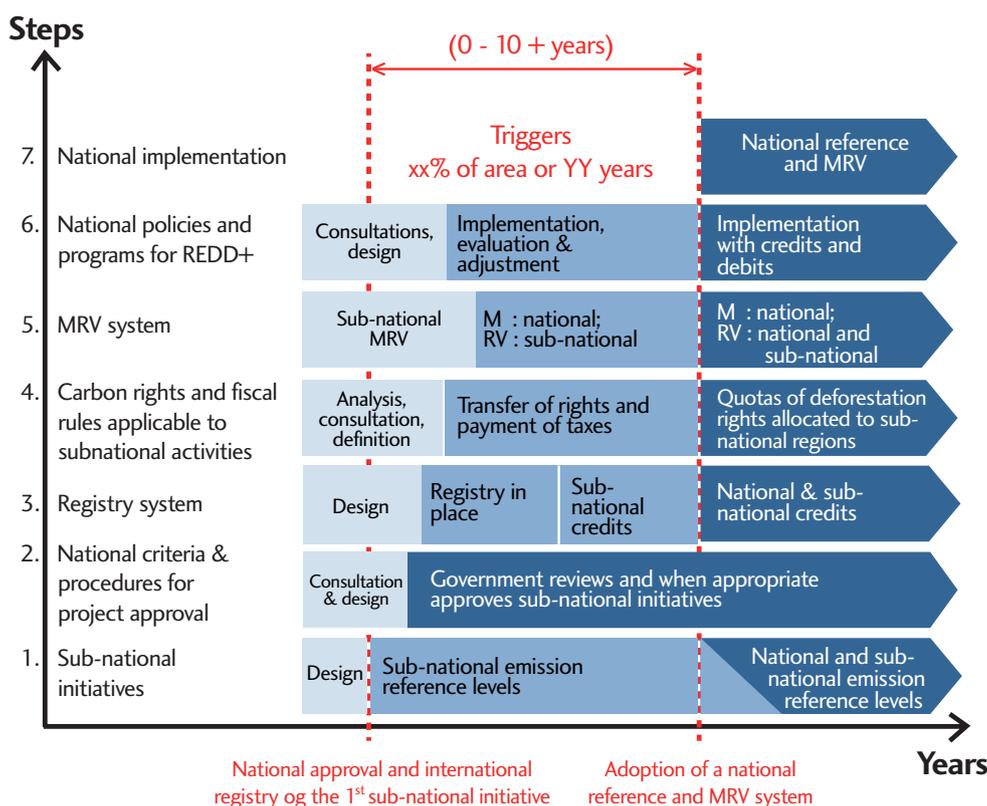
their national REDD+ programs. However, it would be more logical for governments to tax those activities that cause deforestation (including planned deforestation)¹⁸ and to minimize the tax (and bureaucratic) burden of sub-national activities so that these multiply quickly and help reduce deforestation.

5. Steps to implement the NA in a developing country

The implementation of the NA may occur in successive steps, starting in some countries with the

development of independent sub-national activities, ending with a complementary set of activities under a national accounting framework, and whose aggregate result would be monitored, reported and verified at the national level¹⁹. In other countries, the first step may be the development of a national implementation system, and only afterwards would sub-national activities be allowed. Therefore, the main steps in the process can occur in a bottom-up sequence, a top-down sequence, or simultaneously. We assume that in many developing countries the typical sequence will be bottom-up, initiating with sub-national activities and ending with a comprehensive national scheme (see Figure 2).

Figure 2. Example of steps and timelines for implementing the Nested Approach



18 This principle has been included in the Peruvian Law of Ecosystem Services (still in the Peruvian Congress).

19 Yet records of individual sub-national initiatives' outcomes would be maintained, thereby ensuring that successful initiatives receive compensation while preventing, through the registration system, the double counting of carbon credits.

As illustrated in the previous figure, the main steps to implementing the NA starting from sub-national activities can be summarized as follows:

The implementation of the NA may occur in successive steps, starting in some countries with the development of independent sub-national activities, ending with a complementary set of activities under a national accounting framework, and whose aggregate result would be monitored, reported and verified at the national level.

- 1) Preparation of voluntary sub-national initiatives, based on UNFCCC guidance, although they could have begun before such guidance was issued by using internationally recognized standards for carbon accounting and project design. In such cases, sub-national initiatives would need to apply subsequently the methodologies and procedures defined by the UNFCCC if the standard applied initially is not compatible with such methodologies. In the final stage, when the host country has adopted a national reference emission level, the sub-national reference emission level could be defined by using internationally approved methodologies, which should provide guidance for ensuring consistency between sub-national and national reference levels, or be assigned by the national government to the sub-national area (e.g. as a fraction of the national reference emission level) using a nationally defined mechanism.
- 2) Definition by the national government of transparent criteria, procedures, and expeditious review and endorsement of sub-national activities.
- 3) Registration of sub-national activities, including their spatial and temporal boundaries, reference emission levels, verified emission reductions and carbon credits, to ensure an orderly and consistent process for defining the sub-national reference emission levels and to avoid any possibility of double counting emission reductions.
- 4) Definition of emission reduction ownership rights and removal of any ambiguity from the fiscal system applicable to carbon credits within the national regulatory framework.
- 5) Transition from isolated sub-national monitoring systems to a single integrated and institutionalized national accounting, monitoring and information system.
- 6) Improvement, design and implementation of national policies and programs and their subsequent evaluation and adjustment to enable them to become truly effective for REDD+.
- 7) Adoption of a national reference emission level in the land-use or forestry sector.

The steps described above are indicative only and may vary from country to country, depending on national circumstances, capacities and REDD+ policies.

6. Conclusion

This paper has provided a detailed description of the 'Nested Approach' (NA), a proposal designed to promote the immediate and widespread participation of countries and stakeholders in REDD+ activities by mobilizing adequate levels of private and public funding

whilst maintaining environmental integrity. As is now acknowledged by many stakeholders in the international policy process, 'a nested approach to REDD+ has the potential to address many of the drawbacks of pure national or pure sub-national approaches by accounting for in-country leakage, engaging national governments, and taking advantage of certain economies of scale, while also motivating sub-national actors to participate in REDD+ and attracting greater private investment' (Cortez et al., 2010). It also has the potential to yield greater returns in terms of carbon effectiveness, cost efficiency and equity (Angelsen et al., 2008). In a context where donor countries have committed substantial, but still insufficient, public funds to REDD+ through various bilateral and multilateral channels, and where national and sub-national governments as well as civil society and the private sector have launched several REDD+ initiatives, the NA remains an important proposal for building an international agreement on reducing emissions from deforestation and forest degradation.

Although the proposal was originally published by a group of UNFCCC observers, it was later submitted to the UNFCCC by a group of Latin American countries. Some of these countries have changed their position relative to the climate-change policy negotiations in general and REDD+ in particular, while others are still supporting their original proposal and are currently trying to implement the NA in a context where the future of the overarching climate-change agreement is still highly uncertain. Some countries, including Colombia, Brazil, Guatemala, Indonesia, Peru and the USA, are already discussing how to use the approach described in this paper in their national climate-change programs and laws.

Moreover, it is worth noting that the NA described here is compatible with the basic elements of the REDD+ mechanism being defined in the current UNFCCC negotiations. The text on a REDD+ mechanism

being negotiated by the Ad Hoc Working Group on Long-term Cooperative Action contains the possibility (although between brackets) of implementing 'sub-national strategies' and requests developing country Parties to establish a robust and transparent national forest monitoring system, 'with, as appropriate, sub-national monitoring and reporting as an optional interim measure', whilst the guidance for developing-country Parties in implementing REDD+ activities adopted by COP15 recognizes the possibility of establishing, 'if appropriate, sub-national systems as part of national monitoring systems'.

The authors hope that this paper will contribute further to a positive discussion of REDD+ that urgently needs to conclude with an agreement that will enable developing countries to scale up their capacity and commitment to reduce the speed at which the remaining tropical forests, their biodiversity and forest-dependent people are lost.

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The topic for the 2010 edition of the Perspectives is "Pathways for Implementing REDD+: Experiences from Carbon Markets and Communities". This year, the publication goes beyond opportunities afforded by the Clean Development Mechanism (CDM) and includes voluntary markets. It reflects the current experiences about implementing REDD+ activities at the project and community levels. Some of the articles presented discuss or propose ideas about how to create incentives to participate in REDD+, its implementation, and possible financing; how to involve the private sector; what are the experiences from the carbon markets, and how to engage communities in REDD+. The authors have been carefully selected to reflect a mix of different perspectives from the private sector, country negotiation teams, research institutions, and carbon market organizations. They share their insights and ideas on various important aspects and issues for the debates on a global REDD+ mechanism in the ongoing climate negotiations.

This new publication is targeted to a wide audience, including policy makers, country negotiators, research institutions, and other people interested in REDD+.

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