

Special Publication



REDD+ in Nepal: Experiences from the REDD Readiness Phase



REDD Implementation Center
Ministry of Forests and Environment
Government of Nepal

REDD+ in Nepal: Experiences from the REDD Readiness Phase

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Foreword

Date :-

Participation in the REDD+ programme has potential for Nepal to generate carbon revenues as well as non-carbon benefits for the country and its people. Nepal is a signatory to the UNFCCC and the Paris Agreement. Following the 13th COP in Bali in 2007, various REDD+ related activities were initiated within the country. Most recently, Nepal has submitted its National Forest Reference Level to the UNFCCC and has got its Emission Reduction Program Document endorsed by the Carbon Fund of the World Bank. The Nepal National REDD+ Strategy, 2018 has also been approved by the Government of Nepal.

To oversee and implement REDD+, the Ministry of Forests and Environment has established a three-tiered institutional mechanism. They include: 1) Multi-sectoral National REDD+ Steering Committee under the chair of the Minister of Forests and Environment, 2) Multi-stakeholder National REDD+ Coordination Committee under the chair of the Secretary of the Ministry of Forests and Environment, and 3) the REDD Implementation Centre as the coordinating entity. In addition, a stakeholder forum has been established to engage a wide range of stakeholders in the entire REDD+ process.

Participation in REDD+ will help Nepal to access external finance for forest management and conservation activities. Additionally, this is a step towards the decentralization of forest management, strengthening of community-based forestry and resource use, and recognition of customary practices with meaningful and effective participation of indigenous peoples and local communities in REDD+ readiness, investment, and results.

Nepal has been working to achieve REDD+ goals through collaboration between government and various other governmental and non-governmental institutions, civil societies and advocacy groups. In this endeavor, the publication of the edited book '**REDD+ in Nepal: Experiences from the REDD Readiness Phase**' is highly relevant to the completion of Nepal's decade long REDD+ readiness phase.

I would like to express my gratitude to all the authors for contributing their expertise and research work to the book. I appreciate REDD Implementation Centre and ICIMOD for compiling all REDD related achievements and activities. This book highlights REDD context, progress and ways forward in Nepal, which can also be relevant to other countries participating in REDD+.

Bishwa Nath Oli, PhD
Secretary
Ministry of Forests and Environment

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Chapter 1: Introduction: REDD+ in Nepal: Experiences from the REDD Readiness Phase

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Introduction

The climate change agenda has become more important in global politics than ever before with the adverse impacts felt across the globe. Realizing the need to take measures to combat climate change, representatives of 197 countries signed the Paris Agreement under the aegis of the United Nations Convention on Climate Change (UNFCCC) to specifically take action on greenhouse mitigation, adaptation and finance starting from the year 2020.

Article 5, Paragraph 1 of the Agreement states: *"Parties should take action to conserve and enhance, as appropriate, sinks and reservoirs of greenhouse gases as referred to in Article 4, paragraph 1(d), of the Convention, including forests."*

This refers to the need to promote the sustainable management of natural carbon sinks such as forests and other terrestrial ecosystems.

Similarly, Paragraph 2 states: *"Parties are encouraged to take action to implement and support, including through results-based payments, the existing framework as set out in related guidance and decisions already agreed under the Convention for: policy approaches and positive incentives for activities relating to reducing emissions from deforestation and forest degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries; and alternative policy approaches, such as joint mitigation and adaptation approaches for the integral and sustainable management of forests, while reaffirming the importance of incentivizing, as appropriate, non-carbon benefits associated with such approaches."*

These above passages from the Paris Agreement acknowledge the role that forests can play by addressing deforestation, forest degradation, conservation, sustainable management of forests, and enhancement of carbon stocks in addressing climate change.

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REDD+ relies on a results-based payment mechanism to encourage developing countries to participate with long-term commitment to adopt the path of more sustainable forest and land use, decoupling from the previous trends of deforestation.

The REDD readiness phase is about articulating the global REDD+ compliance process at the local level with stakeholders and trying to see how the results-based payment mechanism can stimulate added value for strengthening the sustainability of the forestry sector and meeting global commitments and local needs simultaneously. That is why the REDD readiness phase of Nepal provides a unique opportunity to learn lessons on how to make REDD+ inclusive. Thus, the purpose of this publication is to share this status globally and provide an update on Nepal's REDD+ status.

Nepal's forestry sector is unique because it is people-centric and inclusive. Around 35% of the population (i.e. 1.45 million households) is involved in community forestry. Of the total area, 45% (i.e. 6.61 million ha) is covered by forest. Of this forested area, 27% (1.8 million ha) is managed by local communities to meet their subsistence needs such as timber, fuelwood and non-timber forest products. This context provides the direction for REDD+ strategy to be community-based, participatory and inclusive, building on the four decades of experience and success of the community forestry programme in the country.

Rationale

Developing countries are now preparing for REDD+ implementation, but before implementation there is a readiness phase as REDD+ is a new paradigm in forest management based on results-based payments. Countries have to follow a strict compliance process in order to qualify for REDD+ and the results-based payment.

Nepal, like other developing countries, has been involved in the REDD+ process since the beginning of the discussion on this global policy mechanism (i.e., COP 13, 2007) and is about to complete its readiness phase. This publication documents the experiences of a wide range of experts working on REDD+ in Nepal. The objective is to collect experiences on a wide range of topics related to REDD+ for Nepal and produce state of the art knowledge of the readiness phase, considering that Nepal is the most advanced country in REDD+ in South Asia.

Each chapter in this publication is by REDD experts on that particular topic and provides up-to-date information on the topic. These self-contained chapters cover the breadth and depth of the readiness phase in Nepal and can provide guidance to other countries embarking on the readiness phase.

The authors not only present the developments in the REDD readiness phase, but also discuss in detail the threats, challenges and issues that they confronted during this process, and which will have a bearing on the results-based payment and benefit sharing mechanisms when REDD+ is implemented. The concluding chapter sums up the experiences and indicates the way forward for REDD+ in Nepal.

Chapter 2: Results-based Finance for REDD+: Approaches, Perspectives and Challenges

Simon Stumpf¹, Hermine Kleymann², Kai Windhorst³

Background Results Based Finance

Evolution of REDD+ under UNFCCC – A Snapshot

As a framework, REDD+ has been negotiated for ten years under the United Nations (UN) Climate Convention. It was formally recognized in December 2015, when 197 parties to the Convention adopted the Paris Agreement. Thus, with the Paris Agreement, the focus has shifted from negotiating REDD+ to implementing and financing REDD+ as no additional foundational decisions are needed for REDD+ to be fully implemented.

REDD+ is implemented in three phases that may overlap. First, during the readiness phase, countries prepare the framework and institutional context, beginning with the development of a national strategy and action plans. As a second step during the implementation phase, countries make investments to foster and pilot approaches towards more sustainable land use. In the third phase, results-based finance is rewarded for verified emission reductions. Phase 1 and 2 are financed primarily through public funds, mainly through bilateral and multilateral development cooperation. For financing Phase 3 – payments for verified emission reductions (= tons of greenhouse gas emission reduced) – a variety of finance sources, namely, public or private funds or “appropriate market based”, should be made available (UNFCCC, n.d.) (UNFCCC Conference of Parties (COP) Decision Durban, 2011). According to the Decision of the Warsaw Conference in 2013, the Green Climate Fund will play a key role in providing REDD+ results-based finance.

Results-based Finance (RBF) for REDD+

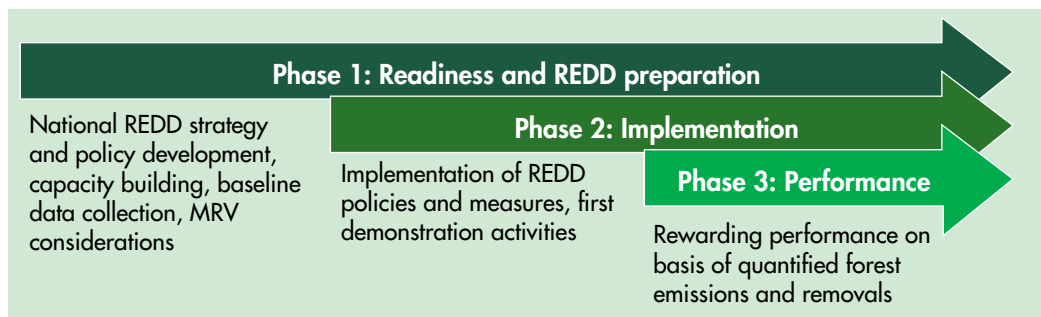
Background and Rationale for RBF

Results-based finance (RBF) (Ehringhaus & Streck, 2015) is an innovative approach to development finance in general – payments are made on the basis of an ex-post

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demonstration of results. RBF for REDD+ is conditional upon a reduction of greenhouse gas emissions from forests (tons of CO₂ equivalent). Rather than providing up-front finance for measures that shall lead to emission reductions, RBF provides an ex-post reward and is designed to incentivize a REDD+ country (the recipient) to take appropriate actions.

The concept of rewarding achievement rather than financing measures shall:

- Provide **incentives** for countries to reduce deforestation on a large scale;
- **Stimulate** long-term political commitment;
- **Reward** countries that have gone beyond good intentions and have managed to reduce deforestation through political decisions, investments and concrete measures;
- **Increase scale** of finance and ambition
 - Lower transaction costs and increase speed
- Foster **transformational change** in land use and rural development, so that in the future low-deforestation scenarios are the norm – even without REDD+.

The perception of the role of REDD+ in reducing global greenhouse gas emissions has changed over the years. In the report by Stern, (2006), it was presumed that REDD+ could deliver large amounts of cost efficient emission reductions (ERs). Opportunity costs in the forest and land-use sector were perceived to be comparably low and REDD+ could be implemented through a combination of governance and limited costs for a transition in land use. However, conflicting interests and barriers involved in the deforestation dynamics have prompted rethinking regarding the expected quick wins through reduced deforestation. Additionally, the absence of finance at scale and non-emergence of a forest carbon market left countries with an uncertain investment climate for REDD+. Over the last decade, only a very few countries have already achieved a significant turn-around of their deforestation trends. Brazil is the most prominent example, illustrating that firm political will to improve forest governance and law enforcement have to be combined with substantial investments in forest and land use. This commitment and a time horizon of almost a decade have been key in significantly cutting Brazil's deforestation rates. Consequently, REDD+ RBF stands to successfully incentivize emission reduction if the financial incentive builds on the recipient country's self-interest to transition toward low-deforestation development. Consequently, existing RBF initiatives consider REDD+ as an incentive and reward to strengthen emerging initiatives and actions to curb deforestation rather than a purely financial mechanism to compensate for opportunity costs.

Conditionalities and key features of REDD RBF

Under the UNFCCC, a country must fulfill four pre-requisites in order to be eligible for results-based (RBF) finance for REDD+:

- A national **strategy** or action plan;
- A national **forest reference level** as the basis for accounting the results of REDD+ activities (subnational as an interim measure);
- A national **forest monitoring** system for the monitoring and reporting of the REDD+ activities (subnational as an interim measure);
- A system for reporting, and a recent summary of information, on how all of the REDD+ social and environmental **safeguards** are being addressed and respected throughout the implementation of the activities.

All results in the form of emission reductions have to be fully measured, reported and verified in accordance with the relevant UNFCCC guidance and processes. All information submitted to the UNFCCC will be published on the UNFCCC REDD+ Information Hub including information on results-based finance received.

However, while RBF needs to be “consistent” with the UNFCCC’s decisions, a finance decision, a ‘**willingness to pay**’ for these emission reductions may depend on supplementary, including more qualitative, requirements.

Existing RBF programmes such as the REDD Early Movers Programme, the Forest Carbon Partnership Facility (FCPF) Carbon Fund or the Amazon Fund make their finance dependent on parameters, which frame the results achieved. Conditions on the use of finance received, risk management measures or carbon accounting may therefore apply. Similar discussions are currently taking place in the design of the RBF-modalities under the Green Climate Fund.

Key Features/Parameters

The following key features, parameters and conditionalities are deciding factors and may be treated differently by different RBF-finance entities and agreements (see overview in 4.1 below):

| | |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Definition of Results | <ul style="list-style-type: none"> • What is being paid for by donor: ERs, verified ERs, policy/activity milestones? <i>It is important to distinguish milestone-results which are not directly attributed to ERs from the REDD+ results of achieved ERs.</i> • What REDD+ activity? Gross/net deforestation, degradation, forest enhancement • What carbon accounting basis? Reference levels based on historical average, adjustments, up to negotiations? |
| Status of Emission Reductions (ER) | <ul style="list-style-type: none"> • ERs need to be validated and/or verified. • Registry: registration and retirement (cancellation of ERs). No double-counting and double payment for same ERs. • ER Titles: Creation of titles needed for commercial transaction (offsetting, carbon market, purchase for int’l obligations), which would require transfer of ER title. |
| Timing | <ul style="list-style-type: none"> • Ex-post payments – after performance is demonstrated • Finance of “Early Action” - ERs achieved before RBF agreement: how far back? • Advance payments which will be subtracted from total ER volume? • Periodicity of payments: yearly, bi-annual, one payment at the end? |

| | |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Managing Risks | <ul style="list-style-type: none"> • ER Risks: Uncertainty, Permanence, Leakage Measures to address risks: • Buffers or set-asides of ERs; • Programme design: including areas at high risk for shifted deforestation pressure in ER accounting area; • Accounting for uncertainty in ER accounting and reference levels, e.g., through adjustments and conservative estimations. |
| Conditionalities | <p>Safeguards</p> <ul style="list-style-type: none"> • Compliance with UNFCCC: Safeguard Information System in place. Summary of SIS submitted to UNFCCC to demonstrate that programme does not cause harm and addresses identified risks in relation to environmental and social issues. • Other Office Development Assistance (ODA)-safeguard requirements? <p>Planning</p> <ul style="list-style-type: none"> • Planning documentation and information on how programme is rolled out and risks managed. <p>Benefit Sharing & Financial Management</p> <ul style="list-style-type: none"> • UNFCCC does not prescribe any conditionality in the use of RBF; proceeds, however, most RBF-initiatives require Benefit Sharing Plans & Strategies and fiduciary standards. • Information on expected non-carbon benefits. |

Landscape of Existing REDD+ (Results-based) Finance Entities and Initiatives

REDD+ RBF is still in the piloting phase. There are several initiatives with different levels of engagement and operational experience. The main distinction is between bilateral initiatives like the Norwegian government's cooperation with selected countries, the German REDD for Early Movers Programme and multilateral initiatives, especially the Carbon Fund of the Forest Carbon Partnership Facility (FCPF). These initiatives are so far the only ones with operational experience - the FCPF Carbon Fund's first disbursement is expected for 2018.

The Norwegian International Climate and Forests Initiative (NICFI)

Currently, the largest funder of RBF programmes is Norway, through its International Climate and Forests Initiative, NICFI (Government of No., 2017). By the end of 2014, Norway had committed more than USD 4 billion in funding of which it has disbursed around USD 1.7 billion. In 2015 Norway pledged up to around USD 0.4 billion annually for tropical forests. Large proportions of this finance go into REDD+ bilateral and multilateral programmes. Brazil, Indonesia, Guyana, Peru and Liberia have REDD+ bilateral programmes.

The German REDD for Early Movers Programme (REM)

The German REM Programme (see above section 2) has a current total volume of about EUR 254.5 million, which includes German funds (EUR 140.5 million) and additional financing from Norway and the UK. The first REM agreement was signed and RBF delivered to the state of Acre in Brazil (EUR 25 Mio.). The second agreement was signed with Colombia (KfW & GIZ, 2015). Germany, Norway and the UK formed a partnership to support the goal of zero net deforestation, implemented through Germany's REM Programme. As a key component of this partnership, the three donor countries have committed more than USD 120 million for results-based finance as well as 1.6 million Euros for targeted technical cooperation.

FCPF carbon fund

The FCPF's Carbon Fund is a multilateral fund managed by the World Bank to pilot RBF for REDD+. REDD+ countries are encouraged to submit ER programmes, which upon acceptance into the portfolio will deliver emission reductions that are compensated after verification. The learning value from an operational, multilateral RBF scheme was a key consideration for the inception of the CF. As of May 2017, 19 countries have been selected for the Carbon Fund pipeline, of which 2 countries are already included in the Carbon Fund Portfolio (Democratic Republic of Congo and Chile).

Bio carbon fund's initiative for sustainable landscapes

The BioCarbon Fund is a multilateral facility managed by the World Bank. It pursues a broad approach to climate change mitigation that is based on land use and that aims to achieve emission reductions not only through REDD+ but also through sustainable agriculture and improved land-use planning. The Initiative for Sustainable Forest Landscapes (ISFL) (BioCF, 2018) provides technical assistance for designing programmes that impact multiple sectors of the economy and results-based payments to incentivize and sustain programme activities. It has so far accepted three countries. Disbursements of RBF have not been made yet.

A way forward – RBF initiatives

Funding for REDD+ RBF has thus far come almost exclusively from public sources; the clear intention to include significant private sector finance has not yet materialized. Similarly, most existing RBF initiatives are designed as bridge finance until an international climate finance regime has been fully established, which rewards REDD+ countries based on results. This will likely happen through the Green Climate Fund. Whether a market mechanism will play a role and be able to generate RBF at scale remains to be seen. UNFCCC negotiations on the role and design of a potential carbon market are still ongoing.

REDD+ RBF is still in a relatively nascent phase, and a variety of funds with differing modalities have been established, but have limited operational experience. The learning experiences are necessary for robust climate finance architecture in the future and the proof of concept is vital for REDD+ RBF. However, approaches need to be streamlined and methodological consistency is necessary for RBF to deliver finance at scale. High-level cooperation between donors is an important step in this direction – in particular the GNU-Partnership plays a crucial role in this context.

The following section provides an overview of the most important characteristics of selected RBF mechanisms with the most significant operating experience and/or relevance: the FCPF Carbon Fund, the REM Programme, the Amazon Fund and the Green Climate Fund. The bilateral Norwegian initiatives were not included since the main principles are the same as for REM and there are peculiarities due to its bilateral nature. The BioCF is still in the process of establishing operating procedures and hasn't gathered operating experience yet.

Overview: Results-based Finance Landscape

| | | FCPF Carbon Fund | Bio Carbon ISFL | German REM Programme | Amazon Fund | Green Climate Fund |
|---------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FUND DETAILS | Funding Area / Type of Finance | Results-based payments for REDD+, national or subnational Emission Reduction Programmes. | Results-based payments for REDD+ with focus on value chain approaches and forest landscape restoration. | -REDD+ (RBF) Finance at national or subnational level with ER performance and favourable institutional conditions, focusing on the "early movers" niche. • Additional targeted support through technical assistance. • REM as "hybrid" results-based finance, with some input based requirements. | Subnational RBF mechanism focusing on Amazon Basin in Brazil. • Results-based finance (ex-post & early action). • Funding focus on the Amazon Biome: mainly protection and sustainable use of forests. | Financial entity under UNFCCC for mitigation and adaptation. • Phase 3 RBF: not fully operational yet • Phase 2: Finance under Investment Framework |
| | Lifetime | 2007-2025 | 2013-2030 | 2011- | 2009- | 2015- |
| | Partner Countries | 19 countries in CF Pipeline of which 2 Emission Reduction Programme Documents (ERPDs) • DRC, Chile - in Carbon Fund Portfolio; 2 ERPDs provisionally selected in Portfolio = Costa Rica, Mexico. | Zambia, Ethiopia, Colombia, Indonesia. | Brazil (Acre), Colombia, Ecuador (not operational yet) | Brazil | REDD+ (Phase 2) – related finance, including: Peru: Resilience of wetlands; Senegal: Increasing the resilience of ecosystems / restoration salinized land Madagascar: Landscape-level adaptation and mitigation, access to private finance; Ecuador: Addressing drivers of deforestation, land-use planning, directing finance towards reducing deforestation. |
| | Volume | USD 727 Mio. | USD 340 Mio. | USD 254 Mio. | USD 1,7 BN. | USD 10 BN for the whole GCF Portfolio. |
| | Niche/ Opportunities | Offering results-based payments to a large number of countries. | Integration of private sector, addressing drivers of deforestation. | Focusing on "early-mover" countries. | Political ownership in REDD+ country. | Expected long-term functioning and expected to play key role for RBF for REDD+ in the future. |
| CONDITIONS & RBF FEATURES | SGs | Cancun Safeguards, World Bank safeguard policies and processes (Strategic Assessment and Management Framework) with special attention to integration of relevant stakeholders. | tbc | Cancun REDD+ Safeguards; promotes establishment and reporting of country systems; KfW Safeguards; BMZ human rights guidelines. | Safeguards of the Brazilian Development Bank | tbc |
| | | | | | | |

| CONDITIONS & RBF FEATURES | | FCPF Carbon Fund | Bio Carbon ISFL | German REM Programme | Amazon Fund | Green Climate Fund |
|---------------------------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| | Planning | Requires formal application process, including submission of ER Programme Idea Note followed by the ERPD which is the cornerstone that follows the requirements of the methodological framework. | tbc | REM Criteria need to be fulfilled. Requires submission of REM template. Feasibility and financial structures are assessed for investment of RBF. | Log frame and results framework | tbc |
| | Benefit Sharing | Requires elaborated Benefit Sharing Plan according to broad principles set by FCPF (effectiveness, transparency, etc.) | tbc | Programmatic benefit sharing and investment plans are outlined in bilateral agreement; Requires that at least 50% of RBF reaches local level and strongly recommends application of “stock-and-flow” approach. | Programmatic approach implemented through the Amazon Fund; Fiduciary standards of the Brazilian Development Bank; Project logic | tbc |
| | Reference Levels | Historical average rates but allows for limited adjustment for “high forest low deforestation” (HFLD) countries with clear justification. | tbc | Historical average rates. | Historical average rates, updated every 5 years. | tbc |
| | Early Action Results | Excluded | tbc | Provides payments for retroactive ERs from “early action” for 1-2 years. | Provides retroactive payments for ERs achieved since 2006. | tbc |
| | Status of ERs | Requires transfer of ERs, formalized through emission reduction payment agreements (ERPAs). | tbc | No transfer of ERs; ERs are retired and cannot be used for offsets, but recipients may report ERs to UNFCCC. | No transfer of ERs; ERs will not be used as offsets. | tbc |
| | Managing Risks: Permanence & Leakage | <ul style="list-style-type: none"> • Buffer for non-permanence risk and uncertainty; • Requires a displacement risk assessment and mitigation strategies. | tbc | <ul style="list-style-type: none"> • Mitigates risks (permanence, leakage, uncertainty) by requiring country contribution of one additional ER for each compensated ER; Protocol for verification process. • Leakage issues must be addressed in design, e.g., scale of accounting area. | <ul style="list-style-type: none"> • Emissions exceeding reference level are deducted from future payments. • Accounting at national scale assumed to prevent in-country leakage. | tbc |

Case Study: REM in Colombia

Background and political commitment

Colombia is highly committed to reducing deforestation in the Amazon, which harbours one of the world's most precious rainforests. The government has set an ambitious goal of zero net deforestation by 2020. Colombia adopted a comprehensive set of policies and incentives to support forest protection and sustainable land use. As a core policy the government launched the Amazon Vision, a progressive low deforestation programme to promote sustainable development in the region.

The governments of Colombia, Germany, Norway and the UK have formed a new partnership to support the goal of zero net deforestation. As a cornerstone, the four governments have agreed on an initiative for results-based REDD+, providing funding based on verified emission reductions as a result of reduced gross deforestation in the Amazon Biome. Together, the three donor countries have committed more than USD 100 million in results-based finance to be implemented through the German REM Programme.

How the programme works

The programme rewards emission reductions at a value of five US dollars per ton of carbon dioxide equivalent. Payments under this agreement will be based on emission reductions for the period 2013 to 2017. Funds will be invested to further contribute to low-deforestation development in the Amazon. Emission reductions are calculated from changes in forest cover in the Amazon Biome. This area contains more than 40 million hectares of forest. Forest cover changes are measured against a reference level based on historical average deforestation rates. The first payments have already been made for reduced deforestation in 2013 and 2014.

The payments are invested according to a jointly agreed "benefit-sharing and investment distribution scheme" on the basis of the investment portfolio developed by the Government of Colombia for the Amazon Vision. The five pillars of the programme are: (1) improvement of forest governance, (2) sustainable sector development and planning, (3) agro-environmental development, (4) environmental self-governance on indigenous territories, (5) enabling activities.

The Colombian government is implementing the programme in line with REDD+ Safeguards agreed in Cancun. The challenge will be to operationalize the programme and to promote sustainable, low-deforestation development on the ground. This will need a very significant effort, especially in the Amazon region where institutional governance and existing implementation structures are still limited.

The Contribution of the German Development Cooperation to Forests and REDD+

Forests are one of our world's greatest treasures. They provide livelihood to more than 1.6 billion people. Forests are critical for climate. Around 11% of global emissions are caused by deforestation. Forests provide us essential services for our environmental, social and economic well-being on this planet. Yet forests are under severe threat, especially in developing countries. We have already lost more than half of all tropical forests. If we cannot halt this trend, within two generations all tropical forests will have disappeared (Birdsall et. al., 2015).

REDD+ is an approach towards addressing this threat and a promising means to keep trees standing in developing countries. Developed by the international community under the UN Framework Convention on Climate Change (UNFCCC), it is a framework to protect forests and their unique biodiversity. The logic of REDD+ is to offer results-based rewards to governments and local communities for verified emission reductions achieved through reduced deforestation and degradation, conservation, restoration or sustainable forest management. Payments for REDD+ made by the BMZ come from bilateral and multilateral climate finance funds.

Forest protection has been an integral part of the German Development Cooperation for years (BMZ, 2017). Currently, the German Ministry for Economic Cooperation and Development, BMZ, supports 229 forest-related projects globally with almost 2 billion Euros through its financial (KfW) and technical (GIZ) assistance. The BMZ's multilateral and bilateral funding for REDD+ so far amounts to over 900 million Euros.

The BMZ supports particularly forward-thinking pioneers through its 'REDD Early Movers Programme' (REM). Examples include the Brazilian state of Acre and Colombia's Amazon region, where CO₂ reductions are being measured in accordance with international standards (Monitoring, Reporting and Verification – MRV). Funding is allocated to climate change mitigation measures proven to be effective, and care is taken to ensure funds are distributed equitably (benefit sharing), including among local populations. Commissioned by the Federal Ministry for Economic Cooperation and Development (BMZ) and jointly implemented by Kreditanstalt für Wiederaufbau (KfW) Development Bank and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), REM supports countries and large-scale jurisdictions/ regions that have already taken action and made progress towards mitigating climate change by protecting forests – also referred to as *early movers*. Within REM, KfW operates the carbon finance component while GIZ provides targeted technical support to partners. The BMZ aims to extend its bilateral REDD Early Movers Programme to a total of five to six country programmes by 2020.

Germany is currently the second largest donor in the World Bank's multilateral Forest Carbon Partnership Facility (FCPF), alongside Norway and the United Kingdom. Over the next few years, around 20 countries are to receive payments from the FCPF's Carbon Fund, if they can demonstrate that their forest protection measures have been successful.

The German Ministry for Economic Cooperation and Development will stay committed to REDD+ and forest finance in the future as well. As part of the GNU-pledge (see below), the BMZ (80 percent) and BMUB (20 percent) will together provide USD 1.1 billion by 2020 with a focus on results-based payments for REDD+.

GNU partnership

The German Government supports the global forest protection agreements concluded by the United Nations and via other forums and processes. It is cooperating closely with other European governments and international partners. One particularly noteworthy cooperation arrangement has been initiated together with the governments of Norway and the United Kingdom (Germany, Norway, and United Kingdom – GNU). The three countries have agreed to work together to improve coordination and promote ambitious programmes to achieve the goals set in the New York Declaration and Paris Agreement more quickly and efficiently. The three partner countries have been working closely and have issued joint statements expressing strong support for ambitious, credible action to address deforestation and promote forest restoration, including a strong focus on providing results-based finance for REDD+.

Joint statement on REDD+ 2014, (UNSG Climate Summit)

At the UN Climate Summit in 2014, the Partnership announced support for the New York Declaration on Forests, in particular, to:

- scale up results-based finance for large-scale, REDD+ emission reduction programmes, including up to 20 new credible programme proposals presented by the end of 2016 if countries put forward robust proposals;
- strengthen existing partnerships, and create new partnerships with forest countries designing green growth strategies;
- support civil society and indigenous peoples, building public support for strong forest policies; and
- work with leading private sector companies taking deforestation out of their supply chains, with the financial sector, and with other donor governments.

Joint statement, December 2015 at COP 21 in Paris on unlocking the potential of forests and land use 2015

In Paris at COP 21, the GNU Partnership endorsed the Leaders' Statement on Forests and Climate and announced its financial support would increase to USD 5 billion between 2015 and 2020, if forest governments and the private sector continued to move forward with ambitious plans, specifically:

- To increase annual support for REDD+ if countries come forward with ambitious and high quality proposals, with an aim to provide over USD 5 billion in the period 2015-2020, including a significant increase in pay-for-performance finance for measured, reported and verified emission reductions;
- Scale up support and technical assistance to build capacity, improve governance, address land tenure, strengthen sustainable land use, and promote full and effective participation

of indigenous peoples and local communities in programmes that reduce deforestation and forest degradation;

- Partner with the private sector to transform supply chains to become deforestation-free, and leverage hundreds of billions of private investment in forests and agriculture.

The GNU partners will stay committed to supporting REDD+ through a range of instruments and approaches to support ambitious actions, including bilateral cooperation with REDD partner governments, joint financing through the German REDD Early Movers Programme, investments in major multilateral forest funds such as the Forest Carbon Partnership Facility (FCPF), the Bio Carbon Fund's Initiative for Sustainable Landscapes (ISFL) or the Forest Investment Programme (FIP). The GNU partners furthermore strive to ensure the Green Climate Fund can support countries in implementing robust jurisdictional REDD+ programmes, including through results-based finance.

Challenges, Opportunities and Conclusion

Challenges for REDD+ RBF

The following challenges are faced by recipient countries in accessing RBF and producing REDD+ results and by donor countries while disbursing REDD RBF:

| Challenges in accessing RBF/producing results | Challenges in disbursing RBF |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Complexity of deforestation problem:</p> <ul style="list-style-type: none"> • Capacity, political will and investment to address drivers of deforestation; • Law enforcement; Rights regime – land tenure insecurity, corruption; • Conducive business environments – engagement with private sector; • Need for adaptive management as deforestation is a moving target and the political and ecological environment is subject to change. | <p>Limited availability of results to finance:</p> <ul style="list-style-type: none"> • Addressing deforestation is complex and takes time, causing delays in moving from preparation stages to implementation and RBF disbursement; • Recipients struggle to introduce reforms and undertake actions necessary to generate verifiable results; • Only few countries are currently producing REDD+ ERs that can be rewarded ex-post. |
| <p>Lack of institutional and technical capacity for REDD+ RBF systems:</p> <ul style="list-style-type: none"> • Policy coherence between ministries and levels of government; • Technical capacity for MRV, carbon accounting, safeguards and financial management. | <p>Working with hybrids of RBF and input-based finance:</p> <ul style="list-style-type: none"> • Limited experience of donors with RBF; • Compatibility with input-based operational frameworks, ODA procedures, planning and reporting requirements; • Annual budget allocations for ODA vs. uncertain disbursement of RBF per year. |

| Challenges in accessing RBF/producing results | Challenges in disbursing RBF |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Uncertainty about long-term finance/ Demand for ERs:</p> <ul style="list-style-type: none"> • Existing investments needed to supplement REDD+ RBF; • Uncertainty about finance makes it harder to design long-term development strategies that incorporate low-deforestation pathways; • Strategic focus in accordance with sub-programmes and stock and flow principles. | <p>Diverging donor approaches:</p> <ul style="list-style-type: none"> • Differing understanding of RBF and diverging RFB requirements – high-level cooperation and flexibility needed. |
| <p>Complex bureaucracies and ODA procedures: Fragmentation of REDD+ RBF with different funding requirements;</p> <ul style="list-style-type: none"> • Delays possible when rules for accessing RBF are complex and review procedures lengthy. | <p>Accountability versus country ownership:</p> <ul style="list-style-type: none"> • Aid effectiveness on the one hand and ensuring country ownership and swift disbursement on the other hand. |

Lessons learned

The following lessons learned are derived from the experiences of operational RBF initiatives. The (limited) practical experience comes mainly through the FCPF Carbon Fund, research by the Centre for International Forestry Research (CIFOR) and the REM Programme in Acre and Colombia.

Political leadership: Firm political will to pursue the agenda of sustainability, forest protection and reducing deforestation is key for the success of REDD+. Only if the recipient countries are committed to transitioning towards low-deforestation development can REDD+ RBF provide additional incentives to successfully reduce emissions from deforestation and degradation.

Follow a programmatic incentive-based approach

Building on existing robust political frameworks and structures was a success factor for the REM Programme in Acre. Distributing RBF through government programmes that are already in place, such as payment for ecosystem services (PES), helps to deliver funds to stakeholders more efficiently.

Equitable distribution of benefits – stock and flow

REDD+ benefits need to be distributed to incentivize both the reduction of deforestation and the continued protection of forests. Actors who have historically been successful in guarding

forests have to also benefit from RBF to encourage ongoing positive behaviour and avoid perverse incentives. A “stock and flow” approach, as applied in the REM Programme in Acre, rewards both protection of forests (stock) and the reduction of deforestation (flow). This approach allows equal participation of various stakeholders, especially of indigenous communities (Wong et al., 2016).

Participation

Broad participation in designing REDD+ strategies is key to successful implementation of measures. It enhances legitimacy of benefit sharing arrangements and distribution of RBF. The involvement of civil society actors in monitoring programme activities in Acre has become part of the political landscape.

Opportunities and conclusion

RBF for REDD+ is an innovative approach for delivering development and climate finance with the potential to incentivize more sustainable forest and land use. However, experience from the last decade has shown that financial incentive from REDD+ RBF alone is not sufficient to instigate long-term transformational change. On the one hand, payment for a tonne of CO_{2e} for reduced deforestation made through RBF mechanism is not sufficient to compete with the opportunity costs and market of agricultural commodities. On the other hand, and more importantly, transitional change resulting in reduced deforestation requires firm political commitment and time.

Given the high initial expectations for REDD+ from both donors and REDD+ countries, a basic requirement is that expectations are managed and realistic objectives are set. As a result of the complexities of implementing a truly functional REDD+ framework, existing RBF schemes are struggling with the fact that only a very few countries have reached REDD+ phase 3 and are able to deliver verifiable emission reductions. Most REDD+ countries still face the challenge of implementing strategies that can bring about change in land use dynamics and deliver emission reductions. This leads to the conclusion: RBF programmes should initially focus on the most advanced countries and jurisdictions that have a higher probability of delivering verifiable emission reductions in the short- to medium term. Existing programmes could hence be strengthened and scaled up, resulting in a multiplier effect of RBF. This however requires that countries have already established political strategies to tackle deforestation and have taken steps towards implementation (World Bank, 2013)

At the same time, REDD+ has created political momentum internationally and provided a prominent platform to discuss more sustainable forest and land use. Around 60 countries worldwide have engaged in REDD+ through their participation in various initiatives, most prominently the FCPF Readiness Fund and UN REDD. More than 20 countries are progressing towards transitioning into Phase 3, with 19 countries in the pipeline of the Carbon Fund. REDD+ countries have initiated processes to work on forest governance and land-use planning processes, address and discuss land rights issues, monitor forest cover change and identify intervention strategies to counter drivers of deforestation and degradation.

RBF alone is not a panacea to reduce emissions from deforestation and degradation. In order for RBF to incentivize ambition, REDD+ countries will need to come forward with politically backed long-term strategies to change forest and land use dynamics. The Paris Agreement calls all countries to identify nationally determined contributions (NDCs) and to embrace the concept of sustainable development in combating climate change.

In view of the tasks and framework for action of the UNFCCC and obligations from other conventions (like CBD) and regimes (like UNFF), one could argue that the primary objective in all countries should be a holistic, integrated sustainable forest and land use management, integrated into the concept of sustainable development. In this context REDD+ RBF can form an additional crucial incentive to direct countries towards tackling deforestation and unsustainable land use. However, the financial incentive in itself will not be sufficient; providing support through well-directed investments and increasing the involvement of the private sector are at least of equal importance. RBF can help to shape ground rules that make the inclusion of other actors more straightforward and provide a clearer path towards transformational change.

In conclusion, RBF may serve as a trigger to raise ambition and an incentive to reward results, if it is the country's interest to transition towards low-carbon – including low-deforestation – development. RBF will then be the “cherry on the cake”. Donors will need to play their part in scaling up finance and ensure that RBF is delivered in a coordinated and coherent manner.

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Chapter 3: REDD+ Finance in Nepal

Ugan Manandar¹ and Charlie Parker²

Background – Role of REDD+ Finance

Finance plays a critical role in conserving and enhancing forests in developing countries. In economic terms, forests are an asset. This asset is often referred to as natural capital, and is defined as the stock of natural materials in an ecosystem (Parker, C., Cranford, M., Oakes, N., Leggett, 2012). Natural capital generates benefits at the local, regional and global level that directly or indirectly support our wellbeing. These benefits, which are often referred to as ecosystem services, include climate regulation, water purification, food security, and energy security.

Forests, however, can be converted into other forms of capital - most notably financial capital (i.e. money) - that deplete the benefits provided by forests through ecosystem goods and services. As with most public goods, finance is needed to ensure that natural capital is sufficiently valued to compete with other forms of capital, so that the benefits that forests provide can be maintained sustainably into the future.

In reality, REDD+ finance can come from a range of sources, both public and private, and domestic and international. To achieve REDD+ outcomes, finance from all of these sources will need to be mobilized. Currently, however, the majority of land-use finance in developing countries is targeted at activities that convert forests to other land uses. A recent study analyzing the role of multilateral finance found that between 2008 and 2014 the World Bank provided over USD 100 billion in concessional finance to projects in sectors that drive deforestation (Puzio, 2015). In comparison the bank funded just USD 3 billion to REDD-aligned projects over the same period.

A similar study looking at domestic finance found that – on average – domestic agricultural subsidies are a factor of 100 times greater than domestic REDD-aligned finance (McFarland, Whitley, & Kissinger, 2015). In the context of projections of increased spending in agricultural and other sectors that drive deforestation, such as infrastructure and mining, the role of REDD+ finance becomes even more important.

As a recent paper on scaling up REDD+ finance argues, four complementary approaches are needed to address these concerns (Parker, 2018). First, developing countries engaged in REDD+ will need to ensure that domestic subsidies are aligned with forest friendly objectives, including reversing harmful subsidies that drive forest loss. Second, donors,

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including multilateral development banks, will need to ensure that Official Development Assistance (ODA) that is not necessarily targeted at REDD+ does not inadvertently lead to forest clearance. Third, supply chain actors will need to develop sustainable production and procurement practices to ensure that commercial agriculture, mining and infrastructure is not a driver of deforestation. Finally, banks and institutional investors will need to develop forest-friendly lending practices to screen lending and investment opportunities in developing countries. To be successful, these financial strategies will need to be aligned with domestic development goals, so that developing countries can grow sustainably while preserving their natural capital.

Current REDD+ Finance in Nepal

Nepal is a relatively small country with historically low rates of deforestation, but is a pioneer in REDD+ finance. Under its community and collaborative forest management programmes, the government of Nepal has been able to restore over 1.2 million hectares of degraded forests and generate livelihoods for over 1.6 million households through 17,685 community forest user groups (CFUGs) (MoFSC, 2015a). The government achieved this remarkable goal through a blend of domestic, and international, as well as public and private financial resources.

Nepal has been a major recipient of donor support for many decades. External aid has increased from USD 0.13 million per year in 1956 to over USD 1 billion in 2013 (MoFSC, 201b). Notwithstanding this, the majority of ODA in Nepal today is not directed to forests. In 2015, bilateral and multilateral finance for REDD+ in Nepal was estimated to be around USD 30 million. While this has declined significantly in recent years with the closing of the Multi Stakeholder Forestry Programme (MSFP) and the Forest Resource Assessment (FRA), Nepal is currently targeting the Forest Investment Program (FIP), Forest Carbon Partnership Facility (FCPF), and Green Climate Fund (GCF) to support the implementation of the national REDD+ strategy.

Nepal has also been a pioneer in developing carbon finance projects. In 1996, the Government of Nepal established the Alternate Energy Promotion Centre (AEPC) under the Ministry of Population and Environment (MoPE) to promote access to renewable energy technologies. The AEPC subsequently developed the Rural Renewable Energy Subsidy Policies to improve access to renewable energy technologies for people living in rural areas, minimize pressure on forests, and bring about multiple benefits. Under this programme, over 200,000 biogas units have been installed to date in Nepal, generating approximately 0.6 MtCO_{2e} per year in emission reductions through reduced fuelwood consumption (UNFCCC, 2018). Assuming a carbon price of USD 5/tCO_{2e}, this equates to roughly USD 3 million per year for Nepal through voluntary carbon markets.

Similarly, Nepal has some experience in voluntary carbon markets. The World Wildlife Fund for Nature (WWF) Nepal Gold Standard Biogas Voluntary Emissions Reductions Program installed 7,500 biogas plants in the Terai Arc Landscape (TAL) (WWF, 2008). The programme

reduced emissions by approximately 0.15 MtCO₂ between 2007 and 2014 and generated USD 2.5 million in revenue. This additionally helped to establish a USD 1 million revolving fund for communities to support the second phase of the programme and install another 20,000 biogas units.

Data on domestic REDD-aligned finance in Nepal is scarce with relatively little analysis of government expenditures on climate-related land use activities. Notwithstanding this, domestic finance plays an important role in Nepal through government support to activities such as the Community Based Forest Management (CBFM) programmes. In 2012, support for climate change activities under the Ministry of Forests & Soil Conservation (MoFSC) was estimated to be USD 51 million, equivalent to around 41% of the total ministry budget (Bhattarai, R. C., Bogati, R., Bird, N., O'Donnell, M., Lee, J., & Sigdel, 2011). In addition, other ministries, such as the Ministry of Agricultural Development (MoAD), have significant climate related budgets (USD 121 million) that are presumably aligned with REDD+ objectives.

The private sector, predominantly through community-level investment, also provides important co-financing for REDD-aligned activities in Nepal. Community-level finance is provided through equity investment in biogas development, and management of community forest user groups. Again, while private sector data is scarce, in 2008 it was estimated that about NPR 1,267 million (USD 12 million) was being invested annually for the development and management of CFUGs, mostly through labour (Pokharel, Branney, Nurse, & Malla, 2007). In the same year, household co-financing of biogas and improved cook stoves (ICS) was estimated to be around NPR 908 million (USD 9 million).

Finally, it is worth noting that both communities and the government generate revenues from REDD-relevant activities in Nepal. CFUGs can make money through the sale of forest products and other non-timber resources. The government also generates revenues through tax on timber sales. In 2008, taxes on the sale of forest products from community forestry were estimated at a total of USD 8.5 million (MoFSC, 2015a).

Opportunities and Challenges for Nepal

Nepal has several opportunities to scale up finance for REDD+ that can broadly be grouped into three categories.

Greening domestic finance

To ensure that domestic finance is aligned with REDD+ outcomes, Nepal needs to consider both scaling up positive subsidies that reward sustainable land use activities, and scaling back or phasing out negative subsidies that can drive deforestation and forest degradation.

Nepal has several exemplary programmes that could be scaled up to incentivize forest conservation. The community and collaborative forest programmes could be used as a model to scale up finance for REDD+. In addition to promoting community-based management of forest products, CFUGs could be incentivized to maintain and enhance forest carbon stocks. This might involve improved management practices, such as reduced impact logging,

and fire management, as well as species selection and longer rotation cycles to promote faster growing and larger trees. These would all require additional “green” incentives for communities to implement such practices. Domestic forest subsidies could also be implemented to promote private sector forestry in Nepal. This would entail long-tenure, low-cost capital for small-scale landholders to incentivize forest plantations on their private lands.

The opportunity for Nepal would be the creation of a domestic forestry industry (whereas Nepal is currently dependent on neighbouring countries for its timber imports). This would create livelihoods for Nepal’s rural population, and additional tax revenues to the government from a thriving forest industry. The challenge for Nepal will be creating the right incentive structures to promote private and community forestry and channelling funds through institutions that are accessible to target populations.

While Nepal has been a pioneer in developing community forestry programmes, it is still in the early stages of developing a cross-sectoral approach to REDD+. In 2010, just 16.9% of the budget of the MoAD was labelled as climate-relevant, and there are still very few examples of synergies between ministries such as the MoAD, Ministry of Physical Infrastructure and Transport (MoPIT), Ministry of Federal Affairs and Local Development (MoFALD), and MoFSC. The Leasehold Forestry and Livestock Programme (LFLP) is one such initiative coordinated by MoFSC, but the programme has had only limited penetration in Nepal. Including ministries such as MoAD and MoPIT, which on the one hand might contribute to deforestation but on the other could be a solution to REDD+, will be an essential component of Nepal’s success in achieving its REDD+ objectives.

Redirecting foreign aid

Nepal receives on average around 15% of its annual budget from foreign aid (OECD, 2018). The majority of this finance, however, is not targeted at REDD+. A brief analysis of existing flows shows that only USD 3.8 million of the total USD 1.4 billion in 2015 was targeted at forestry projects. In comparison, agriculture, energy distribution, and transport – three sectors that are linked with deforestation – received USD 71 million, USD 40 million, and USD 82 million respectively in international aid. While it is an oversimplification to group these activities into either positive or negative flows, there is a clear opportunity to redirect some of the finance currently flowing to “REDD-relevant” sectors towards REDD+ outcomes (Falconer, Dontenville, Parker, Daubrey, & Gnaore, 2017).

To understand which programmes and sectors might be more closely aligned with REDD+, a more detailed analysis of donor funding in Nepal is needed. Food security programmes should be appropriately safeguarded to ensure that, for example, agricultural support doesn’t lead to extensification in areas such as the Terai where forests and agriculture compete. Similarly, infrastructure projects should be screened to ensure that they are zoned around protected areas and areas with high carbon stocks. This again requires a relative degree of sophistication in land use planning and inter-ministerial coordination, which Nepal will have to prioritize in the coming years.

In addition to redirecting existing foreign aid towards REDD+ outcomes, Nepal should be (and is currently) seeking multilateral support for REDD+. There are several major pools of REDD+ finance including the FIP, FCPF and GCF, all of which can be harmonized towards common objectives. Nepal is a culturally and ecologically diverse country that offers many opportunities for donor financing, and the challenge and opportunity for Nepal will be aligning and sequencing these various sources of finance in a way that makes sense to both donors and the government's domestic priorities.

One promising opportunity that can leverage these various sources of finance (and importantly does not leave money on the table) is the use of concessional loans to finance emission reductions that will later be financed through results-based payments. Both the FIP and International Development Association (IDA) offer highly concessional loans that can provide the much-needed up-front finance to fund forest restoration and enhancement activities. When emission reductions from these activities can be measured, reported and verified they can later be financed through REDD+ performance-based payments, from donors such as the FCPF Carbon Fund and the GCF, to repay the loans and scale up further activities in the country. This type of arrangement has the additional benefit of avoiding any potential double counting in donor finance.

Greening supply chains

Unlike many forest rich countries, Nepal is not a major exporter of cash crops. Nepal is a net importer of agricultural commodities, and in recent years has lost much of its labour force to nearby rapidly emerging economies in the Middle East (Himalayan Times, 2017). Despite this, given Nepal's unique cultural and ecological conditions there are opportunities to develop "deforestation free" commodities that could provide a boost to the domestic economy and support sustainable forest management through commodity supply chains.

Nepal is a major exporter of cardamom, with exports of around USD 45.6 million in 2015, equivalent to 5% of the GDP (Simoes & Hidalgo, 2011). Altogether, around a hundred medicinal and aromatic plants are exported annually from Nepal and constitute about 12% of the total export value of the country. These non-timber forest products that are grown sustainably in forest areas could be scaled up to support forest conservation activities and revitalize local communities. Nepal also has the potential to scale up markets in rare and high-value timber species such as agarwood (oud), and teak, that are currently only occurring in fragmented areas.

Scaling up these supply chains will involve a number of activities, including training and development of entrepreneurs, service providers and local businesses; establishment of nurseries and extension services to growers; and research and development of locally adapted species for market development. Some of these activities will initially need to be supported by government interventions, but as the market matures, these services will slowly be taken over by the private sector.

Conclusion

REDD+ in Nepal cannot be considered as a stand-alone initiative. Forests impact many areas of Nepal's culture, and are central to continued and sustainable growth. To date, however, the management of forests and the lands that they occupy in Nepal has occurred somewhat in parallel across different ministries that control land use decision-making from a sectoral perspective. In addition, the concept of REDD+ and the multiple benefits of maintaining and enhancing forests has yet to fully permeate the government as a whole, and remains confined to just a handful of government staff. This limited coherence and capacity, as well as the frequent turnover of government staff, has hampered Nepal's progress on REDD+, with successes in Nepal occurring in individual initiatives, such as the community forest programmes of the mid hills, and the national biogas and cookstove initiative in the temperate regions of Nepal.

For REDD+ to be implemented at scale, the government of Nepal will need to overcome these barriers and develop a coherent and integrated vision of REDD+ in Nepal. Over the past five years, Nepal has made significant advancements in this regard. The national REDD+ strategy, in conjunction with the large-scale finance being sought under the Forest Carbon Partnership Facility and Forest Investment Program, offers an opportunity for the government to reorient its national REDD+ implementation.

Much of the architecture for REDD+ implementation already exists in Nepal, with longstanding experience with international donor support, as well as strong domestic programmes that target improved forest management or reductions in emissions from deforestation and forest degradation. REDD+ finance should not be seen as a single tool, but rather a coherent and coordinated toolkit that comprises international payments for performance, large-scale ODA (including highly concessional loans), and domestic budget allocations that can leverage private sector finance from companies and households to implement REDD+ at scale.

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Chapter 4: REDD+ in Nepal: Status and Approach

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Current Status and Timeline of REDD+ in Nepal

National REDD+ readiness preparation (REDD+ phase 1)

Nepal is one of the pioneer countries to implement REDD+ (reducing emissions from deforestation and forest degradation, and forest conservation, sustainable management of forests, and enhancement of forest carbon stocks), soon after the United Nations Framework Convention on Climate Change (UNFCCC) adopted decisions on REDD+ at COP13 in Bali, Indonesia in December 2007. Nepal prepared a REDD+ Readiness Plan Idea Note (R-PIN) and submitted it to the World Bank FCPF (Forest Carbon Partnership Facility) in April 2008 requesting for financial and technical support. Based on the R-PIN, the FCPF selected Nepal to access a grant of USD 200,000 to prepare the REDD Readiness Preparation Proposal (MoFSC, 2010) (R-PP) and USD 3.4 million to implement the R-PP. The R-PP submitted by the Government of Nepal (GoN) was reviewed by independent experts under the procedures of the FCPF and accepted by the FCPF Participants Committee in June 2010. In March 2011, the World Bank and GoN signed a REDD+ Readiness Preparation Grant Agreement for USD 3.4 million to help the country get ready for REDD+, as proposed in the R-PP, through technical studies, consultations, and capacity-building activities. Originally the project was supposed to be completed in December 2013, but due to various reasons, the project closed in August 2015. Nepal carried out a self-assessment of progress with the implementation of its R-PP, identified a financing gap to complete the REDD+ readiness preparation process, and requested the FCPF for additional funding, which was approved in November 2015. Nepal and the World Bank have signed the grant agreement for additional USD 5.2 million in January 2017. This has to be completed by December 2019.

With the original USD 3.4 million grant, Nepal has completed a number of critical analytical studies, conducted institutional and capacity building activities, and identified measures to strengthen forest management and governance. The activities completed to date enabled the country to move into piloting a performance-based emission reduction programme. The level of understanding of REDD+ among stakeholders has increased. The consultative and participatory processes adopted and the technical assessments conducted during the readiness process have become the basis for improved land use, natural resource management, and forest governance. Nepal has produced a set of studies that provide

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policy and investment recommendations required for Nepal's performance-based emissions reductions. These include the draft national REDD+ strategy (MOFSC; Face the Future; Arbonaut; PSPL, 2015), a national reference level, a monitoring, reporting and verification (MRV) system, a draft Strategic Environmental and Social Assessment (SESA) (REDD Forestry and Climate Change Cell, 2014), Environmental and Social Management Framework (ESMF) (REDD Forestry and Climate Change Cell, 2013), an REDD+ Implementation Framework, a feedback and grievance redress mechanism (FGRM), REDD+ cost-benefit sharing mechanism, and a national forest database system. Most of these studies were prepared through extensive consultations with key stakeholders, but are yet to be endorsed by the government (hence they are called draft reports) due to challenges posed by the earthquake and frequent changes in the government. The full suites of analytical studies and reports can be accessed at <http://mofsc-redd.gov.np/>. Table 4.1 below provides the timeline of REDD+ milestones in Nepal.

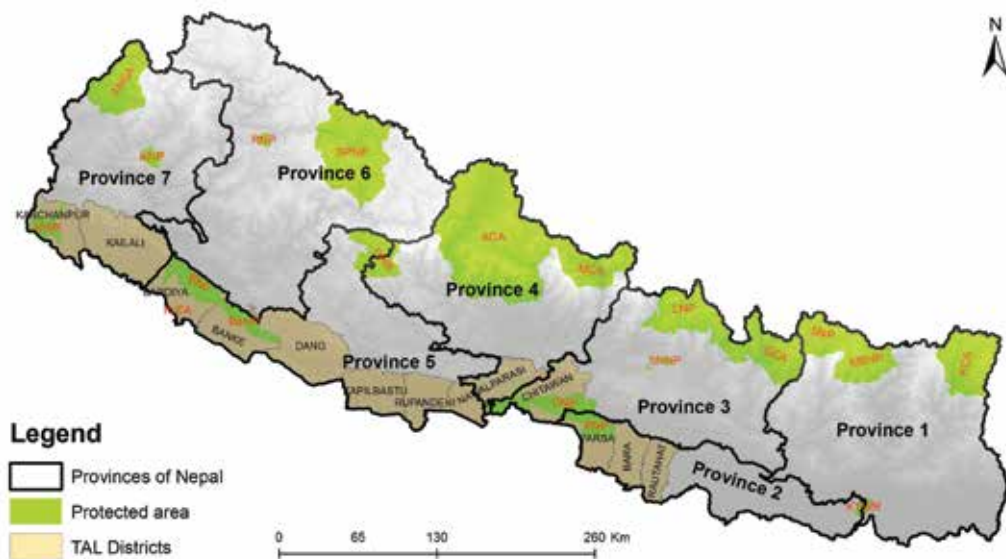
Table 4.1: Timelines of REDD+ milestones in Nepal

| Year | Status of REDD+ and related developments in Nepal |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2004 | <ul style="list-style-type: none"> Fourth national assembly of community forestry in Nepal has acknowledged that Clean Development Mechanism (CDM) of the UNFCCC is supportive to community forestry and other forest management regimes being practiced in Nepal. |
| 2007 | <ul style="list-style-type: none"> Nepal participated in the 13th UNFCCC Conference of Parties held in Bali (Indonesia) and agreed to go with the REDD process. |
| 2008 | <ul style="list-style-type: none"> Nepal prepared the Readiness Plan Idea Note (R-PIN) for REDD+ and submitted it to the World Bank's Forest Carbon Partnership Facility (FCPF) to get access to the readiness grant. Nepal started REDD+ related discussions and awareness campaigns at the national level. Forestry sector development partners have initiated REDD+ pilot activities. Nepal's engagement in climate change and REDD+ related conferences, meetings and dialogues at the international level increased. |
| 2009 | <ul style="list-style-type: none"> Nepal started consultations to prepare its Readiness Preparation Proposal (R-PP) for REDD+. Civil society organizations and development partners started REDD+ related capacity building and awareness campaigns. The Nepal government held its Cabinet meeting at Kalapathar (base camp of Mount Everest) to inform the global community that climatic risks in Nepal are alarming and to draw their attention for necessary support. Continued consultations and dialogues on climate change adaptation and mitigation-related issues and necessary actions need to be taken in future. The REDD Cell was established in the MoFSC to coordinate REDD+ process at the national level. A three-tier institutional setup (Apex body, REDD Working Group and REDD Cell) was developed to oversee REDD+ readiness process and make necessary policy decisions. ICIMOD in collaboration with the Federation of Community Forest Users Nepal (FECOFUN) and Nepal Federation of Indigenous Nationalities (NEFIN) started REDD+ pilot project (i.e. to develop a REDD+ payment mechanism for local communities) in the three watersheds (i.e. Kayar Khola Chitwan, Charnawati Dolkha and Ludhikhola Gorkha). The Norwegian Agency for Development Cooperation (Norad) supported this project financially. |
| 2010 | <ul style="list-style-type: none"> The Nepal government approved its R-PP for REDD+ and submitted it to the World Bank's FCPF. FCPF approved Nepal's R-PP and agreed to provide a readiness grant of USD 3.4 million to be used for R-PP implementation. Developed countries like Norway, USA, Japan, Switzerland and Finland extended their support to Nepal for its REDD+ process. Nepal developed a national level REDD+ multi-stakeholder forum to make sure that related stakeholders are onboard in the REDD+ process. Civil society and IP alliance for REDD+ was established. |

| | |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2011 | <ul style="list-style-type: none"> • Studies related to REDD+ readiness as envisioned by the R-PP were started. • REDD IC started collecting all required information for REDD+ readiness. • Nepal developed a Carbon Measurement Guideline. |
| 2012 | <ul style="list-style-type: none"> • Continued R-PP implementation. • Framework for Strategic Environmental and Social Assessment (SESA) and Environmental and Social Management Framework (ESMF) of the R-PP implementation were prepared. • Started preparing landscape-level Emissions Reduction Program Idea Note (ER-PIN). • Started National REDD+ Strategy preparation through consultations and policy dialogues. |
| 2013 | <ul style="list-style-type: none"> • Prepared Emissions Reduction Program Idea Note (ER-PIN) and submitted it to the FCPF seeking access to the Carbon Fund. • Continued R-PP implementation including preparation of Forest Reference Level (FRL), MRV system, REDD+ strategy, National Forestry Department (NFD) and other related studies. |
| 2014 | <ul style="list-style-type: none"> • Continued implementing R-PP and capacity building of local communities and other stakeholders at different levels (i.e. national to local). • Nepal submitted its REDD+ readiness Mid-Term Report (MTR) to the FCPF. • REDD+ Himalaya Project, a joint venture of REDD IC and ICIMOD, was started. This GIZ-funded capacity building project has been implemented in three districts (i.e. Dolakha, Chitwan and Gorkha) of Nepal. |
| 2015 | <ul style="list-style-type: none"> • Started consultations to prepare ERPD for the 12 districts in the TAL area. • R-PP implementation completed with draft REDD+ strategy prepared, FRL estimated, MRV system proposed, NFD established and other studies like GRM, carbon rights and customary rights were completed. • Study on REDD+ Policy and Measures begun with financial support from the UN REDD targeted support. • Nepal requested the FCPF for an additional readiness grant of USD 5 million to continue its journey to REDD+. |
| 2016 | <ul style="list-style-type: none"> • Nepal presented its Readiness Assessment Package (R Package) to the FCPF. • FCPF agreed to provide an additional grant to complete Nepal's REDD+ readiness process. • REDD+ Strategy was finalized and forwarded to the Ministry for its endorsement. • Forest Reference was finalized and submitted to the UNFCCC for technical assessment. • ERPD preparation process started. • An agreement was signed between the Nepal government and the World Bank to develop the Forest Investment Program (FIP) in Nepal. • A study related to women and marginalized communities on REDD+ was completed in the ERPD districts. • Working documents on possible social and environmental outcomes of ERPD implication were prepared and Cancun safeguard principles were interpreted in the context of Nepal. |
| 2017 | <p>ERPD was prepared and submitted to the FCPF for technical assessment.</p> <p>FIP investment plan preparation was completed and submitted to the World Bank for technical assessment.</p> <p>FRL was revised addressing comments raised by the LULUCF experts' team commissioned by the UNFCCC for technical assessment.</p> |

REDD+ strategy implementation (REDD+ phase 2)

REDD+ readiness preparation has to be brought into action by piloting or implementing strategies and policies developed at the national level under the first phase of REDD+ . For this purpose, Nepal decided in June 2013 to pilot the second phase of REDD+ at the landscape level in 12 districts of the Terai Arc Landscape (TAL). These districts include – from East to West – Rautahat, Bara, Parsa, Chitwan, Nawalparasi, Rupandehi, Kapilbastu, Dang, Banke, Bardiya, Kailali and Kanchanpur. The Emission Reduction (ER) Program Area encompasses 2.3 million hectares – 15% of the total land area – 20% of the total national forest area, and 25% of the country's population.



Nepal prepared an Emission Reduction Program Idea Note (ER-PIN) for this landscape and submitted it for consideration to the FCPF Carbon Fund in March 2013. The FCPF Carbon Fund participants decided to select the ER-PIN into its pipeline for results-based payments at the Carbon Fund meeting in Brussels in April 2014. In June 2015, Nepal and the World Bank signed the Letter of Intent (LoI) for potential purchase of emissions reduction. Nepal is now developing the Emission Reduction Program Document (ER-PD) for the proposed ER Program area, which is expected to be presented to the FCPF Carbon Fund for consideration in December 2017. If the Carbon Fund participants select Nepal's ERPD into the pipeline, the GoN and the World Bank can enter into the Emission Reduction Purchase Agreement (ERPA), which will specify the emission reductions volume to be purchased by the Bank and the unit price of such emission reductions. Then Nepal can start implementing programmes – described in detail in the ERPD – which include a range of interventions from sustainable forest management, energy efficiency innovations (biogas and improved cookstoves), to livelihood enhancements, agricultural intensification, and animal husbandry improvements.

Performance-based payments (REDD+ phase 3)

By implementing interventions laid out in the ERPD, emission reductions can be generated after a couple of years. Nepal will measure carbon stock and independently verify after five years of ERPA signing with the World Bank. Verified emission reductions will be sold to the World Bank and the money received from selling emission reductions will be distributed as per the benefit sharing plan, which is in the process of being developed. It is estimated that Nepal can sell 14 million tons of CO₂e to the World Bank. The price of carbon at present is expected to be five dollar per ton, in which case Nepal can earn USD 70 million.

Country Approaches to REDD+: Vision, Mission, Objectives and Principles

Nepal's approach to the REDD+ programme is founded on multi-sectoral, multi-stakeholder participatory processes, which is fully reflected in its institutional arrangement to manage REDD+ Readiness. The government has established a three-tier institutional mechanism to facilitate smooth operation and implementation of REDD+ interventions, including the REDD+ Readiness Programme. This includes (a) an inter-ministerial governing body, the Apex Body chaired by the minister of Forest and Soil Conservation, to ensure multi-sectoral coordination and cooperation for planning and implementation of REDD+ activities at the highest level; (b) a REDD+ Working Group led by the Secretary of the MoFSC, composed of government and nongovernment actors, to provide technical and institutional support to the REDD IC; and (c) the REDD Implementation Centre (REDD IC) led by a Joint Secretary as the lead entity to undertake REDD+ initiatives. The REDD IC is the project implementation unit. There is also an inclusive and active REDD+ Multi Stakeholder Forum with broad community and civil society representation to help and engage in consultations, outreach and communication. Various CSOs and IPOs working in the field of REDD+ have formed a REDD+ Civil Society Organizations (CSO) and Indigenous People's Organizations (IPO) Alliance. The Alliance serves as a common platform to discuss and develop a common understanding of various REDD+ issues, and to advocate on behalf of CSOs and indigenous people's organizations. In addition, the Department of Forest Research and Survey will be the national MRV implementing agency. It is also expected to function as the Central Carbon Registry.

At the district level four distinct arrangements are foreseen: District Forestry Sector Coordination Committee (DFSCC), a multi-stakeholder committee, to monitor the implementation of REDD+ at the district level and give policy feedback and strategic guidance; District REDD Working Group (DRWG), a 15-member DRWG representing district-level government agencies, community-based organizations, Indigenous Peoples (IPs), women, and Dalits is proposed. The DRWG will be chaired by the coordinator of the Agriculture, Forestry and Environment committee of the DDC. The DRWG will assist in the implementation of REDD+ programme in the district, monitor programme activities, and advocate and lobby to support the emission reduction programmes. The REDD+ Multi-stakeholder Forum and the REDD+ CSO and IPO Alliance will serve as the principal outreach and communication platform; advocate for implementing a justifiable REDD+ programme; and support in empowering and building capacity of CSOs, IPOs, women, Dalits, IPs, poor and marginalized groups in the district. The District/Protected Area REDD+ Program Management Unit (DRPMU), to be established in the DFO and Protected Areas where appropriate, will be the lead institution for implementing REDD+ activities in the district/PAs. It will also convene a DRWG meeting every two months; have a MRV section; and an Environment and Social Section (ESC) to ascertain that the REDD+ Safeguards are taken into consideration during REDD+ implementation.

Currently the country is undergoing restructuring, and the federal system of governance is the principal agenda of the new Constitution. The devolution of power and authority to the lower tiers of the state coupled with inclusive and participatory democracy at the grassroots will be the key ingredients of the new system. There is still no clarity regarding the institutional setup of the forest ministry at the national, provincial and local level and associated district level offices in the old system. When the institutional setup for managing forest resources is finalized, associated agencies and structures will be identified for implementation of REDD+ as well. The federalization process also impacts many other aspects of REDD+ such as carbon right, benefit sharing, carbon registry, monitoring, reporting and verification, and overall implementation of REDD+. For example, on benefit sharing of natural resources, according to Article 59(4) of the Constitution, the Federation, State and Local level shall provide equitable distribution of benefits derived from the use of natural resources or development. Certain portions of such benefits shall be distributed, pursuant to the law, in forms of royalty, services or goods to the project affected regions and local communities. The new constitutional provisions have given legal authority to all level of states to collect and share the royalty from natural resources including forest. However, there is no further legal framework to operationalize the constitutional mandate. Since these REDD+ elements are going to evolve anyway, it becomes less relevant to discuss here arrangements developed under the current governance system. REDD IC will continue to lead the process of bringing clarity on these important elements of REDD+ throughout the federalization process.

Nepal recently completed the preparation of a national REDD+ strategy. Although the strategy is yet to be endorsed by the government, the draft version of it has gone through several rounds of consultations with multiple stakeholders at the national level. As stated in the draft REDD+ Strategy, Nepal's Vision with respect to REDD+ is to optimize carbon and non-carbon benefits of forest ecosystems for the prosperity of the people of Nepal. Through the implementation of REDD+, Nepal intends to significantly reduce national greenhouse gas emissions resulting from deforestation and forest degradation by adopting measures for forest conservation and enhancement, by addressing the livelihoods concerns of poor and socially marginalized forest dependent people, and by establishing effective policy, regulatory and institutional structures for sustainable development of Nepal's forests under the new constitutional framework.

The Mission is to strengthen the integrity and resilience of forest ecosystems, and improve socio-economic and environmental values of forests for communities through improved policy and legal measures, augmented institutional functioning, and enhanced stakeholders' capacity, capability and inclusiveness.

By implementing REDD+, Nepal intends to achieve the following objectives:

- To reduce carbon emission, enhance carbon sequestration and enhance climate resilience through both mitigation and adaptation approaches by intensifying sustainable management of forest resources and minimizing the causes and effects of drivers of deforestation and forest degradation across the ecological regions.

- To ensure fair and equitable sharing of carbon and non-carbon benefits of forests among rights holders with effective implementation of safeguard measures.
- To increase livelihood assets and diversify employment opportunities of forest dependent communities, particularly the poor, women, IPs and Dalits.
- To improve and harmonize policy and legal framework to harness carbon and non-carbon benefits; strengthen institutional capability and improve governance of forest agencies and the forest sector.
- To establish and maintain a robust National Forest Monitoring System with strong monitoring, reporting and verification mechanisms.

Achievement of these objectives will be ensured through the following guiding principles:

- Synergetic alignment with overall development strategies
- Building on the successful community-based approaches and practices
- Enhanced coordination and harmony among different sectors and agencies
- Utilizing and building on the existing capacity and capabilities
- Capturing fully the wide range of ecosystem benefits
- People-centric, gender and socially inclusive practices and approaches
- Equitable benefit sharing and social justice
- Social, environmental, cultural and economic safeguards
- Effective and efficient monitoring and information system
- Transparency and accountability

Coordination and Cooperation with International and National Partners

Nepal has received extensive support and cooperation in REDD+ process from international and national partners. The government has been supported by the World Bank, U. S. Agency for International Development (USAID), U.K. Department for International Development, Japan International Cooperation Agency (JICA), Government of Switzerland, Government of Finland (GoF), and Government of Norway. Although these development partners conducted REDD+ related work as per their respective plans with limited coordination with REDD IC at the beginning of the REDD+ Readiness process, gradually coordination improved significantly and contributed to strengthening REDD+ processes and outcomes. For example, the Finnish-supported Forest Resource Assessment (FRA) project provided the necessary data required for national forest reference emission level and MRV; the United Kingdom, Switzerland, and Finland-supported Multi Stakeholder Forestry Program (MSFP) provided co-financing to prepare the national REDD+ strategy; and USAID-supported Hariyo Ban Program financially contributed to the development of the ER-PIN for the FCPF Carbon Fund. NORAD-funded Pilot Forest Carbon Trust Fund – implemented by ICIMOD, FECOFUN, and ANSAB in three watersheds in Dolakha, Gorkha, and Chitwan districts – provided valuable lessons and experience to pilot REDD+ at the bigger landscape level. As a follow-up, GIZ-funded REDD+ Himalaya project is being implemented by ICIMOD and REDD IC in these districts. The project has been supporting the development of participatory Monitoring, Measuring

and Reporting (MMR) guideline of REDD+ activities, carbon assessment training, stakeholder analysis, etc. Table 4.2 provides the major stakeholders of REDD+ in Nepal.

Table 4.2: Major stakeholders of REDD+ in Nepal

| Categories | Major stakeholders |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Government Agencies | Ministry of Forests and Soil Conservation, Ministry of Finance, Ministry of Science, Technology and Environment, Ministry of Energy, Ministry of Agriculture, Ministry of Land Reform, REDD Implementation Centre, Department of Forests, Department of National Parks and Wildlife Conservation, Department of Soil Conservation and Watershed Management, Department of Forest Research and Survey, District Forest Offices, Regional Forest Offices |
| CSOs | FECOFUN, ACOFUN, NEFIN, Dalit NGO Federation (DNF), HIMAWANTI, Forest Action, ANSAB |
| IPOs | NEFIN, National Indigenous Women Federation (NIWF) |
| Academic Institutions | TU, KU, PU, Agricultural and Forestry University |
| INGOs | WWF, ICIMOD, IUCN, RECOFTC |
| Donors | World Bank, UN-REDD, USA, UK, Finland, Norway, Switzerland, and Germany |

Many of these development partners have also provided funding in parallel to several national NGOs, CSOs and IPOs as well as some inter-governmental organizations. This has enabled these agencies to consistently organize various REDD+ readiness activities, especially in capacity building and awareness raising, pilot and demonstration activities. These activities from national NGOs, CSOs and IPOs have significantly contributed in raising the awareness, understanding and capacities of grassroots level communities on technical, social, economic and legal aspects of REDD+.

Challenges and Opportunities

REDD+ has both challenges and opportunities for implementation. Some of the challenges in the context of Nepal include the following:

- Technically, REDD+ requires expertise on complex carbon accounting aspects to demonstrate to the international community that emission reductions are real, additional, and permanent, and do not lead to leakage and displacement in some other locations. As there are only a few such experts in the country, there is a need to rely mostly on international experts and consultants.
- Socially, there is either high expectation of receiving a lot of money from REDD+ or fear that the rights and livelihoods of forest dependent communities will be negatively affected. In reality, neither is true. Nevertheless, issues of land tenure, carbon rights, benefit sharing arrangements and alternative livelihood opportunities need to be fully addressed.
- Financially, REDD+ requires investment. As it is a performance-based incentive mechanism, payments can be received only after verifying that real emission reductions have occurred, but in order to get such results, emission reduction interventions have to be implemented in a massive scale.

- Institutionally, effective instruction is essential at the national, provincial and local level to ensure desired result. Nepal is undertaking the emission reduction programme at a time when the government institutions are undergoing restructuring and lack clarity even about their regular duties. This adds another layer of challenge for successfully delivering on emission reduction target.
- Operationally, REDD+ is supposed to be implemented in a highly coordinated manner with other relevant sectors such as energy, livestock, agriculture, infrastructure development and planning. Unfortunately, we rarely have success stories of such integrated programme implementation.
- Internationally, REDD+ is a competitive process. There will be competition for buyers among producers to sell their products i.e. emission reductions. Buyers will naturally be inclined to higher quality emission reductions in terms of permanence, strong co-benefits and so forth. Not all emission reductions can find a market or good price.

Along with these challenges, REDD+ brings significant opportunities, some of which are described below:

- Through REDD+ economic returns can be gained from the carbon sequestration function of forests. From the economic standpoint, the forest sector can hardly compete with other land uses since many of the forest products, such as clean air and water, are environmental and are essential for human survival but have no market value. REDD+ helps raise the importance of forests and incentivize people for conservation and sustainable management of forests. The national reference level submitted by the Ministry to UNFCCC estimated a net emission of 2,875,906 t CO₂e/year, which includes annual emissions and removals due to deforestation and afforestation, annual degradation due to unsustainable fuelwood extraction, unsustainable grazing and fodder consumption practices. If we are able to avoid these emissions, we can generate a huge income.
- Unlike the project approach of Clean Development Mechanism, REDD+ is designed and implemented at the landscape level. This presents an opportunity to bring multiple sectors such as agriculture, livestock, energy, local development and so forth for integrated management of the landscape. This can set an example to be replicated in other sectors and geographic areas and ultimately contribute to rural development.
- Another important aspect to keep in mind is that REDD+ is not just about emission reductions, but also about generating co-benefits associated with emission reductions. Nepal has been a strong advocate of emphasizing co-benefits on REDD+ programme design and implementation at the international level. Prior to the 38th session of the Subsidiary Body of Scientific and Technological Advice of the UNFCCC, Nepal submitted an idea note on co-benefits in which Nepal identified six types of co-benefits from REDD+, their indicators and means of verification. Through the emission reduction programme, Nepal seeks to achieve these six co-benefits as priority Non-Carbon Benefits. These benefits include enhancement of local livelihoods, increase in the value of biodiversity, better ecosystem services to people and environment, more resilient ecosystems for climate change adaptation, improved governance, institutional setup and policies for natural resource management at the local to national level, and contributions to meeting the objectives and targets of many international conventions and agreements.

- REDD+ presents an opportunity to rectify existing challenges in forest governance. Nepal continues to suffer from deforestation and forest degradation, especially in the Terai. Also intensive management of forest is lacking, which hampers the possibility of optimizing full potential of the forestry sector to contribute to national and local economy.
- Through REDD+ offers several opportunities to learn from different countries on various aspects of forest governance and natural resource management. Representatives from civil society, indigenous peoples and governments have attended regional and international fora and exchanged experience, knowledge and ideas.
- Most importantly, saving the planet from disastrous climate change is a shared responsibility of all countries in the world. Contributing to climate change mitigation and adaptation through forest conservation and management is the most efficient way. Nepal's Nationally Determined Contributions communicated to the UNFCCC place strong emphasis on forests. This can be achieved through REDD+.

Conclusion

The REDD+ initiative is largely driven by the international community's motivation to conserve forests and biodiversity in an effort to mitigate climate change. But the activities undertaken under REDD+ are no different from what countries have been doing to manage and conserve their forest resources. Through REDD+, issues around forest governance have received heightened attention from policy makers and planners, which presents a unique opportunity to significantly improve forest governance and its contribution to national economy. As one of the pioneer countries, Nepal has to much to learn by doing, and how much Nepal could benefit from REDD+ is yet to be understood, but under no circumstances is REDD+ going to harm forests and people dependent on them. In fact, this is an instrument designed to not only generate carbon benefits but also non-carbon benefits, which can include (but not limited to) biodiversity conservation, improved forest governance, livelihood of forest dependent communities. Nepal recognizes the important contribution that the REDD+ process has already made in bringing together a diverse range of government, civil society and community stakeholders in Nepal's forestry sector to discuss and reach consensus on various issues on forest governance. As a global leader of community forestry, Nepal has another opportunity to showcase its leadership on REDD+.

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Chapter 5: REDD+ Potentials through Community Forestry in Nepal

Mohan Poudel¹

Background: Development of Community Forestry in Nepal

Delivering livelihood opportunities and strategies to local people has always been an essential component of forest management in Nepal, and community forestry is the key policy approach for this. The original idea was that community forest has to be created or set aside to provide firewood and small timbers for agricultural implements, building timbers, as well as other forest products and services such as grazing for cattle, for the rural community (Hobley, 1996). The concept of community forestry developed as rampant deforestation occurred in the 1960s following the nationalization of forests in 1957. The 1960s is considered to be an important period as a large number of indigenous forest management systems emerged to safeguard local forests during that period. Such local-level developments and experiments with democracy were taking place as feudalism was ending and rural communities were asserting their rights (Gilmour and Fisher, 1991). In the 1960s, a new Forest Act (1961) and Forest Protection Act (1967) were promulgated. Although emphasis was on government control over forest resources, the Forest Act of 1961 had a provision for small patches of government forest to be transferred to Village Panchayats (a local level political unit) for their use and maintenance, which was in fact the beginning of the present community forests (CF) regime in Nepal.

The call for citizen participation began in the late 1970s, when the government explicitly admitted that it could not protect the country's forests without the active cooperation of local citizens (Karky, 2008; Ojha et al., 2009a). The National Forestry Plan of 1976 re-emphasized the allocation of forest lands to local Village Panchayats. In 1978, the Panchayat Forest and Panchayat Protected Forest policies were enacted, requiring the state to hand over forests to Village Panchayats, based on the 1961 Forest Act. This policy development provided a framework for donor projects, which were seeking devolution in forest governance (Hobley, 1996). It enabled externally funded international donor projects in community forestry to operate to 'save the environment' from further degradation (Hobley, 1996). By the 1980s, a framework had been developed in Nepal to launch community forestry. Meanwhile international donors were also committed to developing community forestry in the country to halt environmental degradation. The community forestry programme was launched in the early 1980s with the assumption that farmers were responsible for deforestation by illicit logging (Gilmour and Fisher, 1991). As the experiment continued, more insights were gained,

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and by the late 1980s it was realized that farmers were not destroying forests; instead they could play a lead role in planting trees and preserving them in their lands (Gilmour and Fisher, 1991).

Nepal's first forestry sector policy was declared in the 6th Five Year Plan (1981-85), which was based on community participation in forest management, conservation and utilization of forest resources. In 1988, the 20-year Master Plan for the Forestry Sector (MPFS), which later formed the basis for CF policy, placed greater emphasis on CF by directing 47 percent of investment in the forestry sector to CF (Karky, 2008). The MPFS (1988) not only recognized community forestry as a major component of forest management, it also envisaged community forestry as a means of poverty reduction in the long term. The Forest Act 1993 and Regulation 1995 were major legal instruments based on the MPFS. The Forest Act 1993 delegated responsibilities for forest management to the local level. It acknowledged the Community Forest User Groups (CFUGs) for the first time and gave user rights, while the state maintained the ownership of forest land. The Forest Act 1993 and subsequent Regulation 1995 guaranteed non-interference from government forest offices in the operation of the CFUGs, and in the management of the community forest, as long as CFUGs complied with the Forest Act and Regulation and followed the CFUG's operational plan.

Approaches and Status of Community Forestry in Nepal

The Forest Act 1993 (Act, 1993) and its Regulation 1995 were milestones in decentralization, and brought significant benefits for local communities in the form of increased participation and autonomy in decision making. This autonomy included decisions on resource management, resource use, and the creation of community funds for local development priorities (Springate-Baginski and Blaikie, 2007). In addition, the Forest Act 1993 provided a clear legal basis for CF, enabling the government to 'hand over' identified areas of forests to the CFUGs. The procedures were later elaborated in detail in the 1995 Forest Regulations, backed by the CF Operational Guidelines 1995. According to Nepal's CF guideline (2006), the CF process in Nepal can be envisaged as a series of steps or phases, consisting of investigation, negotiation, implementation, review and revision. The CFUG formation process begins when customary users approach the local forest authority (District Forest Office or DFO) to express their interest in having a forest near their village declared a community forest. With technical support from the DFO or other forestry technicians (if available), the community develops a constitution to regulate the establishment and operational rules of a CFUG, and an Operational Plan (OP) to manage forest resources. The DFO approves the OP (usually a five- to ten-year plan) and the forest is handed over to the users.

According to the Forest Act 1993 and associated Forest Regulations, CFUGs are legal, autonomous corporate bodies having full power, authority and responsibility to protect, manage and utilize forest and other resources, as per the decisions taken by their assemblies, and according to their self-prepared constitutions and operational plans. Although all benefits from the CF go to the concerned CFUGs, the land legally remains part of the state.

Over the past decades, Nepal has handed over state-owned forest land to communities with the objective of enhancing forest protection and sustainable management while at the same time improving livelihoods. Community forests have existed in their modern form in Nepal since 1987, when the government began the phased handover. To incentivize conservation and restoration of forest land, Nepal has put in place a policy (Forestry Act 1993) under which communities can apply for an extendable ten-year concession managed by community forestry user groups (CFUGs). CFUGs are legal, autonomous corporate bodies governed by a general assembly consisting of all households within the boundaries of the applicant community, and an executive committee chosen by the CFUG through consensus or election. This policy has achieved a high degree of community involvement and currently over 39.7% of the country's forest area is under the Community Based Forest Management (CBFM) regime. 29% is directly managed by about 19,000 CFUGs on land under the Department of Forests (DoF), 9.1% by CFUGs in Buffer Zones under the Department of National Parks and Wildlife Conservation (DNPWC), 0.9% jointly by communities and DoF staff under Collaborative Forest Management modalities and 0.7% under the Leasehold Forest Programme by poor and disadvantaged groups (MFSC, 2015).

Issues and Challenges – REDD+ in Community Forests

Earlier chapters (Chapter 4 in particular) introduced REDD+, shed light on the REDD+ approach and status in Nepal and described REDD+ using financial benefits of carbon as the key objectives of this unfolding policy mechanism. The previous section discussed CF, a major forest management approach in Nepal, which addresses both livelihood and conservation. The overall objectives of REDD+ and CF are to complement and contribute to the management of community forests – e.g., to conserve forests and to support livelihood improvement (Agrawal & Angelsen, 2009; Newton et al., 2016).

Despite so many similarities in approaches and objectives, there has been speculation that CF and REDD+ are incompatible. In particular, there are emerging issues regarding possible conflicts over the basic objective, institutional arrangements and priorities. REDD+ may conflict with the original objectives of CF (Bayrak and Marafa, 2016). Such conflicts and differences indicate that implementing CF and REDD+ together is not straightforward. Complementarities and differences between these two policy mechanisms should be understood based on their principles, objectives, approaches and institutional scales. Thwaites, Fisher and Poudel in their book titled *Community forestry in Nepal: Adapting to a changing world* (2017) compares REDD+ and community forestry based on their principles, objectives, approaches and institutional scales, as shown in the table below (Table 5.1).

The comparison shows some differences between CF and REDD+ policy mechanisms, mainly arising from different objectives. The main objective of CF is to provide local people with forest products, livelihoods and income through extraction of timber, fuelwood and fodder. REDD+, however, primarily aims to enhance carbon stock by modifying the behaviour of forest users and their management approach (Thwaites, Fisher and Poudel, 2017). REDD+ requires that programmatic forest management practices result in carbon sequestration and

Table 5.1: Complementarities and differences between community forestry and REDD+

| Basis of comparison | Community Forestry | REDD+ Policy |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Philosophy/principles | <ul style="list-style-type: none"> CF's basic concepts and principles are based on the philosophy that people should participate in their own affairs. CF is founded on the assumption that local people are knowledgeable and capable regarding the environments in which they live, and their relationships with them, and that the active engagement of local people can enhance conservation outcomes. | <ul style="list-style-type: none"> Economic incentives motivate developing countries/local communities to conserve forests and thereby reduce emissions. Problem of deforestation and forest degradation can be effectively tackled by incorporating knowledge of climate and the need to improve livelihoods and biodiversity. |
| Priorities and objectives | <ul style="list-style-type: none"> Conservation of forest linking with improvement of local livelihoods and needs of local people Encourage local communities to conserve and manage forest resources in their vicinity Supply forest products and services (such as fuelwood, fibre and fodder) essential for rural households and community in a sustainable manner Food production, and the environmental stability necessary for continued food production Generation of income and employment opportunity supporting local livelihoods | <ul style="list-style-type: none"> Conservation of forest linked with conservation and enhancement of carbon stocks and reducing net emissions Financially reward developing countries and communities for their verified efforts to reduce emissions and enhance removal of greenhouse gases through a variety of forest management options. |
| Policy framework and approach | <ul style="list-style-type: none"> National policy framework applied at local level Local people control and make decisions regarding the conservation and management of forest resources, which are based on local values, needs and interests. | <ul style="list-style-type: none"> Global policy framework with some provisions for country/local adjustment |
| Institutional Scale | <ul style="list-style-type: none"> Mostly local | <ul style="list-style-type: none"> Sub-national, National |

storage over and above a baseline scenario (Newton et al. 2015).

Many authors have commented on the contradiction within CF to provide both forest protection and local livelihoods. Charley and Poe (2007) ask "whether it is realistic to expect community forestry to help conserve forests and also produce social and economic benefits for forest peoples", arguing that trade-offs may be required. Gilmour (2016) even proposes that objectives may be mutually exclusive. The contradiction appears to be compounded when REDD+ is implemented (i.e. overlaid) onto CF and the additional objective to increase carbon stock in the forest is added. This could increase the complexity of management for both carbon and forest product extraction. The likely implication is that complex trade-off decisions that could place additional burdens on local communities and households will have to be taken. Thus the implementation of REDD+ through CF might not be straightforward.

The following paragraphs analyse possible outcomes of REDD+ for the existing CF approach in Nepal in the light of experiences gathered from piloting initiatives and the literature.

Possible outcomes are categorized into three major thematic areas – livelihood, ecological and governance.

Outcomes

Livelihoods of local communities

Based on their experiences and research findings, scholars have suggested the need for a deep and thorough understanding of forest carbon enhancement and livelihood of forest dependent communities. In his global review of forty years of community-based forestry, Gilmour (2016) noted the importance of better understanding the trade-offs and synergies between carbon storage and livelihoods. Poudel et al (2014) identified that trade-offs are being made between carbon storage and other forest benefits. Implementing REDD+ through the existing system of community forestry may have both positive and negative outcomes, some of which are discussed in the following sections.

A positive outcome is that REDD+ is likely to develop local capacity for understanding the global climatic phenomenon and forest carbon dynamics. It generates better financial income from the forests locals have been managing as well as opportunities for income generation through skills and income development activities; it also provides trainings on forest measurement and strengthens traditional practices of management and use of forest resources.

Capacity building has been identified as a key objective of REDD+ policy, particularly in the readiness phase. The Cancun agreement recognizes the need for local engagement in REDD+ policy planning, implementation, and MRV process, and highlights the need for local level capacity building (UNFCCC, 2011). Capacity building potential of REDD+ has also been reflected in countries' policies and programmes. Nepal's REDD+ strategy, for example, highlights community-based monitoring, measurement and reporting as a priority need for successful implementation of REDD+ (REDD IC, 2016), which requires better capacity at the local level. In order to develop local capacity to undertake REDD+ activities as envisaged, Nepal's readiness process has considered capacity building as a priority activity and has undertaken several training workshops, provided monitoring and measurement tools and developed guidelines (REDD IC, 2016). As reported by Poudel et al (2014) and Rana et al (2016), training was provided for local resource persons to undertake participatory monitoring, measurement and reporting of REDD+ activities, enhancing capacity of communities to participate in the REDD+ MRV system.

REDD+ has established carbon as an added value of forests. Albbers and Robinson (2013) and Peskett (2011) argue that REDD+ has established carbon as a new form of property for local communities, creating the opportunity for financial benefits and livelihood supports. REDD+ estimates local communities' contributions to reduce deforestation and forest degradation in terms of carbon (CO₂e) and brings carbon money from the global carbon market through the UNFCCC and other financial mechanisms like GCF. This financial opportunity is considered an additional benefit for local communities because it would not be

possible through existing approaches of CF management alone. Nepal's Emission Reduction Program (ERP), which has been proposed for 12 districts in the Terai Arc landscape (TAL), has estimated that the ER programme will be able to generate 14 million tons of CO₂e (worth USD 70 million) within five years of its implementation. REDD+ also appears to be supporting local livelihoods by enhancing productivity of forests, promoting productive livestock farming, establishing a mechanism for Payment for Environmental Services (PES), and establishing forest-based small enterprises and other income generating activities. All of these livelihood opportunities of REDD+ will be complementing the community forestry system in Nepal.

The negative outcome is that REDD+ appears to affect local livelihoods by limiting their access to forest resources, though the condition of forests may be enhanced. In particular, REDD+ may put poor and marginalized households under stress, because they lack access to alternative forest resources (e.g., private trees, biogas, and capacity to buy from markets) to meet their daily requirements, including firewood and fodder. The likely implication is that the poorer may be working harder or travelling further to access the forest products they need for subsistence. This ultimately increases food insecurity, along with income and other social insecurities, and also poses the risk of carbon displacement (leakage) elsewhere in the vicinity. Despite consuming more resources, however, households having farmland and trees are likely to cope with limited supply from forests (Neupane and Shrestha, 2012; Poudel et al, 2015).

The general understanding of REDD+ is that forest users will choose to conserve their forest if the compensation paid is higher than they would have obtained from alternative forest uses (Gilmour, 2016). However, if the intention is to provide local communities additional livelihood benefits without affecting customary practices, Poudel et al (2014) show that the REDD+ pilot in Nepal has not only restricted customary use rights, but also failed to compensate adequately for livelihood losses resulting from its activities. Other studies in REDD+ piloting sites (AIPP and IWGIA, 2012; Bastakoti and Davidson, 2014; Chhatre, et al., 2012; Maraseni et al., 2014, Rana, et al., 2016) indicate that livelihood losses outweigh the benefits offered by REDD+. Similarly, Maraseni et al. (2014) and Poudel et al. (2014) have argued that the seed grants provided in REDD+ pilots in Nepal underestimated the true costs borne by communities. There has been no reliable indication that upcoming REDD+ payment amounts would be more than the amounts provided in the piloting phase, resulting in speculation that it will hamper rural livelihoods, poor and marginalized people in particular.

Some human rights concerns are associated with REDD+ interventions. REDD+ related human rights issues are particularly conspicuous with regard to matters concerning access to land and forest resources, as well as procedural rights concerning participation in the design and implementation of REDD+ policies (Savaresi, 2013). Poudel et al (2015) based on a case study from Ludhikhola, Gorkha reported that access and use of forest resources are likely to be more restricted in community forests that have been managed primarily to meet livelihoods and cultural requirements. Such changes may have significant human rights consequences, disrupting customary and cultural rights and forest based livelihoods.

Local ecological systems

A primary objective of REDD+ is to increase carbon stock in forests by reducing emissions through reduced deforestation and forest degradation, and enhancing forest biomass through sustainable management of forests. It is thus obvious that REDD+ seeks improved forest protection to maintain ecological integrity. These objectives and activities of REDD+ would appear to complement the environmental outcomes delivered by CF, as discussed earlier. Case studies in pilot REDD+ sites in Nepal such as Poudel et al (2014) and Rana et al (2016) have reported better ecological outcomes of REDD+ pilot interventions. Based on their study in the Charnawati watershed of Dolakha, Rana et al (2016) reveal that carbon stocks in the community forests increased by 3.56 tons per hectare between 2009 and 2013 and the increment of carbon stocks was related to direct and indirect measures of REDD+ piloting. Other studies by Phelps et al. (2012) and Maraseni et al. (2014), as well as by the Centre for International Forestry Research (CIFOR)'s Global Comparative Study (Angelsen et al., 2012), found that protection efforts under REDD+ result in enhanced forest condition, biodiversity and carbon stock. Based on experiences and evidences from an REDD+ pilot site in Gorkha, Nepal, Poudel et al (2014) reported increased wildlife population, protected sources of spring water and reduced evidences related to illegal collection and use of forest resources. Studies have also reported evidences of forest restoration in the area where REDD+ programmes were piloted.

However, better ecological conditions as a result of REDD+ may be confined within the boundary of REDD+ projects. Case studies (e.g., Poudel et al, 2014; Rana et al, 2016) found evidences of displacement of human activities from pilot sites to nearby non-pilot sites, implying that imposing changes on forest management through REDD+ may increase the risk of forest destruction beyond the boundary of the project. Further, better protection and restored ecological conditions are also likely to increase human-wildlife conflicts. As reported by Poudel et al (2014), local communities in the Ludhikhola watershed REDD+ pilot site in Gorkha, Nepal were suffering due to increased numbers of monkeys, deer and leopards since the REDD+ pilot started.

Governance

Several studies (Gilmour, 2016; Hagen, 2015; Maraseni et al., 2014; Newton et al., 2015; and Poudel et al., 2014) have argued that existing local institutions and governance arrangements for CF may be inadequate to meet the objectives of REDD+. Adding carbon sequestration objectives onto existing CF objectives might require modification of the existing institutional and governance arrangements so it can incorporate the needs and interests of diverse stakeholders beyond the practices of local communities. This modification may produce negative as well as positive outcomes for CF.

A community forestry system that incorporates REDD+ is likely to improve CF governance by promoting social equity and inclusiveness. The Cancun safeguard principles (UNFCCC, 2012) are designed to mitigate the potential negative impacts of REDD+ implementation on local environments and communities, and thus highlight the potential to improve social

equity in existing CF regimes. In their study of a REDD+ pilot project in Nepal, Poudel et al (2014) found positive discrimination towards the poor, marginalized and women while sharing benefits of CF and REDD+, and that the project had ensured representation of these groups in capacity building activities and in decision making. They reported pro-poor focused activities, such as the distribution of IGA seed grants and subsidies for ICS to poorer households, and subsidized timber prices for single women and poor households. These findings provide examples of how REDD+ can enhance equity in benefit sharing. Based on experiences from different pilot projects described in the literature (e.g., Hagen, 2015 and Newton et al., 2015) it can be argued that REDD+ is likely to improve CF governance by focusing on equitable distribution of benefits. However, as reported by Poudel et al (2015), if inadequate funds are provided to only a few selected households, social equity may be jeopardized, particularly in community-managed forests where collective action is an essential element for effective forest management.

Experience from the REDD+ pilot in Gorkha district of Nepal, as reported by Poudel et al., (2015), suggests that REDD+ subsumes CFUGs under a national or sub-national level network and imposes network-wide rules on all CFUGs, and could thus threaten decentralized forest governance. In line with this, some other authors such as Ojija (2015), Fisher (2014), and Gilmour (2016) also argued that REDD+ could pose a threat to decentralized forest governance, diminishing CF's contribution to local autonomy, empowerment, ownership and community development. They further argued that REDD+ policy measures at the local level are not only influenced by national policies and frameworks but also by global policy frameworks. Such a top-down approach to developing policies and plans is inconsistent with the bottom-up locally-based policy planning and decision making approaches of CF. This indicates that REDD+ may diminish local autonomy in decision-making and decentralized governance that have been identified as critical to the success of CF. According to Phelps et al. (2010), REDD+ requires fund distribution through a government channel or other externally developed rules, and therefore it undermines decentralized governance like CF, despite efforts to promote community involvement in REDD+.

Based on their study in Ludhikhola in Gorkha district, Nepal, Poudel et al (2014) reported that REDD+ is likely to focus on forest protection, neglecting local people's customary rights to access forest resources. They make this argument based on cases of grazing restrictions, customized harvesting and limited access to charcoal burning in the REDD+ pilot CFUGs. They did not notice such restrictions in the non-pilot CFUGs and concluded that REDD+ is likely to change customarily managed community forests into carbon focused community protection forests. This particular example indicates the likelihood of putting CF at risk by overlooking customary practices related to access and use of forest resources. Khatri et al. (2012) and Maraseni et al. (2014) have also reported similar findings based on their research in REDD+ pilot sites in Nepal and suggested that REDD+ may shift emphasis of CF towards a centralized system. It is quite possible that as local communities lose their rights to manage forests according to customary practices, their motivation to remain involved in community forestry will be challenged, and thus call the sustainability of the CF model into question.

Conclusion

The chapter has briefly introduced the history, policies and processes of community forestry in Nepal, compared REDD+ and community forestry based on underlying principles, approaches and activities and analysed possible outcomes of implementing REDD+ policy through community forestry. Despite differences in their fundamental objectives (i.e. REDD+: carbon enhancement and CF: meeting forest based livelihood requirements), both REDD+ and CF policies aim to manage forest in a sustainable manner considering the needs and interests of local communities and maintaining ecological integrity. Experiences of REDD+ from piloting sites, however, have shown that overlaying REDD+ onto the existing CF approach is not straightforward. REDD+ appears to be limiting access to and use of forest resources. Customary rules and practices that are regarded as successful approaches of CF in delivering multiple ecological and socio-economic outcomes may also be undermined. In order to implement REDD+ through CF and harmonize carbon, livelihood and decentralized governance, customary rules and practices must be respected and local users should receive adequate compensation for their loss of access to and use of forest resources.

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Chapter 6: Forest Monitoring System for REDD+

Chudamani Joshi¹

Nepal's National Forest Inventory System

Nepal's forest inventories are inspired by different systems and conceived from the beginning to enable the kind of measurement required in the current global context. Since 1963 Nepal has established forest survey, mapping and monitoring programmes and conducted resource intensive field sample based forest inventories on the national, regional as well as district level by using multi-source satellite data and Geographic Information System (GIS). The forest inventory systems are heterogeneous in terms of the space, time, purpose, scale, scope, inventory design, techniques and tools applied in data collection.

Forestry inventory in Nepal began with the visit of Kirkpatrick in 1793 and many other explorers (Kirkpatrick, 2011). Some domestic attempts were also made for resource mapping (Rajbhandari, 1976; Adhikari, 2010). However, modern forest mapping began only in 1963, when the first national-level forest inventory (NFI) was conducted in 1963-67 using aerial photographs. The first NFI covered the Terai (lowland plains area along Nepal's southern border), Inner Terai, and Churia Hills (southernmost foothills of the Himalayan range), as well as the southern faces of the mid-mountain (Mahabharat) range, but excluded most of the Chitwan region, which was inventoried separately. The survey classified the forests as either commercial or non-commercial, and focused on collecting data from commercial forests, primarily on timber estimates of stock and domestic consumption of wood products. Methodologically, it used field inventory and visual interpretation of aerial photographs taken in 1953-58 and 1963-64. The inventory provided the first comprehensive assessment of commercial forests in the Terai region as well as those in adjoining areas of the hilly region. In 1968-89 a series of District-wise Forest Inventory (DFI) of most of the Terai districts and some hill districts were carried out. The Land Resources Mapping Project (LRMP) used aerial photographs taken between 1977 and 1979 with ground verification and produced land use, forest cover maps with type, size and crown cover of forests. Both high- and low-altitude forests were mapped by crown cover (0-10%, 10-40%, 40-70%, and 70-100%), and shrub land (degraded forest). Each forest was defined on the basis of dominant species and its forest type (coniferous, hardwood, or mixed). Land utilization maps at the scale of 1:50,000 were produced by interpreting aerial photographs of the scale 1:12,000.

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The Department of Forest Survey and Research (DFRS) evaluated forest resources and deforestation in the Terai from 1978/79 to 1990/91 using Landsat TM (28.5 m spatial resolution) satellite imagery but excluded protected area (PAs) from its results.

The Forest Resource Information System Project (FRISP 1990-1993) mainly focused on deforestation analysis of the Terai districts and study of the forest and shrub cover of Nepal. A second NFI (FRISP 1994-98) analysed forest cover change (DFRS, 1999) using GIS, and prepared Operational Forest Management Plans (OFMPs) for the forests of some Terai districts. In 1999-2001 national level forest classification was conducted using satellite imagery (Landsat TM images taken in 1998/99 and Indian remote-sensing images taken in 1999/2000), and land use, forest distribution, forest type, and conditions were analysed. In 2005, the Department of Forests (DoF) conducted a study of forest cover change in the Terai districts using Landsat 1990/91 and Landsat 2000/01 satellite images and classified land use/cover according to six main categories (forest, degraded forest, grass land, barren land, water bodies, and other land).

The most comprehensive national-level forest resource assessment in Nepal (FRA 2010-15) was recently completed. It adopted a systematic and permanent sampling scheme and included national-level statistics on more than 40 parameters on forests, soil carbon, biodiversity and ethno-botany (DFRS, 2015). The FRA applied the stratified two-phase systematic cluster sampling method. Five physiographic/ecological regions (Terai, Churia, Mid Mountain, High Mountain and High Himal) were taken as basic criteria for stratification. Initially, satellite images were visually interpreted using land use categories as key criteria, such as forest, other wooded land, shrub land, agricultural land with and without tree cover, built up land with and without tree cover, dry rivers, water, permanent ice, other land without tree cover, accessibility, etc. More than 53,000 sample plots were identified and interpreted within 9187 clusters. In addition, Light Detection and Ranging (LiDAR) was employed in western Terai, also known as the Terai Arc Landscape (TAL), as a tool to accurately estimate forest volume, above-ground forest biomass and carbon (Kandel, 2016). Thus the scope of the inventories has expanded steadily since the first systematic assessment. These inventories document the interesting history of forest related data, both in terms of their substantive content and also their changing scope.

The management of forest-related data has improved dramatically over the last 25 years. This includes planning, knowledge sharing, legislation, and policies - a whole range of important steps that Nepal has been implementing. Recently two national-level forest inventories (FRISP and FRA) in Nepal developed a more uniform system to collect and share information about the forest stock, biomass, non-timber forest products, forest and soil carbon, status of biodiversity, etc. The results of the FRA catalyzed change and created impact at various levels. One of the most significant impacts is spreading information – facilitating other ongoing projects to utilize the created data. FRA results have empowered forest managers, law enforcement officers and other forest stakeholders with free access to timely and high-resolution satellite data about the current status of forests and recent forest change in Nepal.

They have provided a consistent and comprehensive approach to describing forests at the national level and how they are changing.

A comparison of inventory results revealed significant improvements. The cover of the forested area at national scale has positively changed from 39.6 percent in 1990 to 44.7 percent in 2015. FRA results have been used to finalize national forest policy, which is a key document that guides the amended forest legislation and national forest programmes for sustainable forest management. They have also been used in decision-making processes concerning the development of scientific forest management guidelines, and to provide forest resource information for national and international statistical reporting.

The ability of government institutions to conduct field-based inventories has also increased. As a result, the GoN has been conducting periodic ecological area level survey. Permanent sample plots have been established to implement the national programme on forest resources change monitoring and evaluation. This has created a platform for obtaining data for developing general models for national-level forest inventories and simulation studies. Satellite data are archived and made available for free. The recent inventory provided information far beyond simple forest mensuration. It was conceived from the beginning to enable the measurement on a systematic grid of all the information required beyond the tree measurements – for instance, carbon reporting under international standards of REDD, forest biodiversity, payment for ecosystem services and many more (DFRS, 2015). Thus it enabled a solid basis for Measurement, Reporting and Verification (MRV) system for REDD+.

Proposed MRV System for REDD+

Reducing Emissions from Deforestation and Forest Degradation (REDD) is a complex multi-level and multi-stakeholder process that tends to fulfill multiple goals beyond emission reduction. Global comparative studies have shown that a cross-sectoral transformation is needed to change the course of sectoral drivers of deforestation and forest degradation. Sufficient capacity of government at all levels is crucial to guide the policy processes, benefit sharing, and technical support.

Nepal submitted a Readiness Preparation Proposal (R-PP) to the Forest Carbon Partnership Facility (FCPF) in 2010, and since then it has been fully engaged in the REDD+ readiness process (MoFSC, 2010; MoFSC, 2012). The fundamental idea behind REDD+ is that the international community will financially compensate countries that are able and willing to reduce emissions from deforestation and forest degradation. Since COP13 in 2007 many governments and non-government organizations have come up with different proposals. Almost all proposals cover four fundamental REDD+ issues (Parker, 2008; Mbatu, 2016): (1) Scope – eligible activities, (2) Reference level – baseline (time period) for calculating emissions, (3) Finance – funding sources, and (4) Distribution – recipients of the funds. Nepal has also proposed a MRV system for REDD+ (Marzoli, et al., 2014; GoN, 2015). It has covered many strategic elements including a hybrid of compliance and voluntary funding mechanism from both public and private sources, role of community forest user

groups, governance arrangements, country situation and approaches for the development of reference scenario, REDD+ priorities, MRV, payment system, benefit sharing and stakeholder engagement in REDD+.

The proposed MRV system for REDD+ is heavily based on the outcome of the FRA (DFRS, 2015) results. The DFRS plans to monitor change and measure all permanent sample plots (PSPs) established by FRA every five years to update forest resource data. To establish the monitoring system, it is important to institutionalize the FRA system and conduct national level FRA on a rotational basis. After establishing such a mechanism, the DFRS will have a crucial role as a central agency to provide national and sub-national level forest data required for MRV. In order to generate up-to-date forest data at local and management levels, it is equally important to legalize the collaborating role of the DFRS in developing inventory design for district and management level inventories.

Nepal is capable of generating information that enables comparison of changes in forest area (activity data) and carbon content (emission factor) to the baseline estimates used for the RL. The process involves a combination of remote sensing, GIS and field based data collection in permanent sample plots established under the FRA. The review of Nepal's R-PP reveals that Nepal's MRV system builds on the past and present work completed for the development of a National Forest Monitoring System (NFMS) under the FRA project, which provided geo-referenced information on Nepal's forest cover with extent and quality. It also builds on different locally governed Community Based Forest Management (CBFM) regimes being practiced in Nepal for over two decades. These CBFM regimes cover almost one third of Nepal's forest area and are regarded as highly successful in combating deforestation and forest degradation. These CBFMs form an integral part of REDD+ strategy options. In the initial stage, the design of Nepal's National Forest Management System (NFMS) will depend on monitoring carbon stock changes at the IPCC Tier 2 level, due to lack of activity data and biomass increment data for Nepal's forests. At a later stage, it is important to develop species-specific factors together with allometric equations. In future, it would be quite feasible to involve local forest managers in existing CBFM regimes in data collection and feeding the NFMS. This will build on the successful experiences of community monitoring of forests, participatory inventories, and carbon monitoring demonstrated in REDD+ pilot projects currently being implemented.

Synchronizing Participatory Forest Monitoring System with Proposed MRV System

Historically forest monitoring was mostly conducted by external professionals using strict scientific methods (Angelsen & Skutsch, 2009). However, in recent times these monitoring responsibilities have been devolved to local communities. This practice, which has come to be known as community-based/locally based monitoring, employs more participatory and locally appropriate techniques of measurement (Sassi et al., 2015). The literature review revealed that implementation of REDD+ projects within the Community Based Forest Management

System is generally accepted. The success of REDD+ very much depends on Nepal's ability to initiate a REDD+ programme by mobilizing available internal resources and capabilities.

Monitoring is important as it provides essential feedback to the 'investors', creating accountable relationships. The incentives issue in the REDD+ mechanism is vital for harmonizing the participatory forest monitoring system with the proposed MRV system. The idea is that owners of forests (governments, communities and private individuals) forgo certain opportunities (benefits) when they choose to conserve the forests/woodlands, as they would otherwise put the land to other uses.

Community-managed forests are ideal for REDD+ projects because there are relatively intact forest landscapes and communities have experience working with government agencies, CSOs, and projects. Forest-users are accustomed to sustainable forest management (Newton et al., 2015). A number of REDD+ pilot projects have been launched, led by national and international CSOs (MoFSC, 2011; Timalina et al., 2017).

Nepal has been piloting REDD+ projects involving local communities by using advanced remote sensing technology integrated with in-situ forest data collection. Although Nepal is getting ready for REDD+, sufficient finance should be available to involve multi-stakeholder REDD+ implementation and to build national and local capacities, safeguards and benefit sharing mechanisms. While synchronizing the participatory forest monitoring system with the proposed MRV system, Nepal needs to enhance capacity to measure the socioeconomic benefits and costs associated with trees and forests. FRA data on market and subsistence demand for forest produce is limited. Data is also needed on forest reserve land that is not forested but which may be available for afforestation and reforestation.

Institutionalization and Plan Required for a Fully Operational MRV System

After the FRA, it is best to establish an MRV system that is institutionalized and capable of monitoring change in carbon stock and deforestation at the Tier 2 level during the readiness preparation process. The MRV system should also build monitoring capacity for other carbon pools and assess the impact of REDD+ activities.

The FRA produced detailed physiographical disintegrated spatial data on forest cover (other wooded land, protected areas including core and buffer zone), growing stock (number of stem with diameter at breast height, stem volume), total above-ground air-dried biomass, carbon stock (live, dead standing, dead wood and belowground biomass, forest soils, and litter and debris), size of the forest patches, biodiversity, forest disturbance (grazing, forest fire, landslide and bush cutting). Further, FRA Nepal has developed the Open Source Forest Information System (OSFIS). Maps were prepared and classified using RapidEye MSS satellite imagery, secondary images (Google Earth images, Landsat), ancillary maps (LRMP and topographical maps) and the FRA Nepal field inventory data. More importantly, 2,544 sample plots including 1,553 plots in forest and 105 plots in OWL were permanently established in

all physiographic regions (DFRS, 2015). Re-measurement of those plots could provide a basis for assessing temporal changes in forest characteristics. An automated method of object-based image analysis on segmented images using eCognition software was applied. Further, a two-phase stratified systematic cluster sampling design was adopted. This indicates that the FRA tools, technology and experts are capable of conducting such an inventory in the future, which could provide a basis for establishing a fully operational MRV system in Nepal. DFRS is technically able to process high and mid resolution satellite imageries, classify and map forest/land cover using advance Object Based Image Analysis method, classify and map forest/vegetation types using advance machine learning techniques and produce various forest and other thematic maps.

A National GIS/RS Division should be established immediately after the closing of the FRA project to ensure the sustainability of the GIS and Remote Sensing Lab under the DFRS organizational structure. . It is important to understand the connection between MRV requirements and particular activities under REDD+ so that MRV and REDD+ activities develop in parallel. Therefore, the National GIS/RS Division, REDD cell, DFRS, and other GoN and non GoN stakeholders will have a highly significant role in supporting the implementation of a fully operational MRV system. Further, institutionalization of OSFIS within the MoFSC has not taken place as desired. Parallel to the OSFIS, during project implementation, FAO has developed the OpenForis Information system based on Open Source solutions, mostly on the same elements as the OSFIS. FAO's OpenForis system is developing a wide international user community and integrates a system for inventory design, inventory data collection, management, analysis and dissemination. To ensure the sustainability of the OSFIS, it is also important to integrate both the databases into the national forest database (integrated national forestry sector database) called the National Forest Management System (NFMS). Because of similarities between these two systems, this conversion is straightforward for a forest information system specialist. To enhance the sustainability of the OSFIS, it would be beneficial to initiate the conversion process including further programming to make it easier for users to access it, and it should include provision of training for all MoFSC district offices and forestry education institutions.

FRA Nepal has identified needs to provide information technology and forest inventory education to capable forestry professionals, which could be best achieved through tertiary education. Opportunities for continuous professional development should also be sought out. Long-term partnerships with international research institutions are important and research institutes should be encouraged to maintain research, forest resource assessment and open source forest information system links with the DFRS after the closure of FRA Nepal.

Recently, federal structures have been established in Nepal. Maintenance and custodianship of national and federal forest spatial and statistical data might be an issue for a fully operational MRV system. Uncertainties around tenure issues, property rights, federal and municipal laws may generate new complications that undermine the interests of society at large. Further, the gap between the international requirements for REDD+ MRV and the existing forest monitoring system needs to be clarified to develop the MRV system in line with

the international MRV requirements. Hence, at this stage it is premature to recommend a time-bound and budgeted action plan to put in place a technologically sound, institutionally robust and fully operational MRV system that meets the national and international REDD+ MRV requirements.

Gaps, Issues and Challenges of MRV

Forest inventory in Nepal has always been a challenging task due to the complexity of the terrain, bio-climatic regimes, diversity of vegetation in short altitudinal and latitudinal variations and other bio-physical attributes. Due to the steep hills and deep gorges, shadows, shades, haze and clouds on the imagery make image analysis difficult and consequently reduces the accuracy of the map products. Nepal represents such a great diversity of forests that it might be impossible to represent it in any single image. Map making is always a subjective presentation of the truth, and therefore, a “correct” map cannot be presented because one singular truth does not exist, hence a forest cover map represents the forest coverage within a certain confidence level. The FRA prepared a definitive guideline for forest coverage mapping to minimize this subjectivity, and the collective applicability of those guidelines is an issue.

Different vegetation maps of Nepal exist from previous studies. Mapping of available nationwide vegetation types and their definitions have been made by Stainton (1972), Dobremez (1976), and Land Resources Mapping Project (LRMP) of 1986 and Tree Improvement and Silviculture Component (TISC) of 2002. Besides, many local scale vegetation coverage maps have been produced. The existing vegetation/forest classification and mapping, however, has historically lacked consistent standards. As a result, vegetation/forest descriptions and maps are not consistent and have not been comparable in the types and across unit boundaries. When developing a guideline, it is necessary to consider land and forest cover map definitions of these previous studies for comparability as well as to consider requirements for future needs, especially for carbon accountings.

As an observer of the UNFCCC’s REDD, Nepal requires highly accurate maps of forests and biomass estimations. There is a need to improve the reliability of forest data for the High Himal and High Mountains physiographic regions using remote sensing data and additional field plot data on selected classes. The GoN should also establish more permanent sample plots to fill strategically important data gaps and make this work more complete. Nepal used different monitoring tools; remote sensing and field based monitoring systems; different models and allometric equations in forest cover mapping and monitoring. The OSFIS is limited in terms of providing data on socioeconomic benefits and costs associated with trees and forests, market and subsistence demand for forest produce, and tenure aspects of REDD+. Benefit and opportunity cost in REDD+ related to agriculture-based case studies, theory of incentives, opportunity cost scenarios, and secure tenure rights are necessary for meaningful participation of local people and indigenous communities in REDD+ design and implementation.

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Chapter 7: Forest Reference Emissions Level (FREL)/Forest Reference Level (FREL/FRL) in the Context of REDD+

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Background

Previous chapters have explained that REDD+ policy encourages developing countries to contribute to climate change mitigation actions by voluntarily undertaking activities that reduce greenhouse gas (GHG) emissions and that enhance carbon sinks in the forest sector. This global initiative aims to compensate developing countries for their contributions in reducing forest-linked carbon emissions by source and increasing removals by sinks. To be able to claim payments for REDD+ performance, countries must develop four basic elements of REDD+: (i) a national REDD+ strategy or action plan, (ii) a national forest reference emission level and/or forest reference level (iii) a robust and transparent national forest monitoring system and (iv) a safeguard information system (UNFCCC, 2016). These four elements are logically related to one another. For example, information that becomes available through the national forest monitoring system (NFMS) and the safeguard information system (SIS) may be used to develop or update the national strategy or action plan. Forest Reference Emission Level/Forest Reference Level (FREL/FRL) estimation may in turn be informed by the proposed actions in the national strategy or action plan. This chapter provides basic information on FREL/FRL and current experiences, challenges and future needs of Nepal in developing a national FREL/FRL.

Understanding FREL/FRL

The 17th Conference of Parties (COP) of the UNFCCC has defined Forest Reference Level (FREL/FRL) as “benchmarks for assessing performance in implementing REDD+ activities”. In other words, it can be understood as the metric for determining whether the REDD+ programme is working. A national FREL/FRL or, as an interim measure, sub-national FREL/FRL, is one of the elements to be developed by developing country Parties implementing REDD+ activities (according to Paragraph 71 of Decision 1/CP.16). Estimating the performance of REDD+ activities involves assessing reference levels against which future emissions and removals can be compared. Conceptually the reference level represents business-as-usual emissions or removals associated with REDD+ activities at the national

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or sub-national level (as an interim step) and is based on historical data and national circumstances (GOFC-GOLD, 2015). Though the UNFCCC does not explicitly specify the difference between a FREL and FRL, the most common understanding is that FREL includes only emissions from deforestation and forest degradation, solely for activities that “reduce emissions”. FREL/FRL measures both emissions and removals, and also includes activities that can enhance carbon stocks (+ part of REDD+). Thus the scope of a FREL/FRL could include the same activities associated with a FREL plus enhancement of forest carbon stocks, for example. Some carbon financing initiatives use different terminologies, for example, the Forest Carbon Partnership Facility (FCPF) Carbon Fund Methodological Framework uses the term Reference Level.

UNFCCC decisions in the Conference of Parties (COP) provide guidance for understanding REDD+ FREL/FRL. As shown in Figure 7.1 (adopted from FAO 2015), the UNFCCC has made four key decisions, particularly related to the FREL/FRL. 15th COP in 2009 informed REDD+ countries to develop a transparent FREL/FRL using historic data and adjusting national circumstances. Modalities and contents of FREL/FRL were decided in 2011 followed by guidelines for FREL/FRL technical assessment in the UNFCCC in 2012.

FRELs/FRLs for REDD+ are estimated following UNFCCC/IPCC guidelines and considering country contexts (national circumstances). Decisions taken by the COPs in the UNFCCC provide guidance and a framework for FREL/FRL estimation. Based on the UNFCCC’s decisions, as shown in Figure 7.2, the following basic guidance is provided to the REDD+ countries for FREL/FRL estimation:

Figure 7.1: Graphical illustration of FREL/FRL/FREL

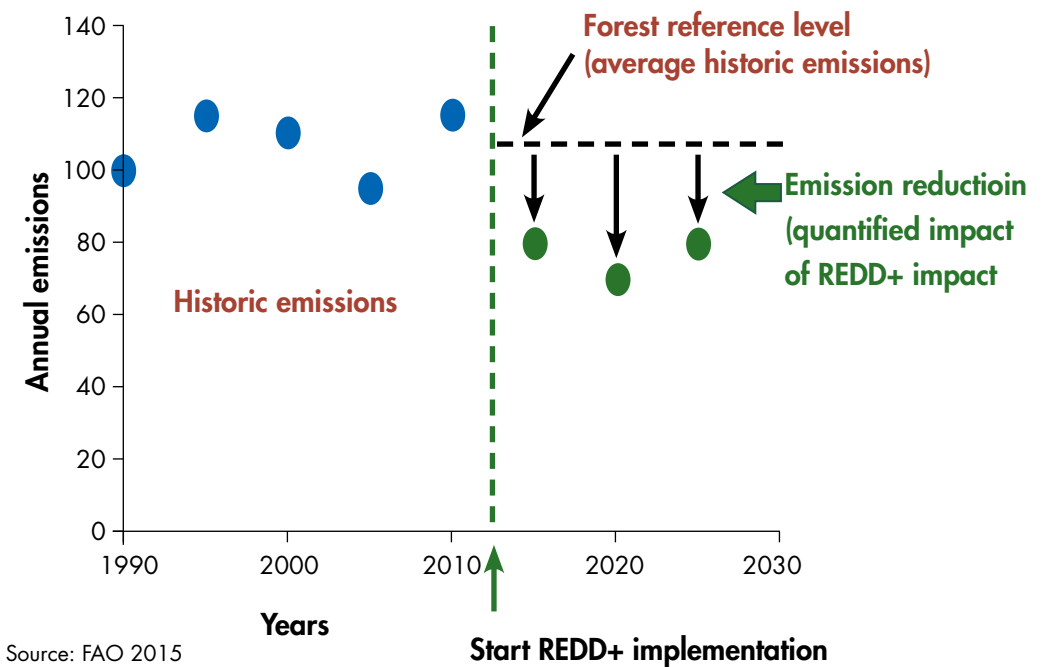


Figure 7.2: Chronological overview of UNFCCC decisions on FREL/FRL.

| | | |
|------|-----------------|------------------------------------------------------------------------------------------------------------------|
| 2009 | Decision4/CP15 | In estimating FRELs/FRLs do transparently taking into account historic data, & adjust for national circumstances |
| 2010 | Decision1/CP16 | FRELs/FRLs one of the 4 REDD+ elements |
| 2011 | Decision12/CP17 | Modalities for FREL/FRL construction |
| | Annex | Guidelines for FREL/FRL information |
| 2012 | Decision13/CP19 | Guidelines for technical assessment FRL |

- **FREL/FREL/FRL must be expressed in tonnes of carbon dioxide equivalent per year (t CO₂eq/yr.):** Other metrics such as the total forest loss area in hectares or total biomass in tonnes are not acceptable under the UNFCCC.
- **FREL/FRL should be developed using transparent information, tools and assumptions:** Countries are expected to submit information on data used for the FREL/FRL estimation, including historic data and details of national circumstances. If national circumstances are adjusted in the estimation, such adjustments should also be clearly described with justification as to why they need adjustment. For example, if a country has already planned to establish an industrial estate in the forest area as its national development priority within the accounting period, the country can claim for adjustment (i.e. emissions discount) with details of its plan and possible emission to be adjusted. Applied tools and techniques should also be explained transparently.
- **Take into account historical data from recent past.** Although the UNFCCC has not specified a timeframe, the methodological guideline of the World Banks' Carbon Fund suggests considering data covering ten years prior to the REDD+ intervention.
- **Maintain consistency with national greenhouse gases (GHG) inventories.** Maintaining consistency with national GHG inventories also means using the IPCC guidance and guidelines for both national GHG inventories as well as FREL/FRL as a basis for estimating forest-related GHG emissions by sources and removals by sinks.
- **Adjust FREL/FRL for national circumstances.** A country may need to make adjustments to the FREL/FRL depending on national socio-economic and environmental circumstances. Adjusting the FREL/FRL to national circumstances can bring in a discount on total national emissions. For example, if Nepal provides evidence that 20,000 hectares of forest area will be destroyed for industrial development during the accounting period, Nepal can seek a discount equivalent to the likely emissions from the 20,000 hectares of forest area to be deforested. However, the adjustment must be justifiable in view of the actual situation in the country, including laws, area of remaining forests, population trends, development plans, and recent political or economic history compared to the future.

- **Recognize step-wise approaches.** A step-wise approach for FREL/FRL estimation is applied to improve the FREL/FRL over time by incorporating better data, improved methodologies and, when appropriate, additional pools. The UNFCCC allows country parties to update FREL/FRL submissions based on estimations ranging from a simple type to a robust and highly accurate type. The step-wise approach involves three major steps for estimating FREL/FRL: (i) estimation with simple projections, based on historical data (Step 1) (ii) progressively updating the FREL/FRL based on more robust national datasets for country-appropriate extrapolations and adjustments (Step 2), and (iii) ultimately basing the FREL/FRL on more spatially explicit activity data and driver-specific information support (Step 3).
- **Allow for the use of sub-national FREL/FRL as an interim measure.** Countries may develop sub-national FREL/FRL as an interim measure but are expected to transition over time to a national FREL/FRL. Ultimately, countries will have to adopt the national level.

The above guidance is also described under the five UNFCCC general principles for estimating FREL/FRL, namely: (1) transparency (2) completeness (3) consistency (4) comparability, and (5) accuracy for reporting estimates of national emissions and removals of GHGs.

Transparency implies that the assumptions and methods used to estimate FRELs/FRLs are clearly and fully described. Unless the assumptions, if any, methods applied and data used for the estimation are not explained transparently, the estimation cannot be fully understood and assessed technically. FREL/FRL should be complete with respect to relevant pools and categories of activities; where pools or activities are missing, their absence should be documented along with a justification for their exclusion. FREL/RL should be prepared in a way that is consistent with accepted standards of carbon accounting, and that allows for comparison of FREL/FRL among countries. The estimation should also be explicit about how accuracy is ensured, uncertainty is reduced and bias is avoided. When it is necessary to address large uncertainties in emissions and removals estimates for key sources, the additional principle of conservativeness should be applied. Conservativeness requires that, when completeness and accuracy are lacking, the risk of overestimation is lower than the risk of underestimation (Meridian Institute, 2011). FREL/FRL submitted to the UNFCCC should be substantiated with information that: (1) allows for technical assessment of the data, methodologies, and procedures used in its development; and (2) documents how the RL meets the principles described above. The FREL/FRL report should also provide an explanation about data constraints and how those constraints will be overcome in the future.

Basic Elements of FREL/FRL

FREL/FRL is composed of some basic elements, which are discussed below:

- **Activities:** The FREL/FRL must explicitly explain which of the five REDD+ activities (i.e. deforestation, forest degradation, enhancement of carbon stock, sustainable management of forests, and conservation of carbon pools) are under the scope of estimation. Countries can choose any activities based on their capacity and data availability. For example, if a

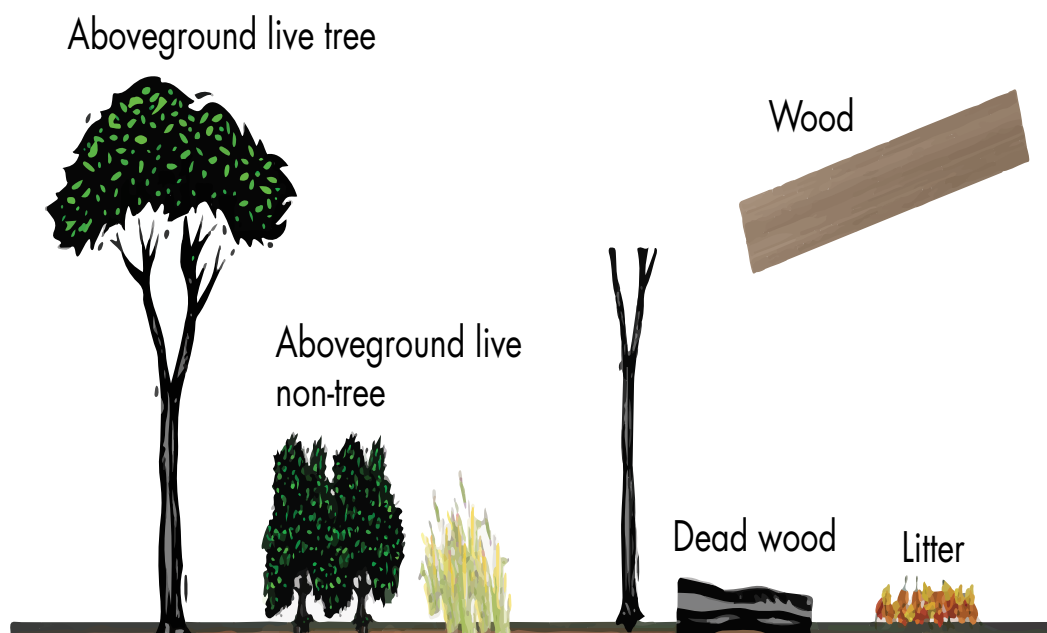
country would like to control deforestation and claim emission reduction as a result, the country would then develop a FREL.

- **Scale:** Accounting area of the FREL/FRL could be of a national or sub national scale. Sub national scale FRELs/FRLs are also known as project level, jurisdictional and or landscape level. The national FREL/FRL may be disaggregated into sub national components. Disaggregation may help countries develop several sub-national FREL/FRLs that are consistent in approach, scope and data used, and could be used, for instance, to track performance by jurisdiction and/or landscape level. Although countries may initially prepare and submit a sub-national FREL/FRL, they should ultimately develop a national FREL/FRL to go with the UNFCCC. Therefore, scaling up to the national level should be a consideration for all countries. National level FREL/FRL lacks the level of detail and complexity that can be measured in sub national FREL/FRL, and this can be considered a trade-off with consistency, transparency and cost-effectiveness at the larger scale. Technical challenges associated with FREL/FRLs constructed for the sub national scale may include higher transaction costs and may require efforts to detect possible displacement of emissions (leakage) (FAO, 2015).
- **Forest definition:** Countries must define forests for the purpose of developing FREL/FRL and MRV system implementation. This definition doesn't necessarily have to match the countries' legal definition. However, any difference between legal definition and the definition of forest for the FREL/FRL purpose must be justified. The definition used for FREL/FRL estimation should be consistent with the definition used for the country's GHG inventory report. If the country decides to use a different definition of forest for FREL/FRL, it must explain why and how it was chosen. The definition should remain consistent over time to ensure that changes detected between forest area assessments over time reflect real changes.

The IPCC guidance (IPCC, 2006) provides the following three key thresholds to be considered by countries while defining forest for REDD+ purposes:

- Minimum crown cover (expressed in percentage)
 - Minimum tree height (expressed in metres)
 - Minimum area (expressed in hectares).
- **Carbon pools:** Explanation of the carbon pools considered for the FREL/FRL must be provided. Above-ground biomass (live tree and live non-tree) of forests, below-ground biomass (roots), deadwood (standing or fallen), litters and soil carbon as shown in Figure 7.3 are the main carbon pools to be considered in FREL/FRL estimation. However, countries are allowed to choose any of the pools based on their capacity to measure them. Most of the countries with less capacity (in terms of data availability, technical and financial capacity) initially prefer to go with above-ground and below-ground biomass following the step-wise approach of FRL estimation. Monitoring and measuring carbon stock in more pools needs more effort. Therefore, countries would not benefit from putting more effort for pools that may not undergo significant change over time would. In order to reduce monitoring and measuring cost, only major pools that are likely to be increased significantly as a result of REDD+ activities are selected.

Figure 7.3: Illustration of forest carbon pools



- Gases:** Gases to be considered, whether CO₂ or non CO₂ GHG, in the FREL/FRL must be clearly described, and justification should be provided as to why they have been selected. Selected activities and carbon pools provide the basis for selecting gases. In addition to CO₂, countries with peat land, wetland and frequent flooding may wish to consider Methane (CH₄) because these pools significantly emit non-CO₂ gases like CH₄. Countries' capacity to assess emissions of different gasses also influences their choice.
- Historical period:** It is the time period considered for estimating the average historical FREL/FRL. Countries should start their FREL/FRL estimation by developing scientifically credible estimates of their historic emissions/removals based on data that were collected according to commonly accepted standards. As described earlier, the FREL/FRL refers to an average emissions/removals of recent past based on a business-as-usual scenario. The UNFCCC does not explicitly describe the historical period, length or number of data points to be considered for analysing historical emissions/removals. The length of the reference period may depend on the availability and quality of historical data. Although a relatively long time period would better capture historical trends of emission, overstretching the reference period may result in the inclusion of emissions that are not representative of expected future emissions. Such misrepresentation is highly likely in countries where emission patterns are changing rapidly. The length and period of the historical time series used in FREL/FRL construction should provide for a realistic and robust benchmark to assess the mitigation performance of REDD+ activities (FAO, 2015). Considering this, some global REDD+ initiatives like the World Bank's FCPF suggest 10 to 15 years before the accounting period. Selection of length, periods or data points is therefore the first step

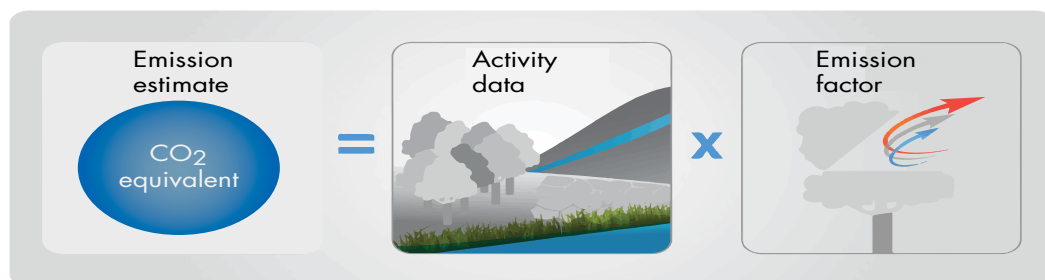
in developing a FREL/FRL which means the construction of a scenario based on historic emissions and removals. To develop this scenario, countries must identify and quantify the land areas that show decreases and increases in forest carbon stocks.

- **Adjustment:** As mentioned earlier, any adjustment made according to national circumstances should be justified. For example, if a country has a plan to develop an industrial estate in the forest, possible emissions from deforestation are estimated and considered for emissions exemption.
- **Link to National Forest Inventory (NFI):** The National Forest Inventory (NFI) is designed for monitoring changes of forest resources at the national and local level on a continuing basis in terms of forest quantity, quality and functions. The main objectives of the NFI are to identify the forest extent, volume, growth, consumption, function and their dynamics during the interval of NFI. The inventory system keeps track of the changes and premeasures sample plots after certain time intervals (i.e. 2 to 5 years depending on the country's capacity). In the context of REDD+, the NFI system is the key for MRV and progress (performance) reporting. Therefore, the way the tools and techniques are used for the FREL/FRL estimation should comply with and complement the NFI. It is important to ensure that future measurements will be consistent with the NFI system and that there will be no additional cost required for REDD+ MRV.
- **Activity Data (AD):** The quantity of an activity that results in emissions/removals is referred to as activity data. In other words, AD refer to the extent of an emission/removal category. In most cases AD are measured in area (ha). In the cases of deforestation, afforestation/reforestation, forest degradation, and enhancement of forest carbon stocks, AD refer to the areal extent of those activities, that is, the area change data expressed in hectares per year. Forest area change data should be expressed as gross changes; they should be spatially explicit; and they should be able to be tracked in the future (i.e. monitoring how a given pixel changes through time). Such data would be based on interpretation of remote sensing imagery; images are the primary sources of AD. Trends in activity data for deforestation, degradation, and forestation are also relevant and can be included. Not only are estimates of annual averages over a period of time needed, but also systematic patterns of change over the same period. Partial extrapolation of such historic trends could improve the reliability of BAU projections (Meridian Institute, 2011). AD may also be estimated using other means such as land survey, land registry records, forest inventories, etc., especially for AD related to forest degradation (i.e. for the gain-loss method, the activity data may consist of wood harvesting statistics which may not be adequately captured by remote sensing) (FAO, 2015).
- **Emission Factor (EF):** EF refers to GHG emissions and/ or removals per unit area under REDD+ intervention. For example, tonnes of carbon dioxide (CO₂) emitted per hectare of deforestation. Emissions/removals resulting from land-use conversion can be estimated using one of the two methods: either the difference in carbon stock between two successive measurements, or the difference between the gain and loss of carbon (e.g., loss due to timber harvesting and gain from regrowth) of the pre and post conversion land cover category. NFI data are the primary source of information for estimating the EF of any REDD+ activities.

- **Stepwise approach:** Description of how the FREL/FRL will be updated in the future, as described in previous section.
- **FREL/FRL:** FREL/FRL is the product of AD and ED described as tons CO₂ equivalent per hectare area. **Activity Data (ha) * Emission Factors (EF) = FREL/FRL t CO₂ e/h.**

The following figure (Figure 7.4) gives an illustration of FREL/FRL calculation.

Figure 7.4: Graphical illustration of FREL/FRL calculation



There are two recommended (IPCC, 2006) and commonly used methods of estimating changes in carbon stock over time.

- **Stock-difference method:** This method estimates differences in carbon stocks of a land unit (i.e. accounting forest area) by comparing carbon stocks for the same location at time one and two. This method generally requires comparing measurements from national forest inventory cycles.
- **Gain-loss method:** This method is applicable at all IPCC Tiers and subtracts biomass carbon loss from biomass carbon gain.

Mostly, AD data for deforestation and afforestation (enhancement) activities in developing countries are estimated through analysis of remote sensing (e.g., Landsat or higher resolution) images. Emission factors are estimated by calculating the difference of average carbon stock in forest biomass with the carbon stock in the accounting land use biomass (e.g., crop land). In this approach the average carbon stocks of both land uses are estimated based on NFI data (only from one cycle and not comparing two as with the stock-difference method), literature and/or IPCC default values.

Steps of estimating emissions and removals

Although countries are free to choose their own process for FREL/FRL (i.e. emissions and removals) estimation, some procedural steps are common and expected to be followed by all country parties. Table 7.1 below illustrates the common steps to be followed by country parties while preparing FREL/FRL.

Table 7.1: Common steps to be followed while preparing FREL/FRL

| Steps | Examples | References |
|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| 1. Define the pools and gases included in the FREL/FRL with a justification for their inclusion | Above-ground, below-ground, and dead wood, since other pools are insignificant; includes CO ₂ only, unless you know that non-CO ₂ gases are significant and you are capable of monitoring and measuring them. | IPCC 2006 Guidelines |
| 2. Specify the definition of forest used | Countries are free to define forest considering their country contexts. FAO's definition "all lands with tree canopy cover of 10% or more, with a minimum area of 0.5 ha, and trees taller than 5 m" is a commonly used definition. | FAO, 2015 |
| 3. Establish the historic period within which emissions and removals will be estimated | 2000 to 2010 (based on country contexts) | |
| 4. Describe the methods used to estimate carbon stocks for the selected time period | Because no data exist in the country, a plan was designed and implemented to collect data from a sufficient number of plots in the forest class where deforestation had occurred during the selected time period to achieve uncertainty around the mean of +/-15% with 95% confidence. | GOFC-GOLD Sourcebook 2010 |
| 5. Estimate the area of forest annually converted to different land uses | X million hectares cleared for small-scale grazing lands, Y million hectares for industrial-scale annual crops, and Z million for conversion to small-scale oil palm plantations | GOFC-GOLD Sourcebook 2010 |
| 6. Document past trends in forest conversion | Annual conversion of forest to non-forest land decreased/increased by XX over the past 10 years | GOFC-GOLD Sourcebook 2010 |
| 7. Estimate the area of forest degradation by each driver (e.g., logging, charcoal) | Y million hectares of selective logging concessions, Z million hectares of forest subject to fuelwood/charcoal production; X thousand hectares illegally logged | GOFC-GOLD Sourcebook 2010 |
| 8. Describe the methods used to estimate emission factors for forest degradation | Because no data exist in the country, a plan was designed and implemented to collect data on carbon losses from logging and fuel collection. | GOFC-GOLD Sourcebook 2010 |
| Source: Meridian Institute, 2011 | | |

Technical assessment of FREL/FRL proposals

Country parties seeking to obtain results-based payments for REDD+ activities must submit a FREL/FRL for its technical assessment. The 19th Conference of Parties (COP19) held in Warsaw agreed on procedures for the technical assessment of FREL/FRLs. There are two basic objectives of technical assessment: (i) assessing the degree to which the information provided meets the UNFCCC guidelines for submission of information on FREL/FRLs; and (ii) to offer a facilitative, non-intrusive, technical exchange of information on the construction of FREL/FRL. UNFCCC experts on Land Use, Land Use Change and Forestry (LULUCF) undertake the technical assessment of FREL/FRLs against UNFCCC guidance. The technical assessment of data, methodologies and procedures (i.e. basic elements) includes the following criteria:

- The extent to which the FREL/FRLs are consistent with previous GHG inventory submissions on forest related anthropogenic GHG emissions by sources and removals by sinks;
- How historical data have been considered during the establishment of the FREL/FRLs;
- The extent to which the information provided is transparent, complete, consistent and accurate;
- Whether a description of relevant policies or plans has been provided;
- Whether a description of changes made from previous FREL/FRL submissions has been provided (if countries modify their FREL/FRLs over time);
- Pools, gases and activities included in the FREL/FRLs, including justification of why excluded pools and/or activities were not deemed significant;
- If a definition of forest is provided, and if it is different from other definitions previously used in the GHG inventory or reported to other international organizations, why and how the definition used was chosen;
- Whether assumptions about future changes expected in domestic policies have been included in the construction of the FREL/FRLs (adjustment for national circumstances);
- The extent to which the FREL/FRL value is consistent with the supporting information and descriptions provided by the Party.
- The technical assessment process may require up to 42 weeks. The UNFCCC invites country parties to submit their FREL/FRL by the end of each year. The technical assessment process begins ten weeks after the submission deadline (i.e. 2nd of January each year). In the first step of technical assessment, also known as the Bonn assessment session, country FREL/FRL experts review these FREL/FRL draft documents and provide feedback to respective governments

Global overview of FRELs/FRLs submitted to the UNFCCC

A total of 25 developing countries have submitted their FREL/FRL to the UNFCCC as of January 2017. Table 7.2 below provides a list of countries that submitted their FREL/FRL. The table provides an overview of some of the FRELs/FRLs submitted. FRELs/FRLs submitted by 2014 were assessed, accepted and published by the UNFCCC. FRELs/FRLs submitted in 2015 and 2016 were technically assessed by the technical team commissioned by the UNFCCC. Most of these country parties were asked to address some concerns raised by the UNFCCC based on the technical assessment reports. These FRELs/FRLs will be published soon. FRELs/FRLs submitted in 2017 are being assessed by a technical team commissioned for each.

FREL/FRL in Nepal

Nepal has estimated a landscape level (sub-national) FREL/FRL for the Terai Arc Landscape (TAL area) in 2013, considering year 1999 and 2011 for estimating the historical average. The purpose of the TAL FREL/FRL was to meet FCPF requirements for Emissions Reduction Program Idea Note (ER-PIN) submission. Nepal has also prepared its national FREL/FRL considering 2000 and 2010 as its reference years for the historical average. The main objective behind developing a national FREL/FRL was to submit it to the UNFCCC so that the world communities could understand Nepal's intention to engage with REDD+ and the

Table 7.2: Overview of the FRELs/FRLs submitted to the UNFCCC by January 2017 (Deforestation (Def) and Degradation (Deg))

| Country | Scale | Area (M ha) | Activity | Pools | Historical period | FREL/FRL (Mt-CO ₂ e/yr.) | Year of submission | Remarks | |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------|---------------------|-------------------|-------------------------------------|--------------------|------------------------------|--|
| Brazil | S-N | 419.7 | Def. | AGB, BGB Litter | 2006-2010 | 1106.0 | 2014 | Published | |
| | | | | | 2011-2016 | 908.0 | | | |
| Columbia | S | 45.9 | Def. | AGB,BGB | - | 51.6 | 2014 | Published | |
| Ecuador | N | 24.9 | Def. | AGB,BGB, DW, litter | 2000-2008 | 43.4 | | Published | |
| Guyana | N | 21.5 | Def., Deg | AGB,BGB, DW | - | 46.3 | 2014 | Published | |
| Malaysia | N | 33.0 | SMF | AGB,BGB | 2006-2010 | -183.6 | 2014 | Published | |
| | | | | Litter | 2011-2015 | -197.8 | | | |
| Mexico | N | 197.3 | Def. | AGB, BGB | 2000-2010 | 44.4 | 2014 | Published | |
| Congo | N | 34.2 | Def., Deg | AGB,BGB | 2000-2012 | 39.1 | 2016 | In the process of publishing | |
| Costa Rica | S | 5.1 | Def., Enh | AGB,BGB | 1996-2009 | 14.3 | 2016 | | |
| | | | | | 2010-2025 | 4.0 | | | |
| Ethiopia | N | 112.7 | Def., | AGB,BGB | 2000- 2013 | 19.8 | 2016 | | |
| | | | Af. | AGB,BGB | | -10.2 | | | |
| Indonesia | S | 113.2 | Def., Peat | AGB, Peat | 2013-2020 | 568.9-593.3 | 2015 | | |
| Paraguay | N | 40.7 | Def. | AGB,BGB | | | 2016 | | |
| Peru | S | 78.3 | def. | ABG,BG | 2015-2020 | 77.6-93.7 | 2015 | | |
| Vietnam | N | | Def,Deg | ABG,BG | | 88.2 | 2016 | | |
| | | | Af. | | | -70.9 | | | |
| Nepal | These FRELs/FRLs are being assessed by technical teams. Attributes of these proposed FRELs/FRLs may be changed based on the assessment reports. | | | | | | 2017 | Being reviewed | |
| Madagascar | | | | | | | 2017 | | |
| Sri Lanka | | | | | | | 2017 | | |
| P N Guinea | | | | | | | 2017 | | |
| Cote D Ivories | | | | | | | 2017 | | |
| Ghana | | | | | | | 2017 | | |
| Honduras | | | | | | | 2017 | | |
| Uganda | | | | | | | 2017 | | |
| Viet Nam | | | | | | | 2017 | | |
| Tanzania | | | | | | | 2017 | | |
| Zambia | | | | | | | 2017 | | |

status. Both national and sub-national FRELs/FRLs are consistent in terms of activities, carbon pools and gases estimated. Three REDD+ activities (deforestation, forest degradation, and enhancement of carbon stock), two carbon pools (above and below-ground biomass) and a gas (CO_2) are estimated for both national and sub-national FRELs/FRLs. However, there are some differences as well. The sub-national FREL/FRL used LiDAR images along with Landsat images and NFI data of the TAL area while the national FREL/FRL used Landsat images and FRA data (2010-2014) of the whole country. The national FREL/FRL applied proxy indicators to assess degradation while the sub-national FREL/FRL used LiDAR data to estimate the emission factor of all activities. Further, estimations of the EF of activities were also complemented using available biomass table, allometric equations from NFI and IPCC default values. Based on the available data sources and methods, the first national FREL/FRL of Nepal is considered to be between Tier 1 and Tier 2 methodologically.

Further, the national FREL/FRL study has comprehensively defined the scope of assessing the FREL/FRL in terms of emissions and removals, present preparedness, challenges and future efforts to be made to comply with effective performance-based payment mechanisms. Following are the brief details on three activities:

- **Deforestation:** Deforestation is defined as the long-term or permanent conversion of forest to other (non-forest) land use. Nepal observed forest cover loss over an extended period of time (i.e., 10 years). Landsat TM satellite data-based monitoring for 2000-2010 shows that this temporary loss was followed by regrowth. However, the change assessment made needs to be improved in compliance with the national definition of forest and calls for appropriate national monitoring systems.

The Department of Forest Survey and Research (DFRS), the central authority for Forest Resources Assessment (i.e.) in Nepal, has prepared a forest cover database for the year 2010 in accordance with the national definition of forest (0.5 ha size) using Rapid Eye 5 m resolution data and National Forest Inventory (NFI) field information. In view of non-availability of similar data for the year 2000, the FRL study has adopted Landsat TM 30 m resolution data for the years 2000 and 2010 to make the forest cover change assessment. Considering the resolution of satellite data used, the mosaic forest landscape and highly rugged terrain, and to ensure reliability and accuracy, the study has made forest cover change assessment at the size of 2.25 ha and reported accordingly.

In view of this, the FRL submission could not report changes at 0.5 ha size, adhering to the national definition of forest, due to data limitations. Using forest data from 2010 based on Rapid Eye 5 m resolution as a baseline, the preparation of future change assessments using the same satellite data, or data of comparable resolution, would help to ensure that these assessments are consistent with the national definition of forest. This underscores the need to institutionalize appropriate national forest monitoring systems to develop comparable, consistent and complete temporal forest cover on an operational basis.

- **Forest Degradation:** Degradation is the long-term or permanent reduction of biomass in remaining forest land. Long-term degradation is the result of recurrent disturbance with an

impact above the recovery capacity of the forest, and thus results in emissions of CO₂ to the atmosphere, which is not compensated by subsequent removals through post-harvest regrowth. According to National Forest Inventory (NFI) (DFRS, 2010), biomass reduction is mainly caused by drivers such as grazing and fuelwood and timber extractions.

At the moment, the FRL study has considered only fuelwood as a driver of degradation and estimated impact on carbon loss/gain as function consumption through spatial explicit analysis using Wood fuels Integrated Supply/Demand Overview Mapping (WISDOM) model. In the absence of consistent multi-date observations of forest biomass stock for Nepal from which degradation rates could be measured, the degradation specifically unsustainable fuelwood harvesting was estimated applying the WISDOM model.

The recent NFI (DFRS, 2010) reported grazing as the most frequent biotic disturbance reported across forests. However, to date there is no well-defined consistent field measurements at the country level to compare and assess the impact of different grazing intensities and management regimes on forest carbon fluxes. The challenge associated with estimating degradation from unsustainable timber extraction is, firstly, the lack of reliable statistics on national timber production and, secondly, the lack of information on how much of this production came from sustainably managed forests which would not result in net emissions. These are the gap areas which need to be addressed for further improvement of forest degradation based carbon flux estimates.

- **Forest Enhancement:** Enhancement of forest carbon stock, for the purposes of the FRL, is divided into two categories:
 - **Afforestation/reforestation:** This is the positive complement to deforestation and refers to the long-term or permanent conversion of non-forest land use categories to forest
 - **Restoration (Enhancement of remaining forest land):** This is viewed as the positive complement to forest degradation, i.e. long-term or permanent improvement of carbon stocks in forest land that remains as forest land.

Enhancement of carbon stocks in remaining forest land (restoration) is considered to be one of the most important activities in Nepal. CBFM practices (community forestry and the pro-poor leasehold forestry programme in particular) are considered to contribute significantly to forest restoration. However, Nepal does not yet possess data which allows estimation of GHG removals from restoration in a sufficiently robust and reliable manner. Nepal intends to consider CBFM's contribution in enhancing forest carbon stocks in the future, with appropriate field and remote sensing measurements. Nepal is currently investigating what data it needs to collect to estimate removals in the community forests in a robust and reliable manner.

Accordingly Nepal has identified the following five areas of improvement for the FREL/FRL on which the country seeks to continue investigation, data collection and testing of methodologies, depending on available resources.

- Develop temporal high resolution forest cover change products to include small-scale

deforestation and afforestation in a cost-efficient manner with sufficient accuracy in order to cover the smallest possible patch of forest within the definition of forest in the FREL/FRL.

- Develop and establish institutional mechanisms to carry out temporal national forest inventory with NFI 2010 as baseline which would help the following:
 - Replace the indirect assessment of forest degradation caused by grazing and livestock management by cost-effective direct measurements of forest degradation caused by grazing.
 - Replace the indirect assessment of forest degradation caused by fuelwood extraction by cost-effective direct measurements of forest degradation caused by fuelwood extraction. It will provide avenues for consistent and sufficiently accurate monitoring.
- Fully include the activities of forest carbon stock enhancement on the remaining forest. This would allow Nepal to report on the important results of improved forest management achieved in the country through the community-based forestry programme.

Conclusion

Estimation of FREL/FRL is one of the key requirements for countries to be part of the global REDD+ policy. It is a benchmark for assessing the performance of REDD+ interventions based on which country parties can claim payments for their emission reduction and removal enhancement contributions. Performance is measured in tonnes of CO₂eq/ha/year. FREL/FRL is also estimated to evaluate national policies and measures implemented to mitigate climate change. The UNFCCC develops FRL related global policies and guidelines for countries. Such policies and guidelines give country parties flexibility in interpreting FREL/FRL construction in line with their national circumstances and capacities. IPCC good practice guideline has been one of the global guidelines for estimating forest carbon dynamics (both loss and gain). The guideline provides a basic framework for estimating FREL/FRL including (i) Transparency, (ii) Accuracy, (iii) Consistency, (iv) Compatibility and (v) Completeness. In order to comply with this framework, FREL/FRL estimation should follow eight basic steps namely (1) Define the pools and gases included in the FREL/FRL with a justification for their inclusion, (2) Specify the definition of 'forest' used, (3) Establish the historic period within which emissions and removals will be estimated, (4) Describe the methods used to estimate carbon stocks for the selected time period, (5) Estimate the area of forest annually converted to different land uses, (6) Document past trends in forest conversion, (7) Estimate the area of forest degradation by each driver (e.g., logging, charcoal), and (8) Describe the methods used to estimate emission factors for forest degradation. By the end of 2017, 25 countries have submitted their FRELs/ FRLs and 6 of them have already been approved and published by the UNFCCC. The rest of the submissions are undergoing evaluation.

Nepal has submitted its national FRL considering 2000 and 2010 as its reference years for the historical average. However, due to lack of reliable information, this submission does not capture all the removals and emissions from forests. Out of the nine drivers of forest degradation identified, this FRL estimated emissions from a single (i.e. forest fire) driver. Therefore, the FRL proposal shows only some portion of Nepal's forestry sector emissions/

removals. Further adjustments in the FRL will be performed as more reliable data sources and robust methodologies becomes available in the future.

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Chapter 8: Indigenous Peoples' Engagement in REDD+ Process: Opportunities and Challenges in Nepal

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Background

Nepal has a population of 26.5 million with immense cultural diversity, and indigenous peoples make up 35.81 percent of the total population (2011, CBS). 59 indigenous nationalities have been legally recognized under the Nepal Foundation for Development of Indigenous Nationalities (NFDIN) Act 2001. The NFDIN Act defines indigenous nationalities, also referred to as *Adivasi Janajati*, as communities who perceive themselves as distinct groups with their own mother tongue, traditional culture, written and unwritten history, traditional homeland and geographical areas, and egalitarian social structures. The indigenous peoples of Nepal inhabit different parts of the country, from Himalayan mountains to the hills and plains. They have a symbiotic relationship with nature and have been playing a crucial role for sustainable management of forests, natural resources, biodiversity and ecosystem through their traditional knowledge and cultural practices for generations in Nepal. With the emergence of the concept of REDD+ Mechanism in 2009, indigenous peoples have been speculating how it would address their issues and concerns in relation to their rights over their resources, land, forest and safeguards.

Engagement of Indigenous Peoples in REDD+ Process

The REDD Implementation Centre (RIC) – previously REDD Forestry and Climate Change Cell – under the Ministry of Forest and Soil Conservation (MoFSC) is responsible for the implementation of the Readiness Preparation Proposal (RPP). The RPP was approved by the World Bank's Forest Carbon Partnership Facility (FCPF) in April 2010. The RIC has been involved in the readiness and consultation process, REDD+ strategy preparation, determining reference level emissions, monitoring stems for forest and indigenous peoples and local communities' safeguards in Nepal as part of the readiness phase of the REDD+ mechanism under the FCPF. Since the readiness phase took longer than expected, the implementation phase of REDD+ also started in parallel. The REDD+ Strategy was expected to be approved

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by 2013 but the process wasn't completed till 2015. The delay in finalizing the strategy gave indigenous representatives additional time to engage with the process and provide their comments and feedback to the REDD Working Group, where NEFIN has been representing indigenous peoples along with other members representing different ministries, local communities and donor agencies.

Because of the regular engagement and participation of indigenous representatives in activities related to the REDD+ process of the Government of Nepal (GoN) and other concerned organizations, government agencies and other stakeholders, particularly at the national level, have become familiar with the issues and concerns of indigenous peoples. The GoN is obligated to respect and address the safeguards in REDD+ under the Cancun agreement, World Bank Safeguards and Strategic Environmental and Social Assessment (SESA), UN REDD Programme Social and Environmental Principles and Criteria Framework, and the REDD+ Social and Environmental Standards (REDD+ SES) of the Climate, Community and Biodiversity Alliance (CCBA) and CARE International. Indigenous leaders have been continuously advocating and lobbying the government to address their rights ensured by international treaties and conventions like UNDRIP and ILO Convention 169. These international instruments recognize the indigenous peoples' customary systems for managing natural resources and forests and their right to full and effective participation including FPIC prior to any decision that affects their communities; hence this is not limited to REDD+ but covers overall policy and programme development in Nepal's forestry sector. The awareness level on the importance of addressing the issues and concerns of indigenous peoples has increased not only among indigenous communities and their leaders, but also among concerned government agencies and other stakeholders. However the outcome of the REDD+ process (especially the documents of REDD+ Strategy which they thought should have been indigenous friendly) was not satisfactory. They are now worried about the outcome of the Emission Reduction Program Documents (ERPD) and its implementation as performance based payment phase of the REDD+ process. Thus indigenous peoples and local communities of Nepal have come together and submitted a common position paper on Nepal's ERPD to MoFSC before the finalization of the documents. They have been regularly following up to ensure that their recommendations are incorporated in the documents so that the indigenous peoples and local communities of Nepal own the REDD+ process, leading to its successful implementation.

Issues and Concerns of Indigenous Peoples in REDD+

Indigenous peoples have been continuously raising their issues and concerns in relation to their right to Free Prior Informed Consent (FPIC) before the implementation of any activities or any decision that affects their lives; representation in all levels of decision making, from national to local; recognition of their traditional customary institutions and governance systems that have been contributing to sustainable forest management and other natural resources; safeguards and rights over their territories, resources, and land ensured by international agreements that Nepal has ratified, such as UNDRIP, ILO Convention 169, CBD and others.

Some of the major issues and concerns, especially in the implementation phase of the ERPD in the REDD+ process, are benefit sharing, non-carbon benefits, forest tenure rights and control, and Community Based Monitoring and Information Systems (CBMIS). These are well covered in the common position paper on Nepal's ERPD of indigenous peoples and local communities (for details, see the paper attached at the end of this article).

As Nepal is going through restructuring and developing new policies and programmes at the local, provincial and central level, indigenous peoples are concerned about how their major issues and concerns will be addressed at the various levels of government.

Opportunities of Indigenous Peoples in REDD+

It is stated that REDD+ is unlikely to cover a large proportion of the country or to bring extensive financial gains to local communities (Acharya et al., 2015). However, in Nepal indigenous peoples' claims regarding their needs and rights are crucial for their enhanced political participation and greater recognition of and respect for their values, knowledge and practices (reference: REDD+ position statements). Under the new federal system, while designing REDD projects, REDD+ provides potential opportunities through participation in new forums, allowing debate over the norms guiding forest governance and incorporating possible traditional practices and tenure systems. Moreover, the prevailing context of environmental governance is characterized by a lack of transparency, weak accountability, limited participation and simmering debates about tenure and resource access (Ojha et al., 2013). This backdrop of suboptimal current practice provides reason for the introduction of any new form of governance to be met with cautious optimism. Add to this the clarity of REDD+ protocols describing how policy processes are to be managed, space afforded to principles of inclusion, social equity and human rights in both the process and outcomes, as well as international influence and funding potential, and REDD+ becomes an attractive prospect for advancing indigenous interests.

REDD+ mechanisms call for extensive participation of civil society organizations, including indigenous peoples and local communities, to contribute to the design of national approaches (Fischer et al., 2016; Turnhout et al., 2016). Participation is targeted to be both full and effective, meaning their perspectives are afforded influence at all stages of the policy process. Different structures providing forums for participation in REDD+ in Nepal include the National Working Group, Apex Body, REDD Implementation Centre and a multi-stakeholder forum. Civil society organizations representing Indigenous Peoples' networks and groups have been invited to attend and present at a large proportion of events associated with each of those bodies (Bushley, 2014). Despite the dominance of international donor organizations and state actors in those processes (Bastakoti and Davidsen, 2017), the relative inactivity of dedicated civil society forums, plus the representation of nearly half of the national population of Indigenous Peoples commonly being reduced to one seat at a large table, independent researchers have observed that the relative power of IP organizations and their potential to influence REDD+ processes is considerable (Brockhaus et al. 2014). The presence of numerous other civil society organizations in those processes also offers possibilities to

form coalitions of interest to support mutual policy goals (reference: civil society position statement).

There are indications that the strength of civil society in REDD+ debates has created new understandings of how to address the complex social-ecological issue of forest governance, going far beyond previous policy initiatives. The draft REDD+ implementation strategy document is a prime example; its central framework is highly progressive and based on the principles of social and environmental justice, and it gives as much priority to demands for recognition of minority values and practices as it does to financial distribution (Acharya et al., 2015). Although such documents focus largely on guiding principles than on specific mechanisms and targets, they indicate that the normative space, in some REDD+ forums at least, has extended beyond the forest policy arena. 'Studies have shown that equity-related norms of international and national REDD+ policy processes are restricted to 'do no harm', and despite the rhetoric of Cancun safeguards, those norms are based on the idea that justice can be delivered through material distribution rather than through promoting human rights or tenure claims of Indigenous Peoples' (Schroeder and McDermott 2014; Suiseeya in press). However, there is scope for national approaches to depart significantly from international templates. Many equity-related issues, including how to deliver on social safeguards, come late in the REDD+ timeframe and have not yet been determined in Nepal, despite the acceleration towards the implementation stages. Although this appears to indicate they have been deprioritized relative to issues such as carbon monitoring methods, this also means that opportunities to put progressive principles into practice, to turn the skeletal safeguard statements into substantive mechanisms capable of delivering equity to minority groups, and to go further than the types of provisions contained within community forestry governance, may yet be realized (Poudel et al., 2014). Continued civil society efforts are therefore paramount for exerting influence at those critical stages.

Ongoing debates over the definition and incorporation of diverse non-carbon benefits may also provide opportunities to recognize indigenous knowledge (Bastakoti and Davidsen, 2017). For example, it is widely acknowledged that traditional tenure systems, land use practices such as agroforestry and self-regulation of land degradation contribute to sustainable forest management and climate change mitigation on a global scale (Brugnach et al., 2017). However, rather than such practices being legally recognized, IPs are often framed as encroachers and removed from land, and conservation governance is exclusionary and externally imposed and enforced, in Nepal and across the globe (McLean and StrÅDe, 2003; Paudel and Vedeld, 2015). Again, progressive definition in Nepal (unlikely to be adopted within global UNFCCC negotiations) of terms like non-carbon benefits may lead to transformative outcomes for Indigenous groups across the country. If tenure rights are strengthened through REDD+, it might also increase people's ability to resist external attempts to take control of land, such as land grabbing by agri-business interests.

Deliberations on specific pathways for delivering equity have yet to take place in Nepal's REDD+ processes. That means future opportunities may come to the fore through wider social and political changes. For example, the Sustainable Development Goals tend to

place human rights higher up in the hierarchy of principles than REDD+ and integration of climate and poverty policy arenas may open more progressive policy options. Furthermore, federalization may open up opportunity for greater participation of indigenous community leaders in local and regional politics (particularly given the strength of indigenous networks nationwide), and in turn inspire more diverse approaches to forest governance at subnational levels.

Challenges of Indigenous Peoples in REDD+

Indigenous Peoples have a collective existence and, therefore, rely on each other for their survival and prosperity (AIPP, 2012). They have a distinct worldview and identity based on their indigeness (Bhattachan et al., 2016). However, in many countries discriminatory laws have ignored indigenous values, skills, knowledge, customary law, and collective ownership of ancestral land and territories of Indigenous Peoples.

Recently, new policy initiatives, those relating to climate change policies for instance, are have increased in number. According to leaders of the Nepal Federation of Indigenous Nationalities, REDD+ challenges Indigenous Peoples' distinct relationship with forest, land, territories and natural resources. Discussion with the indigenous leaders also indicated that REDD+ may negatively impact Indigenous Peoples' health, traditional healing practices, territorial integrity, collective identity, ancestral domain, cultural integrity, livelihoods, customary practices and law, knowledge system, skills, social cohesion and well-being, among others. Alongside these challenges facing Indigenous Peoples, there also exist 'safeguard measures' that came about after decades-long efforts and that are based on various principles of equity and justice enshrined in international legal instruments.

The International Indigenous Peoples' Forum on Climate Change (IIPFCC) has made several interventions during the intersession and the Conference of Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC). The intervention statements urge Member States to ensure full and effective participation of Indigenous Peoples and to take into account the collective rights of Indigenous Peoples on forests, land, territories and resources in line with international standards and instruments. However, the States have yet to uphold their commitments and obligations.

Indigenous experts say that REDD+ poses a twofold challenge to Indigenous Peoples: a) building the commitment of REDD+ actors to human rights including the rights of Indigenous Peoples, b) implementation of States' commitments on international decisions and agreements. For instance, Cancun Safeguards on REDD+ is meant to mitigate climate change impact by preventing deforestation and forest degradation and conserving forests and biodiversity, with no negative impact on Indigenous Peoples and forest-dependent communities. "Respect for the knowledge and the rights of Indigenous Peoples and members of local communities" and ensuring "full and effective participation of relevant stakeholders, inter alia, Indigenous Peoples and local communities" represents the essence of FPIC [Cancun Agreements, para.69, 72; and Appendix I, paras (a), (c) and (d)]. Parties

are obliged to implement the agreed-upon safeguards including FPIC in climate change policies and programmes. Cancun Safeguards refers to the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and compliance with international conventions and agreements whereas FPIC is described as a “right” of indigenous peoples for the exercise of their collective rights over natural resources (A/HRC/18/42, para.63. 17 August 2011). FPIC is also described as a “principle” to acquire substantive aspects of human rights. “This (FPIC) includes the rights to: property, participation, non-discrimination, self-determination, culture, food, health, and freedom against forced relocation” (UN-REDD, 2013). UN-REDD reiterates the fact that international law has recognized FPIC as a legal norm imposing clear affirmation of duties and obligations on States. The legal companion to the UN-REDD Program guidelines on FPIC (2013) clearly asserts that the States have the duty and obligation to seek FPIC and ensure FPIC as a safeguard to reduce negative impact of any intervention on the communities. The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), which should be taken into account in REDD+, contains mechanisms and processes that guarantee Indigenous Peoples’ rights to land, territories, resources, ancestral domain, and their right to self-determination and cultural integrity [Articles 10, 11 (2), 19, 26 (1), 26 (2), 28 (1), 29 (2), and 32 (2)]. The same rights are enshrined in Articles 14 (1), 15 (1), 16 (2) of ILO 169. ILO 169 explicitly states that whenever a legislative or administrative measure that may affect Indigenous Peoples is being considered, they must be consulted and the consultation has to be undertaken in good faith and in a form appropriate to the circumstances with the objective of achieving consent. Likewise, the Convention on Biological Diversity (1992) Article 8 (j) mentions that the States and parties have the duty and obligation to obtain FPIC to access traditional knowledge, innovations and practices of Indigenous Peoples (Khanal and Rai, 2016).

Other UN human rights committees of international human rights instruments, such as the Convention on the Elimination of all Forms of Racial Discrimination (CERD) (1965), International Convention on Economic, Social and Cultural Rights (ICESCR) (1966) and the International Convention on Civil and Political Rights (ICCPR, 1976) explicitly and repeatedly affirm the duties and obligation of the States to obtain consent (UN-REDD, 2013). However, implementation of climate change action including REDD+ threatens Indigenous Peoples in many ways as there are no guarantees of benefit sharing and non-carbon benefits, and no recognition of customary livelihood and knowledge system, and full and effective participation of IPs in REDD+ processes (NEFIN, 2016; IIPFCC statements, 2017).

Recommendations

Indigenous peoples (IPs) represent a distinct rights-holder group in the ongoing REDD+ process and its implementation in Nepal. IPs occupy a very special position in this process because they depend on forests and other natural resources not only for their sustainable livelihoods but also have social and cultural ties to forests. They have been contributing to the sustainable use and management of forests and other natural resources through their own customary governance systems. Thus their meaningful participation in forest-related policies and programmes is crucial. The REDD+ process aims to mitigate climate change impacts

through reducing emission from deforestation and forest degradation and increasing carbon stock by protecting forests, especially trees. In the name of the enhancing the carbon stock of forests, the policies and programmes should not undermine the role of indigenous peoples and local communities, who have been contributing to the sustainable use and management of forests for generations.

It is important to hold genuine consultation with all stakeholders, particularly indigenous peoples and local communities, and listen to their issues and concerns regarding the REDD+ process, especially during the implementation phase of ERPD. However, effective engagement and meaningful participation is still a challenging task for community leaders because awareness about REDD+ at the community level is still low. Effective implementation of REDD+ is not possible until indigenous peoples and local communities are fully aware about the process and are able to participate meaningfully, and their rights over forest and natural resources are protected. Curtailing their access to forests would mean violating their fundamental rights and going against the REDD+ safeguards of indigenous peoples and local communities.

Relevant government agencies in Nepal should genuinely seek solutions to the challenges faced by indigenous peoples. They should acknowledge indigenous peoples' rights to uphold and promote their traditional knowledge and customary practices. They should also acknowledge indigenous peoples' land tenure rights and their right to self-determination with respect to their ancestral forestland in the REDD+ process. In order to achieve sustainable results, it is crucial that indigenous peoples and local communities are invited to participate more meaningfully in the revision of forest and land tenure policies and programmes. This will allow IPs to protect and promote their traditional knowledge, skills and customary practices that have been contributing to sustainable use and management of forests and their livelihoods.

Socioeconomic indicators show that indigenous peoples are disadvantaged compared to the dominant groups (Bhattachan, 2001). They are generally considered to be illiterate and unable to understand theories and issues concerning climate change and REDD+. However, with regard to skills and knowledge related to sustainable use and management of forests and natural resources, indigenous communities are far ahead of modern conservation thinking. *"There is a growing appreciation of the value and importance of traditional forest-related knowledge, and of traditional knowledge more generally, not only to local and indigenous communities, but also to broader metropolitan, increasingly globalized, societies"* (Parrotta & Trosper, 2012, p. 4). Thus, there is a need for the state to recognize IPs' knowledge and not undermine the role, knowledge and collective strength of indigenous peoples. As rights holders in the REDD+ process, indigenous communities should be consulted and participate in the development of any policies and programmes, especially in the preparation of the ERPD documents that could affect their traditional occupations and knowledge systems. They should be accorded a special status as well as specific rights related to full and effective participation, Free Prior and Informed Consent (FPIC), and the right to decide what should happen to their ancestral lands and forest in the ongoing REDD+ process.

Common Position Paper of Indigenous Peoples and Local Communities on Nepal's Emission Reduction Program Document (ERPD).

5-6 December 2016, Kathmandu

- It is known to all that the indigenous peoples, local communities, women, Dalits, Madhesis and the forest-dependent poor have long been contributing to Nepal's forest conservation and management, and that this has resulted in a significant increase in Nepal's forest area. However, these forest-dependent communities have hardly been able to reap the benefits from forests.
- While the National REDD+ Strategy is yet to be finalized, Nepal is gearing up for the Emission Reduction Program (ERP), for which it has been preparing the Emission Reduction Program Document (ERPD). Against this backdrop, this joint position paper has been developed incorporating issues and concerns of the indigenous peoples, local communities, women, Dalits, Madhesis, the Muslim minority, the differently abled people and other marginalized communities, that need to be addressed in the ERPD.
- This position paper is the outcome of a national level multi-stakeholders' conference titled 'Consultation and Dialogue of Indigenous Peoples and Local Communities on ERPD' held on 5-6 December 2016 in Kathmandu. The conference was jointly organized by the Federation of Community Forest Users of Nepal (FECOFUN), the Nepal Federation of Indigenous Nationalities (NEFIN), the National Dalit Network (RDN), the Tharu Kalyankari Sabha, the Nepal Indigenous Women Federation (NIWF), the Association of Collaborative Forest Users Nepal (ACOFUN), the Federation of Nepalese Indigenous Journalists (FONIJ), the Green Foundation Nepal (GFN), the Centre for Indigenous Peoples' Research and Development (CIPRED), ASMITA Nepal, the Association of Family Forest Owners Nepal (AFFON) and HIMAWANTI Nepal
- Our position is that Nepal's REDD+ Strategy and Emission Reduction Program Document (ERPD) should be developed in strict compliance with the provisions related to the rights of indigenous peoples and local communities contained in various international treaties, conventions, protocols and commitments (including the Convention on Biodiversity, the Universal Declaration of Human Rights, the Sustainable Development Goals, the ILO Convention 169, the United Nations Declaration on the Rights of Indigenous Peoples, the Paris Agreement), to which Nepal is a state party, and the Fundamental Rights and the Directive Principles of State Policy enshrined in Nepal's Constitution.

Institutional Structure

- Inclusive, full and effective, and decisive participation of the indigenous peoples, local communities, community forest users groups, collaborative forest users groups, private/family forest owners, women, Dalits, Madhesis, the Muslim minority, differently abled people and other marginalized communities should be ensured at all levels and in all processes of the ERPD.
- This should apply to all levels, from the community level to the central level as determined by Nepal's future state restructuring.

Safeguards

- Acknowledging the fact that indigenous peoples have a symbiotic relationship with water, land and forest, the traditional knowledge, skills and livelihood practices of the indigenous peoples and local communities should be respected and promoted and their rights over natural resources should be ensured.
- The indigenous peoples and local communities should not be deprived of their right to continue their traditional occupations.
- An appropriate arrangement with the provision of compensation should be made to address the potential risks.
- REDD+ safeguard measures in the ERPDP should be provisioned as per the standards of the Cancun Agreement and other human rights-related national laws and policies and international instruments.
- The arrangement for alternative energy should be made in an easy, simplistic and cost-effective way with the involvement of the respective communities and constituencies, and its use should not adversely impact the traditional and cultural practices of the community of that area.

Benefit sharing and Non-Carbon Benefits

- An autonomous, authorized committee should be formed for the indigenous peoples, local communities, community forest users groups, collaborative forest users groups, private/family forest owners, women, Dalits, Madhesis, the Muslim minority, the differently abled people and other marginalized communities to ensure they have easy, equitable and effective access to carbon and non-carbon benefits.
- Benefit sharing standards that are acceptable to the indigenous peoples and local communities should be established and an arrangement should be put in place to manage the beneficiaries' expectations.
- An autonomous, authorized committee should be formed with the involvement of the indigenous peoples, local communities, community forest users groups, collaborative forest users groups, private/family forest owners, women, Dalits, Madhesis, the Muslim minority, differently abled people and other marginalized communities, to address concerns and grievances related to benefit sharing.
- The benefit sharing arrangement should ensure 100 percent of the benefits for the forest owners/users of community-based forests, customary forests, and family/private forests, while in the case of other types of forests, the allocation should be made as per the Climate Change policy.
- Non-carbon benefits should be clearly defined and their values determined, and in so doing, the contributions to non-carbon benefits made through traditional, customary practices at the community level should be recognized and taken into account.

Forest tenure rights and control

- Preferential forest tenure rights should be given to the indigenous peoples, local communities, community forest users groups, collaborative forest user groups, private/family forest owners, women, Dalits, Madhesis, the Muslim minority, differently abled people and other marginalized communities.

- Preferential rights to forest carbon in terms of its preservation, promotion and benefits resulting from it should be given to the indigenous peoples and local communities
- The indigenous peoples, local communities, community forest user groups, collaborative forest user groups, private/family forest owners, women, Dalits, Madhesis, the Muslim minority, differently abled people and other marginalized communities should be given their sovereign rights to forest tenure and forest management.
- There should be no government interference in private and family forests, and carbon rights in such forests should be given to the forest owners themselves.
- The indigenous peoples and local communities' rights to the territories that they have been traditionally using, for settlement, farming and grazing should be recognized and the ownership of such lands should be transferred to the respective communities.

Carbon Measurement and Monitoring

- Contributions made by the indigenous peoples and local communities through their traditional and community-based forest management practices should be recognized and taken into account in the national forest monitoring system.
- While measuring, monitoring and verifying forest carbon, the indigenous peoples and local communities' traditional knowledge and skills should be used for the adoption of the rights-based, community-based approach.
- Effective representation of the indigenous peoples and local communities should be ensured while carrying out carbon measurement and monitoring, and for this, programmes for building their capacity and transferring technology to them should be introduced.
- The communities that have traditionally been managing forests at the local level should be identified, the data should be compiled and such data along with the communities' experiences should be validated.

Interventions in Deforestation and Forest Degradation

- Activities related to the lifestyles and cultures of the indigenous peoples, local communities, community forest user groups, collaborative forest user groups, private/family forest owners, women, Dalits, Madhesis, the Muslim minority, differently abled people and other marginalized communities should not be considered drivers of deforestation and forest degradation.
- Physical infrastructures, hydropower projects and livelihood alternatives should not be developed in such a manner that promotes corporate interests and devalues, displaces or destroys the traditional knowledge, skills, environmental conservation practices, arts and cultures of the indigenous peoples and local communities.

Free, Prior Informed Consent (FPIC)

- In the planning and implementation of ERPD, consultations through the FPIC procedure should mandatorily be carried out with the indigenous peoples, local communities, community forest user groups, collaborative forest user groups, private/family forest owners, women, Dalits, Madhesis, the Muslim minority, differently abled people and other marginalized communities through their representative associations, organizations, federations, networks, etc.

- FPIC should be conducted using the mother tongue of the concerned community or a local language that is easy to understand, and enough time should be given to the concerned community or constituency.
- A mechanism should be put in place to redress grievances with regard to FPIC.

We hereby jointly call on the Government of Nepal, the Ministry of Forests and Soil Conservation, donor agencies and relevant stakeholders to fully address these issues and concerns while formulating and implementing the Nepal REDD+ Strategy and the ERPD.

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Chapter 9: Moving Towards Implementing REDD+ in Nepal: Developing Local REDD+ Action Plans

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Introduction

Nepal is a pioneer country as regards undertaking the detailed local or district level planning necessary for implementing national REDD+ programmes. This paper describes the progress made by Nepal in developing 'local REDD+ Action Plans' (LRAPs) and moving from the REDD+ Preparation (or Readiness) Phase towards the REDD+ Implementation Phase, which involves piloting the National REDD+ Strategy, demonstration activities and more capacity building.

It can be argued that two main levels of planning are needed for Nepal, or any other country, to implement a national REDD+ programme. Development of a National REDD+ Strategy (NS) is vital for many reasons; one of these is that a high proportion of deforestation and forest degradation (DF&D) is caused by national level policy and governance failures that interact with other causes. Therefore a basic component of the NS is a set of national 'policy and action measures' (PAMs) that will complement a set of more direct implementation activities, e.g., clarification of boundaries, agroforestry systems, improved wood-burning stoves, alternative biomass energy production, forest restoration or reforestation, etc.

But only having a NS is not viable for Nepal due to the major differences in forest ecosystems and causes of D&FD (or 'drivers') in different regions. Therefore the national PAMs need to be modified according to the local or district level D&FD drivers, ecosystems and social issues. Another reason for sub-national or local level planning is so that regional and local stakeholders can be involved in the planning process. This increases ownership and sustainability. Also in Nepal, any forestry-related programme or plan needs to be implemented through the District Forest Offices (DFO). Therefore local or 'sub-national' REDD+ plans are vital for Nepal.

In 2013 the UN-REDD Vietnam Programme identified the need for "a comprehensive and participatory planning process at the provincial level." This led to developing and piloting a sub-national REDD+ planning approach (Richards & Swan, 2014); over the period 2014-2016, five 'Provincial REDD+ Action Plans' were developed in Vietnam. Drawing on this

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experience, Nepal became the second country to pilot the LRAP approach in the form of the Chitwan District REDD+ Action Plan (DRAP) developed over 2015-2016. This resulted from collaboration between the RIC, FAO, ICIMOD and the NGO ForestAction under the UN-REDD Nepal Programme. Following the Chitwan DRAP, a comprehensive manual for facilitators of the LRAP process was developed (ICIMOD, 2017). There has also been further significant progress over 2016-2017:

- Implementation of the Chitwan LRAP has started in the form of tree planting by agroforestry cooperatives following appropriate training.
- An LRAP for Ilam District was completed in September 2017.
- There are plans to extend LRAP across eastern Nepal if donor funding can be secured.
- Following introductory workshops involving RIC and ICIMOD, there is interest in piloting LRAP in Myanmar and India.

Methodology Basis of LRAP Process

The LRAP process is based on a widely used approach to planning, monitoring and evaluation known as the ‘theory of change’ approach. A ‘theory of change’ sounds more complex than it is; it is simply a plan, drawn up on the basis of cause and effect analysis, of how an intervention, project or programme can achieve its objectives. In the LRAP approach, cause and effect analysis is provided by using ‘problem trees’ and ‘solution trees’ (or results chains) that allow stakeholder participation and promote identification of strategic and cost-effective interventions.

This participatory analysis must however be combined with ‘spatial analysis’ involving the use of carefully researched maps, for example, using GIS or satellite data. Photo 1 shows an attempt to combine participatory and spatial analysis in a stakeholder workshop in Chitwan District. Following their involvement in the LRAP process in Vietnam, the UN Environment World Conservation Monitoring Centre (WCMC) has provided important guidance on using spatial analysis in the LRAP process (Hicks et al, 2016).

Outline of the LRAP process

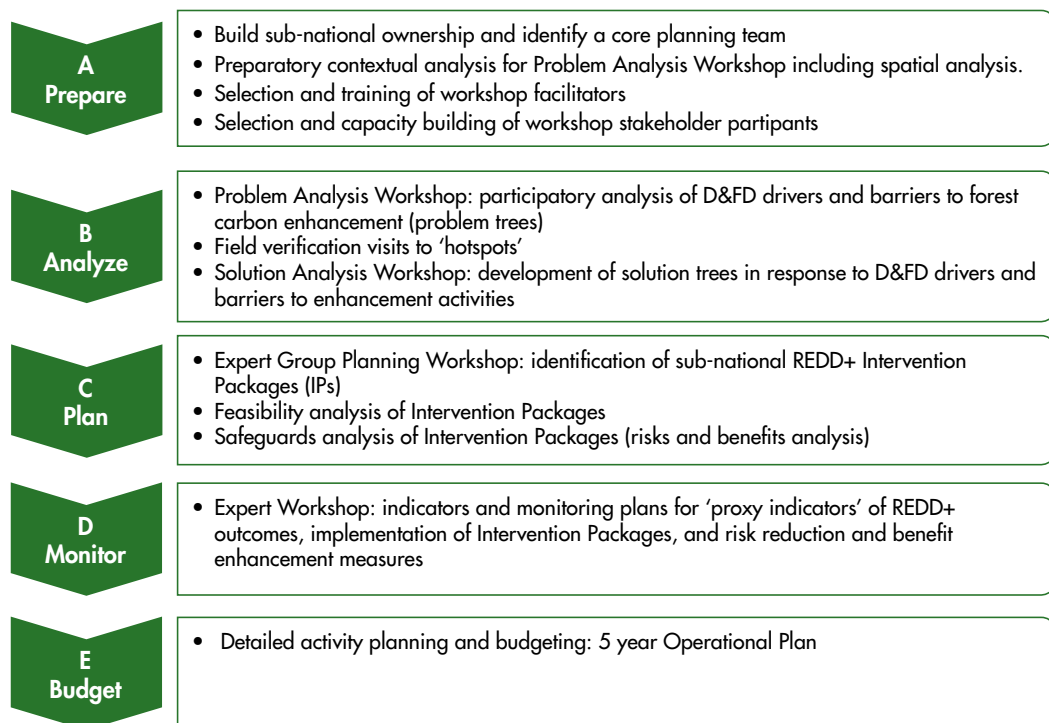
As shown in Figure 9.1, the LRAP process involves five main stages: PREPARE, ANALYSE, PLAN, MONITOR and BUDGET. These stages include various stakeholder and expert workshops.

Description of the five LRAP stages

Stage A. PREPARE

The main aim of the preparation stage is to ensure that workshop participants are as well informed as possible, and that the LRAP process has a strong spatial analysis basis. This improves the quality of ‘meaningful’ participation and hence the quality of the plan. Stage A includes:

Figure 9.1: The five main stages of the LRAP process

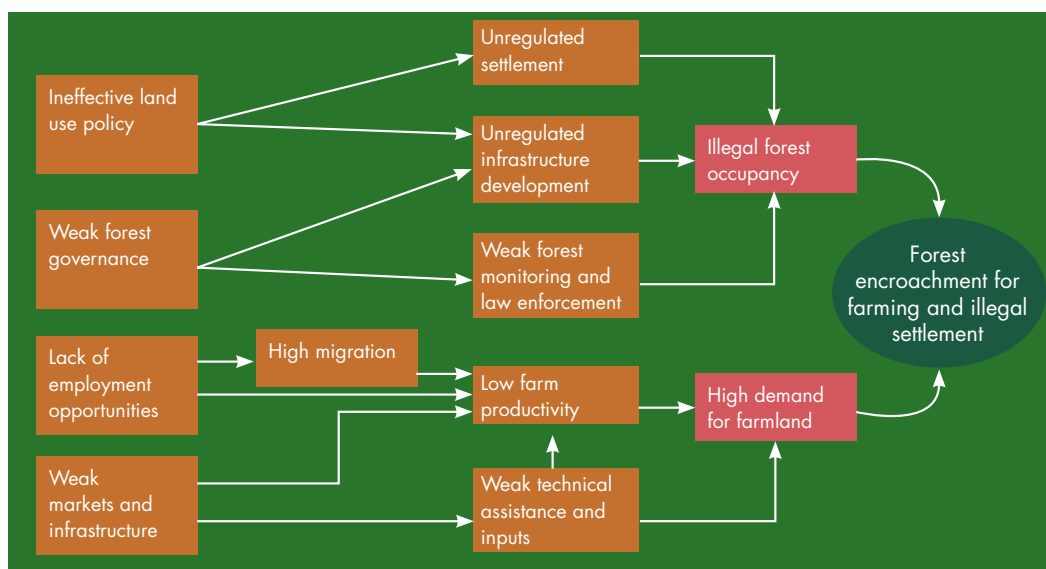


- Building district or local government ownership of the LRAP process;
- Collating available local data on D&FD drivers and barriers to 'forest carbon enhancement activities' (or 'enhancement activities' for short);
- Spatial analysis and preparation of maps for use in the workshops (e.g., transparent overlays showing forest cover/land use, tenure, livelihoods, biodiversity, etc.);
- Selection and training of workshop facilitators: the quality of facilitators is key to the quality of the participatory planning process;
- Selection of 20-30 workshop participants; this involves finding a balance between the representativeness and capacity of stakeholders;
- Capacity building of these participants in REDD+ and the LRAP process.

Stage B. ANALYSE

- The core of the Analysis Stage is holding two multi-stakeholder workshops that provide the cause and effect analysis basis of the LRAP. In the 'Problem Analysis Workshop' the main tasks are to prioritize the D&FD drivers and potential enhancement activities in terms of their potential impact on climate change mitigation. Normally three to five drivers and/or barriers to enhancement are prioritized. This prioritization is necessary for a focused LRAP, and because resources are limited. Working groups are then formed to analyse each priority driver or enhancement activity with the help of maps or other preparatory data, and to develop problem trees (Figure 9.2).

Figure 9.2: Problem tree: Forest encroachment by farming and illegal settlement, Chitwan LRAP



- After a few weeks the ‘Solution Analysis Workshop’ is held with (as far as possible) the same group of stakeholders to analyse how the drivers and barriers (to enhancement) can be counteracted in the form of solution trees (Figure 9.3). It is vital that the workshop analysis is complemented by ‘ground truthing’ field trips by the planning team to the hotspot areas in order to verify the diagnostic and prescriptive analysis of the stakeholder workshops.

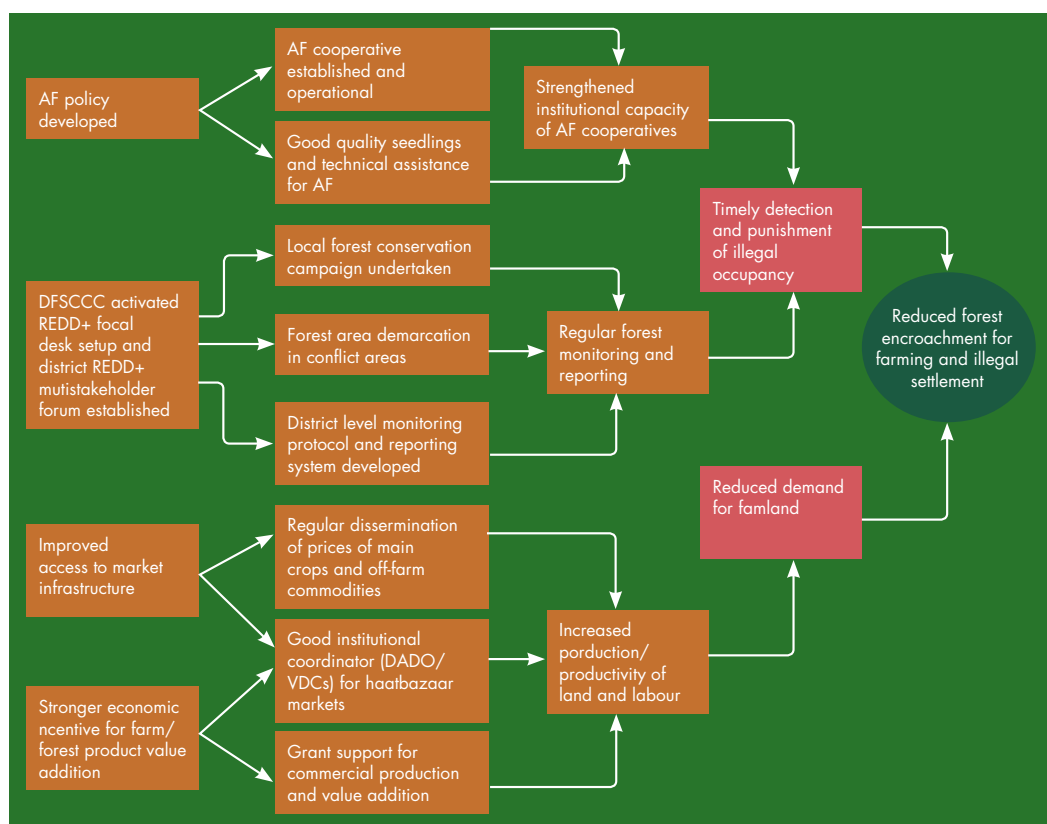
Stage C. PLAN (including safeguards analysis)

The next stage is to identify a set of potential REDD+ ‘intervention packages’ (IPs) based partly on the solution trees or results chains. This is best done in a small ‘expert group’ planning workshop involving the core planning team and a few informed stakeholders. An IP can be defined as *a set of interlinked activities that form a coherent strategy for counteracting a D&FD driver or barrier to expansion of an enhancement activity*. When identifying the IPs, the expert group needs to check existing plans and projects in the sub-national area to avoid duplication of resources and to maximize complementarity.

When some provisional IPs have been identified, a feasibility analysis needs to be undertaken to ensure that the IPs are as cost-effective as possible. This includes analysing the main threats and obstacles to effective implementation, identification of potential mitigation measures, consideration of implementation costs and opportunity costs, and the likely effectiveness of incentive measures designed to change current land use behaviour or management practices.

Another vital step in the planning process is safeguards analysis. This focuses on the potential governance, social and environmental risks and benefits of the IPs. Safeguards analysis

Figure 9.3: Solution tree: Reduced forest encroachment by farming and illegal settlement, Chitwan LRAP



Acronyms in Figure 9.3: AF = Agroforestry; DADO = District Agricultural Development Office; DFSCCC = District Forest Sector Coordination Committee; VDC = Village Development Committee

requires local stakeholder consultations either in the form of another multi-stakeholder workshop or field-based meetings. The main outcome of safeguards analysis is a set of risk reduction or mitigation measures and benefit enhancement measures (e.g., to promote gender equity) for inclusion in the IP. An example of risk analysis from Chitwan District LRAP is presented in Table 9.1.

Stage D. MONITOR

Monitoring is essential for adaptive management of the LRAP. If the IPs do not achieve positive GHG mitigation outcomes they need to be modified or changed. Developing a monitoring plan involves identifying a set of monitoring targets, indicators and their data collection methods, as well as identifying institutional responsibilities for data collection and analysis. As for Stage C, this is best done in a small expert group workshop since experience has shown that developing a monitoring plan is demanding for a wider group of stakeholders.

Table 9.1: Risks analysis of actions to reduce forest encroachment, Chitwan LRAP

| IPs/activities | Risk | Likelihood of risk | Impact of risk | Risk reduction measures |
|------------------------------------------------------------------------------|-----------------------------------------------------------------------|--------------------|----------------|-----------------------------------------------------------------------------------------|
| Agroforestry cooperatives established & supported | Poor/marginalized households excluded | Medium | Medium | Reserve equity share in cooperatives for target groups |
| Agroforestry promoted by technical & financial assistance | Reduced traditional crop food production by poor households | Medium | Medium | Promote multi-layer agroforestry practices including traditional food crops |
| | Elite capture | Medium | Medium | Expand pro-poor leasehold forestry in public and community forests |
| | Biodiversity risk: hybrid/exotic species replacing indigenous species | Medium | Medium | At least 50% of trees in agroforestry extension/ credit packages are indigenous species |
| Boundary demarcation of forest and private land boundaries in conflict areas | Relocation of poor, increased poverty & crime by evicted households | Medium | High | Vocational training for evicted households; Increased access to public land |
| Grant support for diversification (through Livelihood Improvement Plans) | Elite capture: grants not received by poor households | Medium | Medium | Transparent grant approval, monitoring & reporting mechanisms |

The starting point of the monitoring plan is the quantitative targets for the outputs identified in Stage C, including for the risk mitigation and benefit enhancement measures. The indicators can be derived mainly from these targets. The next task is to identify a set of ‘proxy indicators’ (e.g., changes in forest area and condition) for the GHG emission/removal outcomes of the IPs. For each indicator, a cost-effective method of data collection or source of data (if the data already exists) is required; as far as possible existing monitoring systems should be used. In the Chitwan LRAP it was decided to train local stakeholders to collect monitoring data for the proxy indicators and for forestry staff to undertake random sample spot checks.

Stage E. BUDGET

The last main stage is to develop a detailed budget of the LRAP so that a five-year Operational Plan can be presented to sub-national and national government and potential development partners. As for Stage C it is important to undertake a ‘gaps analysis’ between the IPs in the LRAP and activities already planned and budgeted in state and NGO programmes and projects, so that the LRAP budget only needs to cover the additional resource requirements (for example, there may already be NGO led programmes to introduce improved wood burning stoves in a hotspot area).

As in the case of the Chitwan LRAP, donor funding can be facilitated by presenting the LRAP form of a set of individual IP packages that allows donors to ‘pick and choose’ according to

their funding criteria. It is expected that funding of the IPs will involve a mixture of national and sub-national government, private sector and donor finance.

Approval and Implementation of the LRAP

On the basis of these five stages, the LRAP document can be submitted for approval and/or modification by decision-makers. The LRAP document should show how the planning process demonstrates transparent decision-making; it can do this by including, at least as Annexes, the main outputs of the stakeholder workshops and expert group meetings (e.g., problem and solution trees, feasibility and risks analysis tables, etc.). Summaries of the LRAP in an accessible format should also be distributed to stakeholder groups.

It should also be noted that for implementation of the IPs, a process of negotiation and agreement with local stakeholders and forest owners is needed. This should adhere to the principles of Free, Prior and Informed Consent (FPIC), and the resulting agreements should clearly set out the roles and responsibilities of all parties, the schedule and conditions of any payments to be made, and a grievance mechanism to cover non-compliance with the terms of the agreement. The time and budgetary requirements of developing implementation agreements also needs to be added to the LRAP budget.

Conclusion

Having developed the Chitwan and Ilam District LRAPs, Nepal now has the capacity to mainstream the LRAP approach. In order to facilitate the LRAP process, step-by-step guidance on using the LRAP has been published (ICIMOD, 2017). It can be claimed that these experiences have validated the LRAP process in Nepal as regards the capacity to:

- Identify strategic and cost-effective IPs; the emphasis in LRAP on cause and effect analysis helps ensure that the IPs are strategic responses to the D&FD drivers and barriers to scaling up enhancement activities;
- Identify risk mitigation and benefit enhancement measures that enhance the multiple benefits of REDD+ and respond to the REDD+ safeguards;
- Generate a cost-effective monitoring system;
- Provide a good basis for adaptive management – apart from the monitoring system, the problem and solution trees should be periodically reviewed to check that the IPs are still valid;
- Maximize complementarity between REDD+ implementation and other forestry plans;
- Facilitate financing of the LRAP by addressing the concerns of potential investors as regards rigour, viability, (local) ownership and participation.

However the LRAP experiences also reveal some key requirements for achieving a robust plan, including:

- Measures to ensure participation of the most capable and informed stakeholders, including building up local political ownership that will facilitate the vital cross-sectoral collaboration;

- Effective integration of spatial and participatory analysis;
- Balancing the participatory workshops with 'ground truthing' field trips by the core planning team;
- Sufficient investment in training workshop facilitators.

In sum the pioneering pilot experiences in Nepal have validated the LRAP process as a cost-effective approach to sub-national REDD+ planning, and therefore provide a strong basis for implementing the National REDD+ Strategy, as well as provide a model for other countries in the region and beyond.

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Chapter 10: Costs and Benefits of Implementing REDD+ in Nepal

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Introduction

REDD+ programmes worldwide are attempting to engage communities in the business of climate change mitigation by using performance-based management principles to provide economic incentive for carbon sequestration in forests (Agrawal and Angelsen, 2009; Cronkleton et al., 2011). Given the tremendous potential of forests to sequester carbon, it makes economic sense to pay forest managers to conserve forests and the carbon stock they hold (Kinzig et al., 2011). Needless to say that the success of REDD+ may rely on the motivation of local forest managers to move from current practices of forest management to REDD+ activities, which conserves and/or enhances forest carbon stock. In general, forest managers decide whether to implement REDD+ or continue the existing forest management practice after assessing and comparing the benefits generated from REDD+ with those derived from current forest management practices.

Two conditions could encourage people to decide in favour of a particular programme, REDD+ in this context. First, benefits generated from the proposed programme, such as REDD+, should outweigh the costs of implementing the programme, or net benefits (benefits minus costs) of REDD+ should be positive. Second, net benefits generated from the proposed programme (REDD+) should exceed the net benefits of current forest management practices. In Nepal, community-based forest management is financially beneficial to participating households (Rai et al., 2016). In this condition, the implementation of REDD+ should generate more benefits than the existing forest management practice. The literature on the impacts of the REDD+ pilot project in Nepal is inconclusive. Maraseni et al. (2014) conclude that while considering the additional costs and foregone benefits of the project, REDD+ is not an attractive option for Nepal's community forest user groups, whereas Sharma et al. (2017) infer that REDD+ goals are compatible with that of community forestry, and REDD+ activities can be implemented in community forests if communities receive both rents and technical guidance that contribute to institutional strengthening.

Both the studies – Maraseni et al (2014) and Sharma et al. (2017) – focus on examining the feasibility of implementing REDD+ in community-managed forests. Here we discuss the

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costs and benefits of implementing REDD+ in different forest management regimes and physiographic regions. Carbon stocks and use of forests vary across forest management regimes (Gibbs et al., 2007; Rai et al., 2017). Thus it is not always clear how much households should be paid for conservation of forest carbon. It is also not clear how much carbon will actually be conserved if a set of payments is made. Carbon is not a good available in the marketplace and so supply-demand adjustments will not happen quickly. This implies that any facilitation of carbon trade between local communities and international buyers of carbon should be based on a sound understanding of a) existing carbon stocks in a particular forest; and b) the opportunity costs of conserving these forests for sequestering carbon, i.e., the costs communities will incur when they conserve forests for carbon purposes.

Opportunity Cost of REDD+ Implementation

Implementing REDD+ to enhance forest carbon stock means forest managers have to change forest management activities. Forest managers have to give up some benefits while changing the forest management approach by implementing REDD+ activities to enhance and/or conserve forest carbon stocks. For instance, they might have to harvest less forest products or convert other land-use into forest. In this context forest managers have to bear additional costs to enhance and/or conserve forest carbon stocks. Such costs could involve sacrificing benefits they have been enjoying from existing forest management practices and/or land-use practices

Studies evaluating Nepal's REDD+ pilot project indicate that the frequency of committee meetings has increased (Maraseni et al., 2014), but there has been no decrease in non-timber forest product extraction (Sharma et al., 2015). The REDD+ communities regularize grazing, and construct more fire lines to prevent forest fires. Timber extraction, however, has declined in REDD+ CFUGs. This indicates that forest users may incur more cost in terms of additional time for attending meetings and less benefits due to reduced timber harvest in REDD+ CFUGs. Therefore, there may be a reduction in net benefits while implementing REDD+. The foregone net benefits from existing forest management and/or land-use practices to conserve and/or enhance forest carbon stocks are called opportunity costs of REDD+ implementation.

The opportunity cost (oc) of REDD+ implementation in terms of carbon equivalent can be expressed as:

$$REDD_{oc} = \frac{(\Delta \text{ Net benefits from forest})}{(\Delta \text{ Carbon (tC)})} \quad (i)$$

The variables in opportunity cost can vary while addressing drivers of deforestation and forest degradation individually. For instance, in the case of deforestation, the costs may involve both annual direct and indirect benefits from forest minus annual harvesting and forest management cost; while benefits include net benefits from clear-cut (value of forest stand – harvesting cost) plus profit from alternate land use. In the case of forest degradation, it

depends on the drivers of degradation. For example, if REDD+ attempts to address the heavy reliance on forest products, then the opportunity cost could involve a reduction in the harvest of forest products.

In many developing countries like Nepal, where agriculture is the dominant livelihood option and forest products are the major input of farm household production function, implementing REDD+ activities should not compromise the livelihoods of local forest users. This means they have to be compensated for their contribution in managing and protecting forest resources. The best approach to determine the compensation is to estimate the costs of conserving and/or enhancing forest carbon stock in terms of opportunity costs of per tonne carbon (Zelek and Shively, 2003). Without considering such costs REDD+ may not be an attractive market-based option.

Evidence from the REDD+ pilot study suggests that REDD+ user groups appear to be more effective in carbon sequestration, perhaps because of increased prevention of forest fires and grazing, nursery establishment, and other forest management compared to non-participating CFUGs (Sharma et al., 2017). This study records that user groups report a larger number of forest conservation, forest utilization, and community development activities relative to control groups. While doing so, participating communities bear a transaction cost of USD 4.5/hectare and an implementation cost of USD 2.5/hectare on average (or NPR 50,000 or USD 600 per ha/year). The mean REDD+ rent per tonne of additional carbon sequestered was USD 1.3. These estimates are higher than the amount estimated by Maraseni et al. (2014), which is USD 7.33 to 290.92 per ha as average annual management cost of CFUGs.

Opportunity cost of carbon may vary across forest management regimes, location of forest and alternative land use practices (Fosci, 2013; Rai et al., 2017). This is because they may have different growing stock, growth rate, and species composition, utilization of forest, price of forest products and profitability of alternate land use. The review of 29 empirical studies indicates that the cost of REDD+ is between USD 0.84 and 4.18 per tCO₂ (Boucher, 2008). There is a huge regional variation in the opportunity cost of carbon. It is USD 3.2 per tCO₂ in Africa, USD 2 to 9 in South and Central America, and USD 20 to 60 in Southeast Asia (Overmars et al., 2014).

In Nepal, a study by Karky and Skutsch (2009) in the community forests of the mid-hills has estimated the carbon abatement cost, which is between USD 0.55 and 3.70 per tCO₂. These estimations are based on the price of carbon at USD 1 and 5 per tCO₂, and forest users get fuelwood, fodder, timber, non-timber forest products and carbon revenue as benefits. A recent study carried out by Rai et al (2017) in different forest management regimes estimated the opportunity cost of carbon at an 8 percent discount rate, and agriculture is the alternate land use practice to forest. Similarly, this study considers heavy reliance on forest products to be the main cause of forest degradation. The study suggests that the opportunity cost varies according to the forest management regime, physiographic location, forest condition, and management practice (Table 10.1). They estimated that the opportunity cost of conserving carbon stock by reducing deforestation is between USD 1.11 and 3.56 per tCO₂.

Table 10.1: Opportunity costs of carbon to reduce deforestation and forest degradation in USD/tCO₂

| Regimes | Deforestation | | Forest degradation |
|---------------------------------|--------------------------|------------------------------------|--------------------|
| | Average condition forest | Degraded forest (<40% crown cover) | |
| Community forest - Mid-hills | 2.57 | 3.38 | 7.09 |
| Community forest - Siwaliks | 2.63 | 2.64 | 1.59 |
| Community forest - Terai | 1.81 | 1.89 | 1.19 |
| Collaborative forest management | 1.11 | 1.30 | 0.72 |
| Protected forest | 3.56 | 3.64 | 3.09 |
| Protected area | 2.23 | – | – |

Source: Rai et al., 2017.

Table 10.1 suggests that the opportunity cost of carbon stock is higher in degraded forest compared (USD 1.30 to 3.64/tCO₂) to forests that are in average condition (USD 1.11 to 3.56/tCO₂) in regard to reduction of deforestation. In addition, opportunity costs are low in actively managed forests such as collaborative forest management (CFM) and high in protected forests. The table also indicates that opportunity costs of reducing forest degradation are lower than the opportunity costs of reducing deforestation. In these sites, only collaborative forest and CF-Terai have undergone forest degradation over the study period.

In the case of forest degradation, the study found that only CF (Terai) and CFM have undergone degradation (Rai et al., 2017). In recent years these forest management regimes have adopted a forest management approach oriented towards timber and fuelwood production, which might reverse over time when regeneration starts to reach the sapling stage. Table 10.1 shows that the opportunity cost of reducing forest degradation is less (USD 0.72 to 1.19/tCO₂) where degradation is occurring, compared to the cost of reducing deforestation.

However, opportunity costs alone may not cover all concerns of forest managers (Gregersen et al., 2010). This approach shifts pressure from the forest to other sectors, which may contribute to emission and reduce the benefits through leakage (Fisher et al., 2011). Therefore, REDD+ implementation should also consider other costs including implementation and transaction costs. Implementation costs refer to the costs of alleviating the demand for forest degradation and deforestation, and costs of increasing supply of forest products without compromising the existing growing stocks. For example, increasing domestic animal yield to reduce grazing pressure and the cost of using efficient improved cooking stove or alternative energy to reduce the demand for fuelwood. Transaction costs relate to the costs incurred while setting up systems for monitoring and certifying REDD+ activities, and institutional costs are budgetary costs incurred by the government to implement REDD+. A review of 56 studies concluded that the total REDD+ cost is 2.23 times higher than the opportunity cost

and the opportunity cost is 3.28 times higher than the transaction and implementation costs (Rakatama et al., 2017).

Values of benefits

The Cancun Agreement in 2010 clearly stated that all REDD+ activities should enhance social and environmental benefits, incentivize the conservation of natural forests and their ecosystem services, and promote an effective forest governance mechanism. Considering this, the Emission Reduction Program Idea Note (ER-PIN) submitted by the Government of Nepal to Forest Carbon Partnership Facility (FCPF) in March 2014 emphasizes non-carbon benefits (NCB) as part of the REDD+ programme. It has identified six non-carbon benefits including enhancement of local livelihoods, increase in the value of biodiversity, better ecosystem services to people and the environment, more resilient ecosystems for climate change adaptation, improved governance, institutional setup and policies for natural resource management at local to national levels and contributions to millennium ecosystem assessment. Incorporation of these non-carbon benefits may enhance the benefits of local forest managers.

Since NCB are not traded in the market, computation of their values is complex and tricky. There are several methods to estimate the value of these benefits. Estimation of the value of NCB is based on individual preferences. Respondents put value based on utility derived from the forest. This means the value of NCB is equivalent to the increase in the respondents' well-being brought about by those benefits. Therefore, the value of NCB varies across locations and socio-demographic characteristics (Goulder and Kennedy, 1997).

While estimating values, all benefits will not be included since it makes the task of valuation very complex and also all benefits cannot be utilized at the same time. For instance, in order to enhance biodiversity and habitat conservation, forest managers have to give up harvest of forest products to some extent. Therefore, in majority of valuation studies respondents were asked to put value on the selected benefits and these benefits are prioritized by the respondents who put value on them (Rai and Scarborough, 2015).

Table 10.2 reports the value of forest benefits using different methods in different locations in Nepal. The estimated annual value of forest ecosystem services ranges from NPR 17,820 to NPR 30,000 per ha. The table also indicates that the recreational value of the forest would be higher compared to other values; however, there are methodological issues.

The ownership and management regime also influence the value of forest benefits. For instance, a study that used the hedonic price model concluded that compared to a house using a private forest as its primary firewood source, the value of a similar house using a government forest is 10 to 20 percent lower; the respective reduction of value for a similar house with a community forest as a firewood source is about 7 to 10 percent (Nepal et al., 2017). Based on such evidences, it has been recommended that the government should change forest management regimes from government-managed forest to community-based forestry (Rai et al., 2017). Such policy would reduce pressure on remaining government

Table 10.2: Value of forest ecosystem services

| Description | Value of services | Study area | Valuation Method | Authors |
|--------------------------------------------------------------------------|----------------------------------------|------------------------------------|--------------------------------------------------------|-----------------------------|
| Total economic value of forest services | NPR 30,000/ha/year | Kanchenjunga Landscape | Market price | (Pant et al., 2012) |
| The total tourism value from Himalayan forests | USD 272–526/ha/year | Himalayas of Nepal and Uttarakhand | Travel cost method | (Kathuria, 2006) |
| The benefits resulting from the invasive species management programme | NPR 2,382 (USD 33.55) /household/ year | Chitwan National Park | Choice experiment | (Rai and Scarborough, 2013) |
| The average value of environmental services rendered by community forest | NPR 17,820/ha/year | Nepal | Contingent valuation, travel cost, avoided damage cost | (Acharya et al., 2015) |

forests as evidences suggest a complementarity between community forests and planting trees on private lands (Nepal et al., 2007). Furthermore, community-based forest management in Nepal is viewed as a successful example of decentralized forest management for improving forest cover (Shyamsundar and Ghate, 2014).

Which forest regimes will be cost effective for REDD+

While carbon stocks can be measured in different ways and depend on the nature of the landscape, opportunity costs of conservation depend on a variety of factors such as forest resources extracted, prices and availability of substitutes, property rights over land and forests, compliance and implementation of regulations, markets for and prices of land, labour and agricultural products, etc. Thus opportunity costs will vary significantly across different landscapes and forest management regimes (Rai et al., 2017; Zelek and Shively, 2003).

In Nepal, national forests are managed under different approaches such as community forest, collaborative forest, protected forest, leasehold forest and protected area. Former approaches involve communities in managing and utilizing forest. In the case of forest patches managed by the community, the operational plan clearly specifies the quantity of forest products that can be harvested, which is called annual allowable cut. This quantification is based on the forest growing stock, their mean annual increment and age structure (Community and Private Forest Division, 2004).

In community forests, members of households situated close to the forest who can physically participate in forest management are members of the community forest and they enjoy all benefits from that particular forest. Collaborative forests are jointly managed by communities and the Department of Forest, which include households living far from the forest (Rai, 2007). In this regime, forest users receive 50 percent of the benefits and the rest will be distributed to

the concerned local bodies and central government. Protected forest has the dual objective of supplying forest products to local communities from the fringe area while setting aside the core area for wildlife conservation (Shrestha et al., 2014).

Although community forests across the country have adopted the same approach, their management and conservation strategy may vary according to the physiographic region. For instance, CFUGs in the mid-hills harvest forest products based on annual allowable harvest (AAH) and mostly follow the selection system. Since the government has declared Siwaliks as an environmental protection area, community forest users are allowed to harvest forest products only for their household needs but cannot exceed AAH. In the case of the Terai, CFUGs have started to implement silviculture based prescription that focuses on timber and fuelwood collection, which is called *scientific forest management* (Rai et al., 2017). The scientific forest management approach has been widely adopted under collaborative forest management in the Terai.

The study carried out by Rai et al. (2017) assessing costs and benefits, and change in biomass under existing forest management practices in different forest management regimes of Nepal indicates that forest management regime that follows silviculture based prescription generates the most annual benefits, though biomass increment is minimal (Table 10.3). Table 10.3 clearly indicates that adopting only perspective intensive forest management approaches (CF-Terai and CFM) is not appropriate for carbon enhancement. However, it may change over time since this approach has been in practice from 2010 and expected to increase biomass growth rapidly in the future.

If we overlook carbon farming and focus on enhancing and/or conserving the forest carbon stock without compromising the livelihoods of forest dependent communities, the implementation of silviculture-based prescriptions to manage forest would be appropriate. This approach does not only generate more benefits for forest managers but also enhances carbon stock at a low price, which can attract the global market.

Table 10.3 also indicates that forest management regimes in the Terai, where people mostly use hired labour in forest management activities, have low forest management cost. But the

Table 10.3: Annual costs and benefits from existing forest management (USD/ha) and average annual change in carbon in tC/ha

| Regimes | Net annual direct benefits (Revenue-harvesting cost) | Annual forest management cost | Net annual benefits | Annual change in carbon |
|---------------------------------|------------------------------------------------------|-------------------------------|---------------------|-------------------------|
| Community forest-Mid-hills | 243 | 31.56 | 211.44 | 1.96 |
| Community forest -Siwaliks | 255 | 26.26 | 228.74 | 1.84 |
| Community forest -Terai | 513 | 8.23 | 504.77 | 0.18 |
| Collaborative forest management | 1,115 | 7.56 | 1,107.44 | 0.01 |
| Protected forest | 92 | 6.78 | 85.22 | 0.35 |
| Source: Rai et al, 2017. | | | | |

mid-hills and Siwaliks, where all forest users participate voluntarily in forest management activities, have higher forest management cost. This suggests that community forests in the mid-hills and Siwaliks are not allocating resources efficiently, which requires further research and revision

Conclusion

REDD+ can be implemented when forest managers receive more benefits from REDD+ than from existing forest management practices. In other words, forest managers have to receive more benefits compared to the costs they bear while implementing REDD+ activities. The opportunity cost of conserving carbon stock by reducing deforestation is less in average stock forest (USD 1.11 to 3.56 per tCO₂) compared to the opportunity cost of conserving carbon by reducing deforestation in a degraded area (USD 1.30 to 3.64 per tCO₂). In addition, transaction and implementation costs are also required to make REDD+ successful. Since REDD+ seeks to enhance forest carbon stock with sufficient safeguards for protecting the livelihoods of forest dependent communities, other non-carbon benefits are also to be considered while estimating the costs and benefits of the REDD+ programme. The value of these benefits is contextual and depends on the type of services provided by the forest. The estimated average value of non-carbon benefits ranges from NPR 17,820 to NPR 30,000 per ha.

The costs vary according to the forest management approach and location of the forest. A review of available literature indicates that the forest management approach that focuses on timber and fuelwood production, which is known as *scientific forest management*, generates more benefits compared to the forest management approach with a focus on conservation and fulfillment of subsistence needs. This approach also enhances forest carbon stock while enhancing the productivity of forest, indicating that the *scientific forest management* approach is compatible with REDD+ and can help promote sustainable forest management.

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Chapter 11: Monitoring REDD+ Governance: Criteria and Indicators-based Approach to Sustainable Forest Management in Nepal

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Introduction: Sustainable Forest Management in Nepal – REDD+ as a Case Study

Sustainable forest management (SFM) has been at the forefront of efforts to involve civil society, private industry and the state in the development of new regulatory approaches, such as forest certification and voluntary standards (Mackendrick, 2005). SFM exemplifies “the increasing tendency for collaboration in many sectors where political and economic trade-offs also exist” (Overdevest, 2004). The work of scholars who have emphasized the importance of collaborative arrangements in contemporary governance was particularly useful (Kooiman, 2000). So too was the pioneering research of early advocates of SFM (Lammerts van Beuren and Blom, 1997). This research was in response to calls from the forest research community to maximize the potential for criteria and indicators as a means of conceptualizing, promoting and reporting SFM (ITTO, 2015).

In response to the governance challenges identified, a five-year research project was initiated in cooperation with a number of partners to investigate stakeholder perceptions of forest governance quality in relation to REDD+ and other forest project and programmes in Nepal. The research used a governance quality framework. The research team worked with stakeholders to develop context-specific governance standards relevant to REDD+ and related forest management at the community forest level. The project used an action research model of stakeholder engagement and standards development. The project focused on both REDD+ and forest management, using a hierarchically consistent framework of principles, criteria and indicators (PC&I), with field-based means of verification provided by governmental and non-governmental participants from multi-sectors. The research highlighted the importance of providing stakeholders with necessary resources to participate in forest management effectively. These standards, largely developed by the stakeholders themselves, have added

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value to the governance of national policy initiatives – such as the current push for the intensification of forest management – as they are implemented on the ground in specific forest policy contexts.

The REDD+ project started in Nepal and PNG in 2008. In Nepal, the REDD+ project focused largely on capacity building around forest carbon measurement and arrangements for sharing the benefits arising from carbon payments. Various pilot projects were implemented by a range of international NGOs and local partners in Nepal's well-developed community forestry system that is managed by community forest user groups (CFUGs) while remaining under state control (Paudel and Karki, 2013). Experiences of REDD+ on the ground have been both positive and negative. On the one hand the financial and social capacity of the CFUG network has improved, but this has been at the expense of autonomous decision-making and customary rights related to forest access (Thwaites et al., 2014, p. 39). Despite Nepal's history of inclusive forest management, it is said that the technical orientation of REDD+ has contributed in inhibiting local participation (Brockhaus et al., 2016 p. 66).

Materials and Methods: Evaluating Quality of Governance of Forest Sector Projects and Programmes in Nepal

In order to understand how the various institutional arrangements for good governance relate to one another, a hierarchically consistent framework of principles, criteria and indicators (PC&I) drawn from the SFM literature was used. Consistency allows for appropriate location of elements within the framework, avoiding overlap or duplication at another level, and enabling a 'top-down' analysis from principles to criteria and then to indicators. A principle expresses a specific value. Criteria function at the next level down and cover aspects of a principle. Like principles, criteria are not measured directly but are used to determine the degree of compliance with the principle. They are connected to indicators that are hierarchically lower, and denote quantitative or qualitative parameters. Indicators (as they relate to the relevant criterion, and principle) can therefore be used for measurement (in this case quality of governance). Standards are a set of PC&I that serve as a basis for monitoring and reporting, or as a reference for assessment of conditions 'on the ground' – in this case, how governance is expressed at any institutional level (Lammerts van Bueren and Blom, 1997). (Delete all page numbers) Table 11.1 below sets out the hierarchical relationship between these PC&I.

Survey participants were recruited through internet searches of publicly available participants' lists, and through the assistance and advice of local experts. Their email addresses were gathered and entered into a database, and the online survey tool Survey Monkey (<http://www.surveymonkey.net>) was used to manage the survey. Survey respondents rated their perceptions on the governance quality of REDD by means of a five-point Likert scale, using the terms 'very low', 'low', 'medium', 'high' and 'very high'. Participants were sent the survey, and provided the option of clicking on a link, which took them to the survey, or they could select an option to remove themselves from the list. In addition to the Likert-scale, respondents were invited to make substantive comments relevant to each indicator, and asked if they wished to be

Table 11.1: Hierarchical framework for the assessment of governance quality (Cadman, 2011: 17; reproduced with the permission of Palgrave Macmillan.)

| Principle (level 1) | Criterion (level 2) | Indicator (level 3) |
|--------------------------------------------------------------------------------|--------------------------------------|---------------------|
| 'Meaningful participation' | <i>Interest representation</i> | Inclusiveness |
| | | Equality |
| | | Resources |
| | <i>Organisational responsibility</i> | Accountability |
| | | Transparency |
| 'Productive deliberation' | <i>Decision making</i> | Democracy |
| | | Agreement |
| | | Dispute settlement |
| | <i>Implementation</i> | Behavioural change |
| | | Problem solving |
| | | Durability |
| Note: Text format denotes hierarchical level (Principle, Criterion, Indicator) | | |

interviewed. The surveys were deployed for one month, with three (weekly) reminder emails, and a final forty-eight hour closure notice. The survey was anonymous, with confidentiality assured, but with the option for the lead researcher to identify individual respondents. Respondents represented the relevant multi-stakeholder national and cultural composition, classified subject to consultation. In the case of Nepal this consisted of 'aid programmes', 'community forest users', 'Dalit', 'finance', 'forest-based industry', 'government', 'indigenous peoples' organization', 'Madhesi', 'NGO', 'women's organization' and 'other'. Respondents were also invited to identify their nationality, i.e., whether they were 'Nepali', or 'Other'. In the case of those who selected 'other', respondents were asked to specify their sector (in the case of stakeholder groups), or their country (in the case of nationality). A single survey was deployed in June 2011. An initial cohort of approximately 300 target recipients generated 66 respondents or approximately 19 percent. Although the response rate was relatively high considering it was an online survey, completion was low, with 131 attempts, or 50 percent. The largest numbers of respondents were NGOs (21), other (16) and government (11), followed by community forest users (7), aid programmes (3), forest-based industry (3), Dalit (2), finance (1), indigenous people (1) and Madhesi (1), with no women identifying as such. 'Other' largely consisted of academic and research communities, with a few individuals (such as 'private consultant' and 'humanitarian organization'). The overwhelming majority of respondents identified themselves as being from Nepal. Significant numbers of respondents provided substantive comments with each indicator (on several occasions over 20), and 42 agreed to be interviewed. The survey was conducted in English and Nepali (an English version is presented in Table 11.2).

The written feedback from each indicator informed the development of a context-relevant *quality-of-governance standard* for REDD+ in Nepal. The comments were used to generate

verifiers to contribute to a 'proto standard' for REDD+ at the national level. The verifiers constituted the sources of information for the indicators, and helped determine the reference values for indicators. Those who agreed to be interviewed also provided further input into the creation of materials for the standard. Additional interviewees were sought to ensure greater representation of survey respondents who were fewer in number (women, etc.). Over 60 key informants were interviewed. The verifiers generated from the initial survey were taken to a national stakeholder forum-cum-workshop in each country, at which the verifiers were further consulted, and checked. Participants, who evenly represented the sectors identified, determined whether these verifiers were related to the national, sub-national, and local level. Forty-three stakeholders participated in Nepal, and 35 in PNG. Participants also prioritized those indicators whose verifiers required consultation first (transparency, inclusiveness, accountability, and resources – TIAR).

Nationally, a 'draft national quality-of-governance standard for REDD+ and the forest sector' was circulated to the initial survey cohort, interviewees, workshop participants, and other stakeholders. Once again, the materials were circulated to more than 350 stakeholders. Those verifiers identified by stakeholders as relevant for community forests were further discussed at the community forest user group (CFUG) level, in REDD+ pilot areas, and selected control CFUGs, focusing on the TIAR indicators. At the CFUG level, it became clear that *means of verification* (MoV) for each verifier were necessary. These were identified by the CFUGs themselves, and were later classified as either *verification methods* or *practices* necessary for the standard to be applied, and verified, at the community level. Stakeholders were particularly concerned about the provision of resources for emission reduction activities, and to ensure effective benefit sharing systems for poverty alleviation, and ongoing sustainable management of forests. Approximately 300 additional stakeholders from 20 CFUGs were involved in these consultations. Further guidance was sought from a national workshop of 28 multi-stakeholders (all levels) on how to proceed with standards development. On their recommendation, all materials were incorporated into a national standard, which combined national level verifiers, and regime specific MoVs (i.e., for community forests). A final 'checking' workshop at the CFUG level was held with previous participating communities, with some additional national and district level input (34 attendees). This 'modular' standard will be consulted over the course of 2015-16, and further modules relating to other forest management regimes (e.g., plantations, leasehold lands, collaborative forests, etc.) will be developed as resources permit.

The Institute for Global Environmental Strategies (IGES) in collaboration with Dr. Tim Cadman of Griffith University, Australia, and Dr. Tek Maraseni of the University of Southern Queensland, Australia, has prepared a voluntary Pilot Quality of Governance Standard for forest management, including emissions reduction activities, in Nepal's community forests. The standard was the result of five years of consultation with multi-stakeholders and is applicable to sustainable development projects being carried out in Nepal's forests including the UNFCCC initiative, Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD+). The standard was developed by multi-stakeholders,

including community forest user groups, government and NGOs, and provides a benchmark for evaluating the good governance of development programmes, including stakeholder participation in decision-making, accountability and transparency, and implementation. More than 600 international, national, local, and community-level stakeholders have been directly involved in developing the standard (IGES 2016).

Results and Discussion: Governance Quality of REDD+ in Nepal

The results from the surveys were analysed using the Statistical Package for the Social Sciences. The ratings at the indicator scale were aggregated under the relevant criterion; in turn the relevant criteria were combined to provide a result at the principle level. These principle-level results were added to provide an overall 'legitimacy score', out of 55. A conventional pass/fail target value of 50 percent was applied to the overall score. The comprehensive results across all 11 indicators and associated criteria and principles are produced in Table 11.2 above. Overall, the results appear to demonstrate that stakeholder perspectives regarding the governance quality and legitimacy of REDD+ in Nepal have been relatively positive to date, with an average overall score of 34.9 out of 55. There were both similarities and differences in respondents' perceptions of REDD+. In terms of the final scores, forest users were the most negative, with an overall score of 29.1, closely followed by indigenous (30) and Dalit (32) groups. Regarding forest users, this is of some concern, as they are clearly one of the most important stakeholder groups. However, this is mitigated by the fact that this score was still a 'pass' for the mechanism (27.5 is the pass score). The highest scores were for Finance (46), and a cluster around Aid, Forest Industry and Madhesi (36 each). The remaining sectors, namely NGOs, others and Government scored somewhere in the middle, and were relatively close to each other: NGOs were the lowest (33.3), followed by others (34.1), and Government (35.6). However, the results of sectors with low response rates should be treated cautiously, in view of the outlier effect referred to earlier.

The trends in overall scores generally followed a similar pattern amongst respondent sectors at the indicator level. However, it is worth noting that there was an obvious 'low' cluster for the resources indicator amongst all sectors, with the average rating in Table 11.3 being only 2.3 ('medium'), 1.7 for Aid ('low') and 2 for Forest Industry, Dalit and Madhesi (also 'low'), respectively. Previous research suggested this is a feature in other areas of global environmental governance, and forestry in particular. Lack of financial, technical and institutional support (money, know-how and infrastructure) can have a knock-on effect for interest representation, impacting the efficacy of both inclusiveness and equality (Cadman, 2011, pp. 12, 13, 181, 182). However, by way of mitigation, it should be noted that inclusiveness was the highest scoring indicator overall (3.8). Equality also performed on a par with problem-solving and dispute settlement (3.2). It is encouraging to note that respondents awarded behaviour change relatively well by sector, resulting in the second highest overall rating (3.6). This may reflect positively on REDD+ in Nepal: respondents in this survey appeared to think that REDD+ would help change behaviour that led to deforestation and forest degradation. The next highest indicator was agreement (3.3) again,

the response across sectors was relatively positive; this may demonstrate that stakeholders are content with the methods used to reach agreement within processes for REDD+ decision-making. Transparency and durability performed less well (3.1), and the same can be said for accountability and democracy (3), but all are still well over the 'pass' threshold of 2.5.

Nevertheless, there are some poorly performing indicators among specific sectors. The indigenous respondents rated inclusiveness 'low' (but there may be an outlier effect here). Ratings of 'low' were also given to accountability by Dalit, and to durability by forest users; this rating by Forest users is again of concern, because if this sector does not have confidence that REDD will last, there may be a lack of interest in implementation. Dispute settlement and Democracy also only achieved a rating of 2.1 each with this sector, possibly further indicating that forest users are not entirely happy with REDD+ decision-making.

On the basis of the responses to this survey it is fair to say that (with the exception of the one identified indigenous representative), REDD+ in Nepal was perceived to be inclusive. Interest representation is functioning relatively well in the country, but the 'low' rating for resources should be of concern to all stakeholders. In so far as this reflects a trend across the

Table 11.2: Summary of survey questions

| Indicator | Question |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inclusiveness | <i>Do you think REDD+ is inclusive of your interests?</i> |
| Equality | <i>Do you think REDD+ treats all interests equally?</i> |
| Resources | <i>What level of resources does REDD+ provide for you to participate?</i> |
| Accountability | <i>Do you think the various institutional elements in which you participate are accountable in their dealings with you regarding the REDD+ process?</i> |
| Transparency | <i>Do you think the various institutional elements in which you participate are transparent in their dealings with you regarding the REDD+ process?</i> |
| Democracy | <i>Do you consider the REDD+ processes in which you participate to act in a democratic manner?</i> |
| Agreement | <i>Do you consider the making of agreements in REDD+ to be effective?</i> |
| Dispute settlement | <i>Do you consider the settling of disputes in REDD+ to be effective?</i> |
| Behavioural change | <i>Do you think REDD+ will contribute to changing the behavior that leads to deforestation and forest degradation in developing countries?</i> |
| Problem solving | <i>Do you think REDD+ will help solve the problem of deforestation and forest degradation in developing countries?</i> |
| Durability | <i>Do you consider REDD+ will be durable?</i> |
| Note: Explanatory text and introductory materials omitted | |

research undertaken by the authors, REDD+ policy-makers at the national and international levels should be concerned. Decision-making appears to be functioning well in REDD+ in Nepal, challenging the trend identified by the authors amongst stakeholders in REDD+ at the international level, who were far more negative about the mechanism's ability to settle disputes. However, there is no room for complacency at the national level, with the survey

possibly revealing that those forest users who responded to the survey had unresolved disputes regarding the mechanism, and did not consider it particularly democratic.

Conclusion: Implications of the Research for the Governance of SFM and REDD+ in Nepal

This study has presented a nuanced framework of evaluation based on complex institutional arrangements (such as interest representation and decision-making) for ‘good’ governance, which has been equated with quality and legitimacy. Forest management in Nepal comprises multiple actors and provides an ideal context in which to examine stakeholder perceptions of governance quality. Given the mix of actors, the methods of participation and deliberation associated with negotiations are as important as the decisions made about a given issue. In view of the collaborative, and ‘partnership’-based model of many contemporary forest sector projects and programmes on the ground, including REDD+, there are increased expectations about the role of non-state actors, and this has created some dynamic tensions in the relations between non-state and state actors in the formulation of policy at the national and sub-national levels.

Silviculture does not occur in a vacuum. The process of evaluating REDD+ governance quality, and developing quality of governance standards for community forests, focusing on REDD+ and forest sector projects and programmes, are of direct relevance to current proposals, which emphasize the sustainable use of Nepal’s forests through intensive silviculture. SFM recognizes the social, environmental and economic aspects of silviculture, and it is important to govern stakeholder relations, as they occur at multiple stages in the forest management cycle, multiple regimes, with multiple stakeholders. Current policy proposals for forest substitution and intensification confront many challenges from a range of social, economic and environmental perspectives, including emissions reduction activities via programmes such as REDD+. Governance standards can reduce conflict and help minimize risk, whilst also serving Nepal by assuring ‘good governance’ for domestic markets, and providing linkages to international markets in legal timber, certification, and so forth.

However, management of Nepal’s community forests for timber, emissions reduction, and other goods and services confronts a number of challenges. How management is to be reconciled with biodiversity conservation, and how management affects the local community in terms of access, benefits and compensation, and who will decide forest treatments, harvest methods and objectives are all matters that require co-ordination (governance) of all stakeholders. Governance standards are required to address these and other important issues arising out of proposals to diversify goods and services from Nepal’s forests, notably the business models adopted, and whether they focus on on-site processing (adding value and producing higher community returns) or felling only (producing stumpage fees only) – or if production is to be domestic, markets for import substitution or export markets. In addition, it will be important to develop methods to avoid illegal timber entering sawmills, and to acknowledge the impacts of increased production on other forest sector projects and

Table 11.3: Perception of Nepal's key stakeholders on REDD+ governance quality

| Principle | 1. Meaningful Participation Maximum score: 25; Minimum: 5 | | | | 2. Organizational responsibility Maximum score: 10 Minimum: 2 | | | | 3. Decision-making Maximum score: 15 Minimum: 3 | | | | 4. Implementation Maximum score: 15 Minimum: 3 | | | | Principle Score | Total (out of 55) |
|-----------------------------|-----------------------------------------------------------------|----------|-----------|-----------------|---------------------------------------------------------------------|--------------|-----------------|-----------------|-------------------------------------------------------|-----------|--------------------|-----------------|------------------------------------------------------|-----------------|------------|-----------------|-----------------|-------------------|
| Criterion | 1. Interest representation Maximum score: 15 Minimum: 3 | | | | 2. Organizational responsibility Maximum score: 10 Minimum: 2 | | | | 3. Decision-making Maximum score: 15 Minimum: 3 | | | | 4. Implementation Maximum score: 15 Minimum: 3 | | | | Principle Score | Total (out of 55) |
| Indicator | Inclusiveness | Equality | Resources | Criterion Score | Accountability | Transparency | Criterion Score | Principle Score | Democracy | Agreement | Dispute settlement | Criterion Score | Behavioural change | Problem solving | Durability | Criterion Score | Principle Score | Total (out of 55) |
| Aid program (3) | 4.3 | 2.7 | 1.7 | 8.7 | 3.0 | 2.7 | 5.7 | 14.3 | 2.7 | 3.3 | 4.0 | 10.0 | 4.7 | 3.7 | 3.3 | 11.7 | 21.7 | 36.0 |
| Forest user group (7) | 4.0 | 2.9 | 2.6 | 9.4 | 2.7 | 2.6 | 5.3 | 14.7 | 2.1 | 2.4 | 2.1 | 6.7 | 3.0 | 2.7 | 2.0 | 7.7 | 14.4 | 29.1 |
| Dalit (2) | 4.0 | 2.5 | 2.0 | 8.5 | 2.0 | 3.0 | 5.0 | 13.5 | 2.5 | 3.5 | 4.0 | 10.0 | 3.0 | 3.0 | 2.5 | 8.5 | 18.5 | 32.0 |
| Finance (1) | 5.0 | 4.0 | 3.0 | 12.0 | 4.0 | 4.0 | 8.0 | 20.0 | 5.0 | 5.0 | 3.0 | 13.0 | 5.0 | 3.0 | 5.0 | 13.0 | 26.0 | 46.0 |
| Forest-based industry (3) | 4.0 | 3.0 | 2.0 | 9.0 | 3.0 | 3.0 | 7.0 | 16.0 | 3.0 | 3.0 | 3.0 | 9.0 | 4.0 | 4.0 | 3.0 | 11.0 | 20.0 | 36.0 |
| Government (11) | 3.7 | 3.0 | 2.6 | 9.4 | 3.1 | 3.2 | 6.3 | 15.6 | 3.3 | 3.3 | 3.2 | 9.7 | 3.6 | 3.6 | 3.0 | 10.2 | 19.9 | 35.6 |
| Indigenous organization (1) | 1.0 | 3.0 | 2.0 | 6.0 | 3.0 | 3.0 | 6.0 | 12.0 | 3.0 | 3.0 | 3.0 | 9.0 | 3.0 | 3.0 | 3.0 | 9.0 | 18.0 | 30.0 |
| Madhesi (1) | 5.0 | 5.0 | 2.0 | 12.0 | 3.0 | 3.0 | 6.0 | 18.0 | 3.0 | 3.0 | 3.0 | 9.0 | 3.0 | 3.0 | 3.0 | 9.0 | 18.0 | 36.0 |
| NGO (21) | 3.7 | 2.6 | 2.3 | 8.6 | 3.1 | 3.1 | 6.1 | 14.8 | 2.9 | 2.8 | 3.1 | 8.8 | 3.3 | 3.3 | 3.1 | 9.8 | 18.6 | 33.3 |
| Others (16) | 3.6 | 2.9 | 2.5 | 8.9 | 2.9 | 3.0 | 5.9 | 14.8 | 3.1 | 3.4 | 3.2 | 9.7 | 3.6 | 3.1 | 3.0 | 9.6 | 19.3 | 34.1 |
| Avg of 66* | 3.8 | 3.2 | 2.3 | 9.3 | 3.0 | 3.1 | 6.1 | 15.4 | 3.0 | 3.3 | 3.2 | 9.5 | 3.6 | 3.2 | 3.1 | 10.0 | 19.5 | 34.9 |

Source: Online survey conducted in July 2011

programmes, especially REDD+ and payments for ecosystem services (PES). Based on the experience gained in developing quality of governance standards for forest management at the community forest user level, consultations with stakeholders at the community, district, sub-national (provincial), and national levels will be essential.

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Chapter 12: Gender and REDD+ in Nepal

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Background

The Government of Nepal is committed to addressing social inclusion issues, including women's contribution to the forest sector and to REDD+. To address the gaps that currently exist in the country's REDD+ readiness process, a gender analysis was needed to identify gender-based risks or unequal benefits, highlight priority issues and develop an action plan. With the support of the Forest Carbon Partnership Facility (FCPF) of the World Bank, WOCAN undertook an assessment of gender integration to inform the REDD+ ERP (Emission Reduction Program) designed in 2017, with a primary focus to provide information on the different social, economic and political conditions that women face in REDD+, and to identify opportunities and real benefits that are possible through REDD+ interventions. This work drew on the findings of three other relevant assessments of women's participation and benefit sharing in forestry and REDD+ in Nepal:

In 2012, WOCAN and its partner HIMAWANTI (Himalayan Grassroots Women's Natural Resource Management Association) undertook a review of REDD+ policies, processes and pilots to assess the degree to which REDD+ strategies and implementation had addressed gender issues and women's representation in the processes at the national and local levels (2012). This study examined the Readiness-Preparation Proposal (R-PP), REDD+ Interim Strategy and three REDD+ pilot projects, and conducted consultations at the national, sub-national and community levels.

Secondly, under the auspices of The Forest Dialogue, WOCAN organized a Scoping Dialogue on 'Exclusion and Inclusion of Women in the Forest Sector', held in Kathmandu in 2012, to identify existing good practices for women's inclusion and gender equality. The workshop included participants from around the globe. The field visit to the ICIMOD/ANSAB initiative in Chitwan generated valuable insights.

In 2014, WOCAN engaged in a Joint Initiative with the UN-REDD Programme and Lowering Emissions in Asia's Forests (LEAF) programme to identify practical entry points for women's inclusion in REDD+. The overall goal was to enhance the effectiveness of REDD+ through greater inclusion of women and gender perspectives in all relevant policies and practices. The resulting 'Scoping Study of Good Practices for Strengthening Women's Inclusion in Forest and

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Other Natural Resource Management Sectors’ built on the outcomes and recommendations of the Scoping Dialogue on ‘Exclusion and Inclusion of Women in the Forest Sector’.

Method and Approach

Both quantitative and qualitative data and information from secondary and primary sources were used for the gender assessment for the FCPF/ERPD in 2017. Participatory methods and approaches were used, including for the selection of the seven study districts.

Seven districts and key stakeholders were identified in collaboration with the REDD Implementation Centre, based on the need to sample different forest modalities within different Terai communities. Although there are several community-based forest management models in Nepal, the assessment focused on three models that are currently implemented in the ERPD districts, namely Community Forestry (CF), Collaborative Forestry and CF within buffer zone areas.

The assessment tools included desk reviews, consultations, both formal and informal interviews, observations, and Focus Group Discussions (FGDs) at the central, district, and community levels. Participatory methods of FGDs and interviews were employed in each of the communities visited. 585 participants (384 women and 201 men) took part in 27 FGDs at the community, district and national levels.

The assessment team comprised the Gender Focal Point from the REDD-IC, HIMAWANTI and its district partners, and WOCAN. Team members received orientation on gender analysis concepts and methods, and coaching from WOCAN throughout the assessment period.

Gender in Forestry in Nepal

In the two decades since gender issues were first discussed within Nepal’s forest sector, substantial progress has been made in forming policies and initiating activities for including women.

Policies

The GoN provided a mandate for social inclusion in the 10th Five Year Plan from 2002-2007 with three pillars related to Gender Equality and Social Inclusion (GESI). The Forest Sector Master Plan 2046 BS (1986/87) provided direction for making significant achievements. In this context, the Ministry of Forest and Soil Conservation (MoFSC) developed a vision for gender and social inclusion, to promote equitable access of the socially excluded to forest resources and benefits. The Ministry has identified four change areas in order to attain the institutional vision, namely, 1) Gender and social inclusion policy, rules and regulations and directives; 2) Equitable governance at the institutional level; 3) Gender and social inclusion sensitive organizational development and programming; and 4) Equitable access to resources and benefits.

To operationalize this vision, the MoFSC developed a GESI Strategy for the Forestry Sector (2007), which provides strategic direction for the implementation of gender and social inclusion issues. The objectives of the GESI Strategy for the Forestry Sector are to:

- identify strategies and priority action areas in the four change areas of the GESI vision of the Ministry of Forest and Soil Conservation;
- assist government, non-government, donor and private sector bodies working in the forestry sector to institutionalize social inclusion in their organization as well as in programming and
- Guide all organizations working in the forestry sector to be responsive and inclusion-sensitive.

However, as stated in the report of the DFID/Asian Development Bank, Gender and Social Inclusion Assessment in Forestry (2011), GESI has not been effective in programming, budgeting, and monitoring and evaluation, despite policy mandates provided in the GESI strategy and vision, despite concerted efforts by various agencies. The Multi-Stakeholder Forestry Programme's GESI Assessment Report (2014) points out there have been various initiatives by the MoFSC to institutionalize gender and social equity concerns in its policies, plans and programmes, as well as implementation and monitoring mechanisms. While the overall objectives, functions, scope, directives, and working modalities of the Ministry are pro-poor and inclusive, specific policies lump women with poor and disadvantaged groups, and do not treat women as equal to men.

One reason for a lack of attention to women and gender within the REDD+ processes is related to women's weak land rights. Under the formal law, women in Nepal can access land through inheritance, land purchase, leaseholds, and government land allocations. The 2007 Interim Constitution forbids gender-based discrimination, stating that daughters and sons have equal rights to inherit ancestral property, and confirming that the constitutional mandate of equality takes precedence over inconsistent traditions and customs. It was announced in 2011 that both husband and wife would have joint ownership certificates.

However, less than 20 percent of Nepali women own land, though government of Nepal is trying to encourage land ownership for women by providing incentive in the form of tax reductions for land registered in a woman's name. The absence of property claims not only muffles the voices of women, but also makes it harder for them to enter and flourish in commercial, economic and even certain social activities. Many are not aware of the 'new' laws and policies, nor do many rural women have strong voices and roles in decision making within their households and communities.

Despite the recent progress, Nepal's laws and regulations (statutory laws) fail to meet the standards set by the International Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), ratified by Nepal, as they apply to all development sectors. In fact, CEDAW is hardly known within institutions that develop policies or implement REDD activities, and as a result forest institutions largely fail to recognize women's rights. This is in contrast to indigenous peoples whose rights are supported by the UN Declaration on

the Rights of Indigenous People (UNDRIP) and the Indigenous and Tribal Peoples Convention 169 (ILO 169), which are familiar to many of those who engage in the development of REDD (Gurung, 2010).

Practices

Good policies alone are insufficient to achieve results. As stated in the Nepal REDD-SESA Report, it cannot be assumed that women will benefit from REDD+ piloting. The study team pointed out the risk of women benefiting far less than men from these funds if the formulation of the principles, policies, and REDD+ strategy did not ensure mechanisms that support women's inclusion.

In spite of the challenges still faced within the forest sector, there has been a range of good practices generated in other development sectors. Such practices occur in three key areas of change: i) building the voice and influence of women and excluded groups; ii) improving their access to resources and services; and iii) formulating/revising the rules of the game to remove barriers to their inclusion. The building of an inclusive and strong civil society and the development of new partnerships between the government and NGOs has begun to clarify and demarcate the roles of government as regulators, service providers and enablers, and roles of NGOs/community-based organizations as facilitators of poor, women and excluded people's voices, accountability mechanisms and governance structures.

The REDD programme in Nepal is building on the history of these good practices. The REDD+ Implementation Centre has been collaborating closely with the CSOs/IPs REDD+ Alliance Network, which has been instrumental in supporting consultations, participation and outreach during the readiness activities.

Women have always been the invisible force and primary actors in the development of rural areas of Nepal. Since 2001, the level of male outmigration has increased significantly, increasing the number of female-headed households in rural areas. This has implications for the REDD+ programme, and for the country's development as a whole. Women's participation as decision-makers in the Community Forest User Groups (CFUGs) executive committees has increased over the three decades of its implementation, to reach an average of 25 percent.

Current statistics, several observations and analyses confirm that the situation of women has improved over the past ten years; a long history of development interventions and exposure has contributed to making rural women more aware, skilled, and organized. Today, they are more mobile and capable of earning income, engaging in various enterprises and holding leadership positions within community groups and cooperatives. These improvements have been observed in all areas such as health, education, income, enterprise, land ownership, and representation in community groups and politics, changing the status of Nepali women (particularly rural women). Despite improvements in the inclusion of women in the forest sector, an increase in the number of gender focal points in the forestry departments, and higher budgets allocated for gender, questions remain about the details behind these

numbers. For example, to what degree are women from marginalized groups (by ethnicity) included and influencing decisions within the forest sector or the CFUGs? Also unknown is the role of women in decision-making related to benefit sharing in this sector.

WOCAN's assessment in 2014 found that there was little emphasis on gender in the REDD+ processes, evidenced by the lack of studies on gender issues proposed in the REDD+ interim strategy and the minimal inclusion of women and women's groups and representatives in REDD+ consultations and in key national level REDD+ mechanisms such as the REDD working group.

The study conducted by WOCAN as part of the Joint Initiative with the UN-REDD Programme and Lowering Emissions in Asia's Forests (LEAF) programme identified existing good practices for women's inclusion and gender equality through an examination of diverse practices within forest and other land-use sectors to draw out the key enabling conditions that have contributed to programme effectiveness. The selected good practices emerged from a range of interventions including government policies, institutions (NGOs, private companies and development agencies) and projects or community initiatives, from both forest and other land-use sectors across Asia. The study identified 12 key enabling interventions and factors that have contributed to women's inclusion in the forest and other land use sectors (Table 12.1).

Table 12.1: 12 Key Enabling Interventions and factors that contribute to women's inclusion

| | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| At the project or community level: | |
| 1. Ensuring women's representation and participation | 6. Strengthen women-only groups |
| 2. Strengthen facilitation and capacity building for women's participation | 7. Strengthen and engage women's networks and federations, esp. those in agriculture, energy, water and forest sectors |
| 3. Provide skills for women on forest and land use planning, NTFP processing, enterprise development, leadership, microfinance, MRV and other technical work of REDD+ | 8. Increase presence of women leaders and male and female gender champions at institutional and community levels |
| 4. Gender-disaggregated analysis and planning to meet women's livelihood needs | 9. Devise and implement equitable benefit sharing mechanisms that bring real benefits to women, e.g., renewable energy and other labour saving technologies, enterprise development, employment opportunities |
| 5. Disseminate labour-saving & time-reducing technologies | 10. Support enterprise development and credit provision |
| At the institutional level: | |
| 11. Integrate gender & women's inclusion in the REDD+ framework <ul style="list-style-type: none"> • Incorporate gender perspectives into Measurement, Reporting and Verification (MRV) and other technical work of REDD+ • Use or develop project-level gender standards to measure results (i.e., W+ Standard) | 12. Institutionalize gender in REDD - related agencies <ul style="list-style-type: none"> • Strengthen capacities of Gender Focal Persons at national and sub-national levels • Enhance awareness on gender issues in REDD+ to key stakeholders • Conduct gender audit of selected forest policies • Integrate sex-disaggregated data into forestry and REDD+ planning • Expand strategic engagement and stronger coordination with line agencies of relevant sectors |

Equitable Benefit Sharing in REDD: Lessons from Chitwan District

One initiative provides lessons related to equitable benefit sharing from a REDD or forestry project: the Forest Carbon Trust Fund (FCTF) pilot project, financed by the Norwegian government and implemented by ICIMOD, the Federation of Community Forest Users, Nepal (FECOFUN) and the Asia Network for Sustainable Agriculture and Bio-resources (ANSAB). Under the name 'Design of and

Setting up a payment system for Nepal's Community Forestry Management under REDD+', this pilot was implemented in three watershed areas, including the Kayarkhola watershed in Chitwan, from 2009-2013. The project explored and tested options for the governance and financial transparency of community-based REDD+ initiatives. It trained local communities and provided them incentives to conserve and enhance local forests by establishing a community-managed FCTF. This community-based model allowed for REDD+ benefits to reach the poorest and most disadvantaged communities, and was one of the world's first carbon offset projects to involve local communities in monitoring carbon in their forests. The project therefore offers valuable lessons on how to build the capacity of local stakeholders for implementing carbon offset programmes and reaching poor, forest-dependent households and indigenous people.

The Kayarkhola watershed covers 2,382 hectares of forest comprising 16 community forests. Only one CFUG had all women members. Four committees oversaw the project at the district level: the REDD Network, and the REDD Network Secretariat, Monitoring and Advisory Committees. Except for the REDD Network, which has 50 percent male and 50 percent female members, the rest of the committees had less than 2 percent women members. The watershed received about USD 21,900 in 2011 and about USD 24,695 in 2012 in carbon payments for sequestering more than 2.5 million tonnes of carbon.

The distribution of the funds received was based on the FCTF criteria (operation guidelines), which were: i) quantity of forest carbon saved above the baseline; ii) the number of households of indigenous peoples and Dalits; iii) the ratio of men to women and iv) the number of poor households within the project area. The more of these criteria the community meets, the greater its chances of qualifying for payments. There were also guidelines on how communities could spend the payment: at least 40 percent of the payment should go towards conservation/project management; at least 15 percent towards activities related to women's empowerment and needs; at least 20 percent towards meeting the needs of the poorest in the community.

From the analysis of good practices, three main implications for REDD+ emerged:

- Women's inclusion enhances the improvement of forest conditions, and the control of illicit felling and grazing.
- Several good practices for women's inclusion are found in sectors other than the forest sector, such as agriculture, water management and micro-finance.
- Good practices are found mostly at the community and project levels; far fewer practices were found at the level of policy and institutions.

Insights generated from discussions with representatives from the REDD Network Committee, CFUGs with both male and female members, and with the all-female CFUG in Chitwan, as part of the Scoping Dialogue on Inclusion & Exclusion of Women in Forest Sector meeting include the following:

Higher participation of women does not automatically translate into increased decision-making power

The distribution of funds among CFUGs was based on FCTF operation guidelines, which included the ratio of men to women: the higher the percentage of women, the greater the chances of getting more funding. Linking this ratio to the payment level increased women's participation and ensured that women were given training in skills needed to carry out various roles including facilitation and monitoring of carbon measurement, as well access to biogas and cooking stoves.

Despite higher levels of participation, women still found it hard to compete with men for higher posts in the governance of the CFUGs or to rightfully exercise their decision-making power. CFUGs in Nepal are required to have at least one woman in the executive committee, in the post of chairperson or secretary. But women were not elected as the chair, and when women tried to run for such positions, they faced resistance.

Values of women's participation and inclusion in the executive committee need to be better demonstrated and supported by local stakeholders

Some community members thought that women could bring in different perspectives and make the group work more harmoniously, and perceived women as more trustworthy than men. Some also suggested that women tend to devote more time and attention during fieldwork, e.g., measuring carbon.

But many others held the view that there is no need to pay special attention to women's needs and participation. The lack of understanding of the barriers and values of women's inclusion made it harder for the community to embrace the policy that mandates women's inclusion in the executive committees of the FUGs, which in turn contributed to the lack of implementation and enforcement of this policy on the ground.

If existing social-cultural norms are not dealt with first, REDD+ benefits could exacerbate women's exclusion

Social and cultural norms still put women at a disadvantage in community decision-making processes. In Chitwan, members of lower caste and indigenous groups are often marginalized, even in women-only groups. And because men are viewed as more educated or/and have more capacity for leadership, voters, including women, are more likely to vote for men for top positions. At the household level, women's main responsibilities are dominated by domestic and farm-related chores. The additional work they do outside the traditional realm are not supported or appreciated by their male partners, further discouraging their participation.

When REDD+ investments come into a community where such social-cultural norms prevail, those already in a privileged position tend to become even more reluctant to share decision-making power that is perceived to lead to profit accumulation. Thus, some women felt that there was even more resistance to women's meaningful participation and leadership in forest management when there was an inflow of financial resources.

Women-only groups can build confidence and ensure higher levels of decision-making power

In the face of significant social-cultural barriers, women-only groups work most effectively to help increase women's meaningful participation and decision-making power, which in turn boosts their confidence for continuous engagement.

The women-only group in Kayarkhola watershed organized and fought for a piece of land that they would manage themselves. As a result, they were strongly dedicated to their group and appreciated the values of their land and of the women's group. They perceived that they were better organized and more willing to learn from others than the men were. They were also proud of their role as the caretaker of the forest and thought they could take better care of the forest than men. Being members of the CFUG improved their status at the household level, though they still had to struggle with social-cultural barriers discussed above within the larger community.

Capacity building tailored to women's needs has lasting value for the community

When all community members were provided the same level of GPS training without considering their different education levels, women had more difficulty than men in grasping the technology and implementing the inventory process for carbon. Also, as women lacked computer literacy, they could not access the technology used by men to obtain information and process data.

Capacity building efforts that are sensitive to women's education level and the social-cultural barriers they face can have long lasting impact. Married women with children often stay in their community their whole life, and rarely migrate outside, so the knowledge and skills they obtain stay within the community even when projects change and men migrate. As women are usually the main educators of their family, they are more likely to pass on their knowledge to their partner, children and relatives.

Champions at district and national levels are needed to support women's leadership at local level

The operational guidelines for the pilot project were drafted at the national level without consultation with the local community. Very few women's representatives, who could have best represented women's needs, participated in the development of the guidelines.

Local women's groups expressed frustration that when they reported to district level, they felt uncomfortable and marginalized as there were few women officers who understood their needs and constraints. For example, district officials sometimes required group members to travel back and forth to complete paperwork requirements; this was a hardship for the women group members as their extensive household responsibilities left them with very little time. Women also faced the danger of sexual harassment: laws on sexual harassment were not strongly enforced in the region and women were often left to defend themselves without the support of enforcement agencies.

A study of the impacts of the project in 2012 showed that more than half of the second REDD payment was spent on livelihood improvement activities (51 percent), benefiting mostly poor and marginalized households. Only 9 percent was spent on capacity building activities that targeted women and marginalized people.

Key Findings and Gaps in Gender Integration in REDD+ and Forestry

Based on the data and analyses from the various methods, the key findings can be summarized as follows:

- There is a high level of engagement of rural women in labour-intensive forest-related activities, but their engagement in decision-making processes is low.
 - Women's engagement in day-to-day management and knowledge of forest resources is very high.
 - Forest management tasks are highly gendered, with women performing the majority of the unpaid tasks
 - Men dominate almost all key forest management-related decision-making processes.
 - Women's traditional roles as family caregivers and food producers are unpaid and undervalued, and take up most of women's time and energy.
 - Firewood remains a major source of energy for cooking.
 - Some men are beginning to value women's changed roles as leaders and technicians.
 - Women have less access to forest and development-related inputs and resources as compared to men.
 - Some socially, economically, and politically advantaged women benefit more than other women from forest activities.
 - Women have very limited control over decision-making at both the household and community level.
 - Women from socially and economically marginalized groups such as Dalit, Bote, Majhi, and Musahar have very little access to and influence over community decision-making processes.
- The existence of several layers of powerful and exclusive leadership mechanisms at the district and local level poses a threat to the effective implementation of REDD+.
- The lack of GESI implementation guidelines, systematic structures, resources, skills, and expertise at the central, district and community level has made the implementation of the GESI Strategy within forest-related programmes challenging.

Legal and Policy Provisions to Support Gender in REDD

The GoN has enacted various legislation, policies and strategies to address gender and social inclusion. Out of them, the following legal and policy instruments are particularly important in supporting the integration of gender in REDD+ (Table 12.2).

Table 12.2: Policy Provisions to Support Gender in Forest Sector

| | Document | Provision |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Forest Sector Strategy (2016-2025) | Gender Equality, Social Inclusion and Poverty Reduction – 7th Strategic Pillar |
| 2 | Community Forestry Development Programme 2071 B.S. (2014) | Has provision to have at least 50 percent women in CFUG and a woman in at least one of the two decision-making position holders (chairperson or secretary). It also has a provision to ensure that at least one woman holds a signatory post. |
| 3 | Forest Policy 2071 B.S. (2014) | GESI to be mainstreamed in all Institutions, Planning and Programme of Forestry Sector – 7th Policy (Strengthening Governance of Forest Sector) |
| 4 | Collaborative Forest Management Directives 2068 B.S. (2011) | Includes promotion of GESI as one of its four objectives. Has provision to ensure that at least one woman from the CFMUG is a member of the CFMUG executive committee. |
| 12 | Forest Sector - HRD Strategy | The HRM/D strategy for the Ministry is gender-sensitive and promotional for women as it recommends affirmative action for recruitment, transfer and promotion, and gender-friendly office environments with provisions for maternity and paternity leave. |
| 13 | National REDD Strategy (2016) | |
| | Objectives and guiding principles mention gender-sensitive and socially-inclusive practices; equal participation, increasing access to gender-friendly alternative energy technologies for poor and marginalized groups. The strategy's weakness is that it does not mention how REDD can improve the social position of women and socially excluded groups. | |
| 15 | NAPA – National Adaptation Programme of Action (2010) | Has conducted GESI analysis, but the results are not well incorporated in the document and instead are parked as annex in the NAPA. |

Source: MPFS Synthesized Forestry Sector GESI Policy Brief (2014); Assessment of Implementation Status of Forestry Sector Gender Equality and Social Inclusion Strategy (2014)

Currently the MoFSC allocates 7 percent of its annual budget for GESI activities at the national level; however, details about the expenditure of this budget are unknown. There is no separate budget allocation for GESI activities at the district or community level.

Challenges

- Limited or no skills, expertise, budget or implementation guidelines for GESI
- There is no system of conducting GESI analysis and collecting disaggregated data.
- Except for a very few exceptions, the Ministry and its departments do not have GESI experts, training or coaching on GESI at the central, regional and district level.
- The MoFSC extension activities have not resulted in community women becoming well-informed about forest-related rights, policies, strategies, bi-laws, regulations, etc.
- The Forest Ministry and its departments have designated GESI Focal Points at the central level. But except in a very few cases, the districts and range posts have not. There is a formal Terms of Reference only in the REDD IC, tying Focal Points' annual performance to a specific budget.
- Low percentage of professional women staff
- Existing organizational structures and cultures – both at the central and local level – limit the space for GESI responsive decision-making processes or innovation.

Recommendations

1. Invest in interventions that reduce women's workload and reduce fuelwood consumption. For example, design appropriate alternative energy programmes to encourage poor and marginalized women to access and adopt alternative energy sources. The study showed poor and marginalized women lack networks, information and resources to tap alternative energy subsidy programmes (e.g., biogas programme) provided by the government and I/NGOs. It has been demonstrated that biogas digesters in Nepal save substantial amounts of women's time while providing healthier conditions in the kitchen and added nutrients to vegetable gardens. Improve women's access to technical skills (e.g., silvicultural methods, and monitoring and measurement of carbon stock) that are generally perceived as men's activities.
2. Establish and support platforms for women's leadership to allow both men and women to learn about gender and the importance of women's engagement in forest and development-related decision-making and women's access to financial and technical resources to improve family livelihoods. These leadership platforms can build women's confidence to voice their priorities and play a larger role in the governance of forest user groups, enabling women to use their collective influence and networks to affect activity planning, implementation and benefit sharing.
3. Develop micro-enterprises and cooperatives of marginalized women to provide new opportunities for employment and entrepreneurship that are aligned with the Emissions Reduction Programme. For example, off-season vegetable farming and goat rearing (using stall-fed methods with fodder development programmes), particularly along the road corridors, can be thriving enterprises in ERP districts.
4. Strengthen the knowledge and skills of government staff at the central and district level on GESI, for analysis and integration both in project cycles and within their organizations. This would be particularly effective for Gender Focal Points, planners, unit heads and implementing staff at the district level.

5. Encourage and strengthen the organizational capacities of forest-related federations, cooperatives, and user groups so that they can become stronger, more inclusive organizations with a commitment to gender equality and social inclusion. Give priority to strengthening the organizational capacities of women-led FUGs.
6. Measure and monitor the results – not just outputs – of activities using a set of indicators or a standard for women’s empowerment /gender equality. This should include a close monitoring of benefits to be shared with women, and particularly women from marginalized groups, to ensure that resources intended for women and women’s groups reach their target.

Conclusion

To move from policy to implementation, experience shows that the best and most sustainable results can be achieved when interventions are consistent and support one another, across the policy, institutional and community levels. Strong women leaders, women’s networks and gender champions – women and men – are required to bring about changes in the forest sector.

Education and leadership training is key to bringing about transformative change. With more education and leadership training, women can more easily access information and networks, utilize technologies, and assert, defend and organize themselves. Currently, there is a lack of investment in quality education and leadership training for women at the local and district level. REDD+ can be a good opportunity to bring in more investments for capacity building to enable women to actively engage in decision making and bring about change from the bottom up. This might be more possible now than ever, given the recent election results that saw 15,000 women win seats as local government officials. The fact that 6,500 of these women are from the Dalit community offers hope for true transformational changes for rural women.

Investing in producing capable trainers can help leverage other resources available for capacity building. Leaders of women-only and mixed CF groups (and perhaps the newly elected women leaders) should receive training on how to be inclusive in their leadership styles to include all stakeholders, including members of marginalized groups.

At the institutional level, staff of institutions engaged in REDD should receive training on how to collect gender disaggregated data, and use it for planning and monitoring results. They also need to develop skills and behaviour that enable them to become gender champions, whether formally or informally, to bring about changes in the cultures and structures of their institutions.

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Chapter 13: REDD+ Safeguards in Nepal: Initiative, Issues and A Way Forward

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Background

REDD+ covers reducing emissions from deforestation and forest degradation, conservation of forest carbon stocks, sustainable management of forests and enhancement of forest carbon stocks. It is an innovative and progressive approach to climate change mitigation. This performance-based initiative has also been instrumental in improving the livelihood options of millions of forest-dependent communities in developing countries. However, there is consensus in the international community that inappropriately designed and implemented REDD+ can be a threat to millions of forest dependent people, indigenous and local communities. This was the reason why seven broad REDD+ safeguard principles were adopted in the 16th Conference of the Parties (COP 16) to the United Nations Framework Convention on Climate Change (UNFCCC) in 2010 in Cancun, Mexico. The REDD+ text agreed in Cancun is part of the 'Outcome of the Work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA)'. The safeguards are described in Paragraph 2 of Appendix I of the AWG-LCA text (UNFCCC, 2011) as follows:

When undertaking the activities referred to in paragraph 70 of this decision [REDD+ activities], the following safeguards should be promoted and supported:

- That actions complement or are consistent with the objectives of national forest programmes and relevant international conventions and agreements;
- Transparent and effective national forest governance structures, taking into account national legislation and sovereignty;
- Respect for the knowledge and rights of indigenous peoples and members of local communities, by taking into account relevant international obligations, national circumstances and laws, and noting that the United Nations General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples;
- The full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities, in the actions referred to in paragraphs 70 and 72 of this decision;

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- That actions are consistent with the conservation of natural forests and biological diversity, ensuring that the actions referred to in paragraph 70 of this decision are not used for the conversion of natural forests, but are instead used to incentivize the protection and conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits;
- Actions to address the risks of reversals; and
- Actions to reduce displacement of emissions.

Developing countries participating in the REDD+ initiative under the UNFCCC should (i) address and respect the seven Cancun Safeguard Principles throughout the REDD+ process, (ii) develop a system for providing information on how the Cancun Safeguards are being addressed and respected; and (iii) should provide a summary of information on how all the safeguards are being addressed and respected throughout the implementation of the REDD+ programmes (UNFCCC, 2011; 2012). This makes addressing and respecting governance (safeguards a and b), social (safeguards c and d) and environmental (safeguard e, f and g) safeguards an undisputed REDD+ requirement for being eligible for the results-based payments. The summary of information on safeguards should be included in the national communications that are submitted every four years to the UNFCCC. At the same time, the country could voluntarily submit the summary of safeguards on the UNFCCC web platform anytime (UNFCCC, 2014). However, the UNFCCC requirements on safeguards are not legally binding, and therefore there is a growing concern whether the safeguards are aligned with the key principles of Free Prior Informed Consent and have fully achieved its central objective.

REDD+ Safeguards Initiatives around the World

In addition to the UNFCCC REDD+ safeguards, several other REDD+ related safeguards have also been initiated by different multilateral and non-governmental agencies. The main aim of developing separate safeguards framework (by the agencies) is to make their delivery partners agree on the development of and compliance with the safeguards measures while implementing REDD+ and Emission Reduction programmes. The details of the major Safeguards Initiative related to REDD+ has been highlighted in Table 13.1.

Nepal's Efforts on REDD+ Safeguards

Implementation of REDD+ does not always necessarily provide positive benefits. Its implementation may bring negative impacts on social, cultural, economic, and environmental fronts, including restrictions on resource use, increased cost, social exclusion, social conflict, loss of traditional knowledge and human-wildlife conflict. Considering all these negative implications, Nepal has proactively initiated a range of REDD+ safeguards to address REDD+ related negative impacts in the coming days. The safeguard initiatives that the country has developed so far are as follows:

Table 13.1. **Safeguards initiative related to REDD+ across the world**

| Agency | REDD+ Safeguards Initiative | Remarks |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| World Bank | <ul style="list-style-type: none"> Strategic Environmental and Social Assessment (SESA) Environmental and Social Management Framework (ESMF) Environmental and Social Framework (ESF) | <ul style="list-style-type: none"> A complementary tool that ensures REDD+ activities comply with safeguard policies It provides a framework for a risk mitigation plan that ensures compliance with the safeguards. It sets out the requirements that the Bank must follow for the projects it supports through Investment Project Financing, including the ER-Programs in the REDD+ countries under the FCPF (effective from 2018). |
| Country-led and multi-stakeholder institution | <ul style="list-style-type: none"> REDD+ Social and Environmental Standards (REDD+ SES) | <ul style="list-style-type: none"> An initiative that helps to develop easy-to-follow country-specific REDD+ standards for implementing and reporting on social and environmental performance of government-led REDD+ programmes and related low-emissions land use. |
| UN-REDD | <ul style="list-style-type: none"> Social and Environmental Principles and Criteria (ESPC) Benefit and Risk Tools (BeRT) | <ul style="list-style-type: none"> An approach that considers human rights as a principal safeguards measure, intended for activities financed through the UN-REDD. A tool that supports REDD+ countries in assessing the social and environmental risks and benefits associated with potential REDD+ actions and analysing how existing policies, laws and regulations address the Cancun Safeguards. |
| UN-REDD and FCPF | <ul style="list-style-type: none"> Guidelines on Stakeholder Engagement | <ul style="list-style-type: none"> Aim to support effective stakeholder engagement in REDD+ readiness for the FCPF and UN-REDD Programme, with an emphasis on the participation of indigenous peoples and other forest-dependent communities following the principles of Free Prior and Informed Consent (FPIC). |
| Climate, Community and Biodiversity Alliance | <ul style="list-style-type: none"> Climate Community and Biodiversity Standards (CCB Standards) | <ul style="list-style-type: none"> Voluntary project-level social and environmental standards based on which independently audited projects can demonstrate the social and environmental integrity of their activities from design through implementation. These standards were developed partly in response to the fact that the Verified Carbon Standards (VCS), used in many pilot forest carbon projects, were weak on social and environmental factors. |

Safeguards related to forestry governance

Management and protection of natural resources including forest resources for the country's economic development and poverty reduction has received high priority in all legal frameworks, including the new Constitution of Nepal. Forest Policy 2015 and Forestry Sector Strategy (2015-2025) are consistent with the overall guidelines provided in the Constitution of Nepal, and most of the international agreements and conventions. Similarly, Nepal's National Biodiversity Strategy and Action Plan (2014-2020) is consistent with the UN Convention on Biological Diversity (1992). Environment Protection Act 1997 and Environment Protection Rules 1997 are other two major legal instruments that provide environmental and biodiversity safeguards for development activities. These Acts and Regulations do not permit conversion of forests to non-forest land and do not allow plantations replacing natural forests. Furthermore, mandatory provisions of the Environmental Impact Assessment (EIA) and the

Initial Environmental Examination (IEE) of development projects have become an effective tool for safeguarding the environment and biodiversity while implementing development activities in the country. Other policy and legal instruments aimed at preventing negative social and environmental impacts are: Good Governance (Management and Operation) Act 2008, Right to Information Act 2007, Labour Act 1992, National Foundation for the Development of Indigenous Nationalities Act 2002, Community Forestry Development Guidelines 2015, and Gender and Social Inclusion Strategy 2006. Provisions in these existing policy instruments, however, show that these instruments indirectly act as REDD+ safeguards, and that they still need to be amended to make them compatible with Cancun Safeguards.

On the other hand, the recent National REDD+ Strategy 2016 is committed to incorporating a range of social and environmental safeguards in development programmes, including FPIC, alternative rehabilitation arrangements for forest-dependent people, effective compliance with the EIA and IEE, avoiding forested area for infrastructure development, compulsory tree planting in cleared forest area and establishing a National Forest Monitoring System.

Social and environmental safeguards

Nepal has been participating in REDD+ process since 2008. Considering the possible impact of the REDD+ programme on the national and sub-national stakeholders, including forest-dependent communities, the country has developed several REDD+ safeguard measures, such as REDD+ SES, SESA, ESMF, and Feedback and Grievance Readdress Mechanism (GRM). These REDD+ safeguards are described below.

The Social and Environmental Standards (SES) initiative was started in 2009 to support the development and implementation of effective social and environmental safeguards for government-led strategies and action plans for REDD+ and related low-emissions land. Under the REDD+ SES initiative, Nepal developed country-specific REDD+ Social and Environmental Standards in 2013 based on REDD+ SES version 2 (REDD Cell, 2013). The REDD+ SES consist of 7 principles and 28 criteria and numbers of indicators, which define issues of concern and conditions to be met to achieve high social and environmental performance and a process for assessment (REDD+ SES, 2012). Nepal has followed the same approach as other REDD+ participating countries, namely a country-led multi-stakeholder process that involves a ten-step process focusing on three core elements: governance, interpretation, and assessment. These standards apply to the development of safeguards [information system as required by the UNFCCC decisions.

SESA and ESMF

Nepal has conducted the SESA and developed the ESMF for both REDD+ strategic options stipulated in Nepal's Readiness Preparation Proposal (R-PP) 2010-13 and the Emissions Reduction Programme Document of the Terai Arc Landscape within the broader framework of national and international safeguard standards, including those of the World Bank and UNREDD. The RPP related SESA suggests that the implementation of 14 REDD+ strategic options is highly likely to bring 5 social, 10 environmental and 24 institutional negative

impacts. Although the SESA has identified some possible impacts of REDD+ strategic option, these impacts are too generic. In other words, the SESA has not been able to articulate specific impacts that the REDD+ strategic options will have after their implementation. One of the major reasons for this gap is the development of the SESA prior to the national REDD strategy and poor consultation at both the national and sub-national level.

On the other hand, the ESMF has been developed to provide a framework for managing and mitigating environmental and social risks and impacts for future investments (projects, activities, and/or policies and regulations) associated with implementing the REDD+ strategy. As the ESMF framework was also developed in the absence of an REDD+ strategy, it does not provide a clear-cut institutional structure and mechanism (for different tiers), and type and location of projects for implementing REDD+ strategic options (REDD Forestry and Climate Change Cell, 2014).

Nepal has recently developed the Emission Reduction Programme Document (ERPD) for 12 districts of the Terai Arc Landscape area and submitted it to the World Bank's FCPF. The ERPD has proposed seven primary interventions to reduce emission of 35.6 million MtCO₂e within a period of ten years (ERPD, 2017). To receive the results-based payment from FCPF, the country has prepared the SESA.

Feedback and GRM

The main objective of Feedback and Grievances Redress Mechanisms (GRMs) is to address potential concerns and conflicts arising from the implementation of REDD+ activities. It allows concerned stakeholders, including affected people, to appeal regarding any disagreeable decision, practices, and activities. The GRM should comply with the formal legal channels to manage grievances and be established at all levels.

In Nepal, feedback and grievances redress mechanisms exist in different governmental and constitutional agencies, including the CIIA, the national Vigilance Centre, the complaints box of Hello Sarkar, the District Administration Office and the District Forest Office, to address forestry-related grievances. In the case of REDD+ related GRM, the Ministry of Forests and Soil Conservation (MFSC) is responsible for addressing grievances received from the stakeholders while implementing the REDD+ programme. The Nepal REDD+ Strategy (draft) 2016 clearly suggests the procedures and mechanism for establishing the GRM. For instance, the GRM mechanism is to be established in line with the existing system and structure of the MFSC at three levels – district/local, regional/provincial, and central. Besides, formal and informal mechanisms such as FUGs and their federation, customary laws and institutions of indigenous peoples are believed to resolve disputes and conflicts related to REDD+ at relevant levels. However, full-fledged operationalization of the GRM at the national and subnational level still remain as big challenges.

According to the National REDD+ Strategy 2016, the grievances can be registered in a number of ways. A grievance record file will be maintained at each level of the GRM where all written and oral grievances and complaints will be recorded and filed. Grievances can be

submitted through email, websites, letters, telephone, SMS and a suggestion/complaint box. The general public as well as affected persons can register their grievances at the respective community level GRM. All cases will be registered, categorized, and prioritized by the designated staff member at each level of the GRM. The GRM will be reviewed and updated periodically.

Safeguard Information System (SIS)

National REDD+ Strategy 2016 has envisioned establishing Safeguards Information Systems (SIS) in line with the decision of the UNFCCC-COP 21. The SIS will provide a systematic approach for collecting and providing information on how REDD+ safeguards are being addressed and respected throughout the implementation of the REDD+ programme. Institutional arrangements will be set up to implement the SIS and prepare a Summary of Information report to submit to the UNFCCC (REDD Strategy, 2016).

Issues and Challenges

Forestry governance

The Constitution of Nepal, as well as other policies, strategies, Acts and Regulations, have guaranteed the rights of the people to participate in the development process. However, such provisions enshrined in the laws have not been translated into practice at the implementation level. In most cases, participation of the people is limited to ‘information sharing’ or ‘consultation’. Most of the concerned authorities (either GOs or NGOs or even IPs and CSOs) do not try – or do not want – to ensure full and effective participation of people. This results in failed information sharing or consultation with regard to ‘collaboration’, ‘joint decision-making’ or ‘empowerment’. Further, the principles of FPIC are never applied while during meetings/consultations. For example, there are very few instances in which consultation was carried out in IPs’ mother tongue.

It has also been observed that participation of indigenous people and local communities in the development process including REDD+ is not fully effective. There may be several reasons for this. One of the main reasons is lack or very limited knowledge of local communities in regard to REDD+ in the relevant subjects and field. Another very important and complex question regarding ‘people’s participation’ is: Who are the stakeholders and who are the rights holders? There is no doubt that the local communities, including indigenous people who could be affected by REDD+ intervention packages, are the stakeholders. In Nepal, however, there are a number of civil society organizations (CSOs) that are not directly affected by the REDD+ programme but claim to be the stakeholders and make REDD+ a bargaining tool to fulfil their vested interests. In many instances, CSOs have been driven by political rather than professional motives while demanding multiple-level representation in REDD+ related activities. This has adversely affected the decision-making process and the rights of genuine CSOs and IPs who are underrepresented.

Social and environment aspects

Forestry-related policy instruments, particularly Forest Act 1993, impose strict restrictions on the conversion of forest land into other land use, except for projects of national priority and for the resettlement of people displaced by natural disasters in the absence of other alternatives. However, Land Act 1964 and Land Revenue Act 1978 have provisions that allow people to register land under forest and convert into agriculture and settlements on the basis of their possession by the tenants. Such contradictions and overlaps need to be addressed for the effective implementation of the REDD+ programme. Although Forest Act 1993 prohibits conversion of forest land to other land uses, Environment Protection Act 1997 contains no provisions requiring proponents to carry out an EIA or IEE in forest area for other land use purposes. The compliance with and enforcement of mitigation measures stipulated in the EIA and IEE have remained weak in the absence of effective coordination and appropriate monitoring systems. Although the CBFM groups have contributed well in enhancing and maintaining ecosystem services (carbon stocks, biodiversity, water and ecotourism), no legal provisions are available for CBFM groups to claim payments for such contributions. The existing legal framework of the forestry sector and protected areas does not adequately recognize the customary rights of indigenous peoples over forest resources. There is no national inventory of customary practices.

Many studies have shown that ensuring inclusion, equity, and optimum use of forest resources in Nepal's community-based natural resource management (CBNRM) regimes has become a great challenge. As these regimes are the main areas of REDD+ interventions, it is highly likely that such issues could persist in the years to come. GESI Strategy for the forestry sector, 2009, however, may resolve some of the gender and social exclusion issues through reforming forestry policy, programmes and institutions. However, issues related to access to decision making and benefit sharing regarding REDD+ may persist in the long term, because the majority of CBNRM regimes fall under the jurisdiction of both local and state government (as stipulated by the new Constitution) and there is no clear-cut role of sub-national actors, including state and local governments, in carrying out REDD+ decisions/actions on the ground. In addition, the existing REDD+ strategy has not articulated a mechanism for channelling REDD+ benefits to the sub-national levels.

The REDD+ participating countries must achieve the critical objective of REDD+: reducing the net carbon emissions from forests. For this, the countries need to reduce displacement and leakage of emissions. Otherwise emission reduction in one area would end up increasing emission in another area. In Nepal, displacement of emissions due to the REDD+ programme is highly likely since more than 50 percent of the total population of Nepal still depends on forest resources and there are very few alternatives. Displacement of emissions could further increase if encroached forests are reclaimed and reforested for REDD+ purposes and evacuated people are not provided with other livelihood options. Displacement of emissions may also occur if the demand for forest products is not balanced with supply. High demand for forest products will induce illegal harvest of forest products if supply is not increased.

Institutional and capacity development issues

The Department of Forest Research and Survey is the focal point of MRV for REDD. Although the department is mandated with undertaking forestry research and survey, many of its staff are still unfamiliar with the REDD+ process, particularly measurement and monitoring, and reporting and verification of REDD+ results. Not enough efforts have been made in this regard. There are substantial knowledge gaps even among technical staff of the Ministry of Forests and Soil Conservation, including division heads and the spokesperson and information officers. Decision number 11 and 12 of COP 19 clearly state that the country should voluntarily provide relevant information through a national system (or via a national communication or web platform) on how the safeguards are being addressed and respected (GFOI, 2016). Considering these knowledge gaps, it can be concluded that the country will need more years to establish a national system on safeguards to receive REDD+ results-based payment.

Safeguards related issues raised during the TAP review of the ERPD submitted to the Carbon Fund

Some of the outstanding issues raised by the Technical Advisory Panel (TAP)'s review of the Emission Reduction Programme Document (ER-PD) for the 12 districts of the Terai include:

- It is extremely important to finalize the ESMF and SESA for the programme area.
- The World Bank's safeguards policy on involuntary resettlement will need to be triggered, as the ER Programme is likely to impose some livelihoods restrictions on forest-dependent people in the area – a concern that is normally addressed through triggering this safeguard policy, even if no one will be moved physically under the ERP.
- Some landless people or people without land titles live in the programme area, and some internal migration induced by natural disasters or livelihood challenges continues. In this case, it is very critical to address the livelihood and humanitarian issues of these people during the implementation of the ER Programme.
- The ER Programme design does not yet meet the World Bank's social and environmental safeguards, since the SESA and ESMF – and related safeguard instruments for the ER Programme area – are underway but have not been completed. Nepal is making progress in meeting the UNFCCC's Cancun Safeguards.
- Although the ESMF and other safeguards instruments for the ER Programme area have not yet been completed, the ERPD (p. 145) contains some useful details on safeguard monitoring arrangements. Full assessment of this criterion will have to await the detailed description of safeguards monitoring arrangements which are included in the ESMF and related safeguards instruments for the ER Programme area.
- While the Feedback and Grievance Redress Mechanism (FGRM) for the ER Programme area has not yet been established, the ERPD contains a considerable amount of relevant information on this topic. A report to assess existing FGRMs in Nepal and to develop a FGRM for REDD+ implementation was published in 2015.

- The process for receiving, screening, addressing, monitoring and reporting feedback to the public is outlined in the ERPD, but will need to be described in more detail in the ESMF for the ER Programme area, which has not yet been completed.
- The FGRM does not exist yet. While a detailed description of existing FGRM procedures and steps is provided, there is no discussion of what improvements need to be made for a well-functioning FGRM, nor are there any plans to undertake such improvements.

A Way Forward

- Legal provisions need to be changed to ensure full and effective participation of all stakeholders including indigenous people and local communities can be guaranteed so that 'collaboration', 'joint decision making' or 'empowerment' can be achieved.
- Capacity building of all stakeholders including indigenous people and local communities should therefore be given high priority to ensure their full and effective participation.
- Therefore, making CSOs more professional, responsible, transparent, accountable and democratic should also be part of REDD+ actions.
- As discussed above, all the provisions of international laws ratified by Nepal are equivalent to the laws of Nepal as per Nepal Treaty Act 1990 (Article 9). Therefore, when any REDD+ actions are designed and implemented, full and effective participation of all stakeholders, especially indigenous people and local communities, must be ensured as per the international agreements and conventions discussed above, particularly the principles of FPIC.
- Sustainable management of high production forests (in the Terai and the foothills of the mid-hill region) may reduce and stop the displacement of emissions stemmed by the gap in demand and supply of forest products. Therefore, detailed analysis of potential displacement of emissions should be carried out and appropriate measures to address potential risks must be taken while designing the REDD+ intervention package.
- Both Cancun REDD+ safeguards (f) and (g) are mainly focused on ensuring long-term carbon benefits from REDD+ activities. For this purpose, two matters need to be considered while assessing and identifying the scope of these safeguards – first, technical approaches to monitoring and measuring permeance and leakage, and second, relevant guiding principles of international laws.

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Chapter 14: Conclusion

Although REDD+ has been acknowledged as a cheap, efficient and reliable policy instrument for stabilizing global climatic system by addressing drivers of deforestation and forest degradation, there is a stringent compliance process and developing countries only qualify for results-based payments when emissions are reduced. The adoption of the Paris Agreement (COP 21, 2015) by 197 country parties testifies the international level political commitment for mitigating GHG through the forestry sector by relying on the results-based payment instrument.

This mechanism provides financial rewards to the countries based on their performance in reducing greenhouse gases (tonnes of CO₂ equivalents). REDD+ is not only a financing mechanism for reducing emissions, it also provides non-carbon benefits, which in fact is part of the broader mission to incorporate and enhance biodiversity conservation, improve the livelihoods of forest-dependent communities and better forest governance. More importantly, it provides an economic incentive for raising the country's ambition to voluntarily transition towards a low carbon, deforestation free development pathway.

The journey of REDD+ in Nepal began in 2008 with the aim to bring investment into the forestry sector that can trickle down to local communities. But in the process it was realized that compliance with REDD+ was a challenging task in a country where nearly one-third of forests is managed by over a third of the country's population. REDD entails monitoring, reporting, verification, and drawing forest reference levels with scientific rigour. It is difficult for forest-dependent local communities to comprehend these processes. Through the readiness phase Nepal has made a stride in terms of articulating the preparedness for REDD+, where a large section of the population depends on forest resources. This makes Nepal's REDD+ initiative unique.

Despite encouraging progress, there are limitations to meeting Nepal's REDD+ ambitions. Most of the limitations are related to the country's capacity to meet required technical, governance and safeguards standards. Based on the experiences and learning highlighted by thematic experts in the chapters, the following recommendations can be made to overcome the limitations and achieve Nepal's REDD+ ambitions:

- REDD+ with its performance-based payment mechanism provides an opportunity for Nepal to voluntarily move towards a low carbon, low deforestation development pathway.
- REDD+ cannot be seen as a stand-alone initiative and requires the support of sectoral line agencies that relate to the drivers of deforestation and forest degradation and unlock the enhancement potential.
- There is a dearth of trained staff in the government agencies to articulate and implement REDD+ at the ground level for meeting the targets.

- If REDD+ is to meet its intended objectives as enshrined in the Paris Agreement, non-carbon benefits need to be given priority so that the local communities can see the benefit of participating in this programme. Without local support, REDD+ cannot be implemented in a country like Nepal where community forestry has wide and deep coverage.
- Commitment of the government, including the state and local bodies, is crucial for selecting a deforestation-free development pathway from the central to the local level. Otherwise REDD will not be able to meet its intended targets.
- The forest monitoring system needs to be updated with hardware and software to meet the REDD requirements which are highly technical. More trained human resources are required to improve the forest monitoring system so as to develop robust Forest Reference Level and Monitoring, Reporting and Verification standards.
- Efforts need to be made to ensure effective engagement and meaningful participation of indigenous peoples so that FPIC guidelines can be followed.
- In order to implement the National REDD Strategy at the local level, developing Local REDD+ Action Plan is an effective way to address the drivers of deforestation and forest degradation and remove barriers to enhancement of carbon.
- The cost of addressing the drivers varies across locations and forest regimes; therefore, different costs must be considered while designing REDD+ at the landscape level.
- Monitoring of biodiversity conservation and management, access and benefit sharing mechanisms and compensation mechanisms affecting local communities, is a key aspect of REDD+ which can only be ensured through good governance. Which is why, good governance is the most fundamental aspect of REDD+.
- The Government of Nepal has a mandated Gender Equality and Social Inclusion framework to be used since its 10th Five Year Plan, which needs to be incorporated and executed from designing and implementing the National REDD Strategy.

