EVALUATION DEPARTMENT

Norad

Real-time evaluation of the Government of Norway's International Climate and Forest Initiative

Literature review and programme theory

ANNEX 1-7

Annexes

Annex 1: Terms of Reference

Real-time evaluation of The Government of Norway's International Climate and Forest Initiative:

Study A: Review of research relevant for REDD+

Study B: Study of program theory/theories behind REDD+

(Call-off 1)

September 8th 2015

Introduction

This is the first call-off under the framework agreement on real-time evaluation of NICFI that entered into force 20 July 2015. This ToR covers two separate, but closely connected studies:

A review of research relevant for REDD+. The study should summarize existing research, and identify the gaps where more research/evaluation is needed. This study can build the foundation to an evaluation of the research supported through NICFI and the use of the research conducted. **(Study A)**

A study of the program theory/theories behind NICFI/REDD+ and assessing to what extent the current intervention theories and design of NICFI is optimal in order to achieve its objectives. **(Study B)**

Purpose, Objectives and Scope

The broader purpose with the two studies is to identify issues to be addressed in subsequent evaluations, as well as support the identification and development of evaluation methods/frameworks to be used in subsequent evaluations under the framework agreement.

Study A – A review of research relevant for REDD+

The objective of Study A is to collate and summarize the available research based evidence of relevance to REDD+, as well as appraise the quality of the evidence. The study shall be presented in a policy relevant way that identifies best practises, as well as knowledge gaps where more research/evaluation is needed.

The scope of the study (the study universe) includes all relevant research, evaluations, systematic reviews and syntheses of research and evaluations relevant for REDD+, and not limited to the research financed by NICFI/Norway. Evidence relevant for REDD+ may also include insights from research on other initiatives, for example Forest Law Enforcement, Governance and Trade (FLEGT), Clean Development Mechanism (CDM) and other initiatives, as well as other research of relevance. Both qualitative and quantitative research shall be included. This study can build the foundation to an evaluation of the research supported through NICFI and the use of the research conducted, but this is not to be included in Study A.

The study shall aim at answering the following questions:

- What research and evaluations have been conducted within REDD+ (goals, purpose, and impact)?

- What research and evaluation results from other areas/initiatives are most relevant for REDD+?

- What can available research tell us about progress made on technical aspects of REDD+, particularly with regard to addressing issues of additionally, leakage, permanence, MRV, participation, land tenure, benefits sharing, financing etc.?

- What are the major challenges with the implementation of REDD+?

- What are the features of a successful REDD+ programme, project or investment?

- What are the main insights from initiatives relevant for REDD+ that can be used to improve REDD+ implementation?

Study B – A study of the program theory/theories behind NICFI/REDD+

The objective of Study B is to identify and summarize the program theory/theories behind NICFI and REDD+ and assess to what extent the current intervention theories and design of NICFI is optimal in order to achieve its objectives. This includes the assessment of to what degree the program/intervention theory/theories are built on available research based knowledge (includes findings from study A).

REDD+ is aiming towards being a fully results based mechanism with payments made for measured, reported and verified results (phase three in the "three-phase approach"). Hence, Study B shall include program theories and research evidence behind Results-Based Financing (RBF)[21]. There are three different types of RBF depending on whether the schemes target the behaviour of states, organisations and/or individuals. NICFI is primarily working on a national scale, thus the study shall consult with relevant theories behind state-to-state RBF[22], e.g. in political science and economic theory. Relevant theories on organisational and/or individual level shall also be included (for example Payment for Environmental Services).

The study shall be presented in a policy relevant way that provides guidance on how NICFI can improve and capitalise on emerging best practices and knowledge.

Methodology

Study A – A review of research relevant for REDD+

The methodology for Study A may be guided by the "systematic review"-approach used by Campbell Collaboration[23] although, due to the diverse nature of both the study object and available studies, it may not possible to compile available studies in one or few rigorous systematic reviews. The study shall be done by using transparent procedures to find, evaluate and synthesize the results of relevant studies, both published and non-published.

The study shall:

- Systematically map out all relevant research/evaluation based evidence (and not only the most well-known);

- Critically appraise the (methodological) quality of the studies; and

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[21] Results-Based Payment, Results-Based Aid, Cash on Delivery, Payments for Environmental Services (PES) etc. RBF is defined as 1) the payment is based on achieved results, and 2) the relationship between payment and results is pre-defined.

[22] Example of relevant studies: Perakis, R. & Savedoff, W. 2015. Does results-based aid change anything? Pecuniary interests, attention, accountability and discretion in four case studies. Center for Global Development. Two RBF studies commissioned by the Evaluation Department in 2015, where NICFI is one of the study objects:
NORAD 2015a. Study a: Experiences with results-based payments in Norwegian development aid. Oslo: The Evaluation Department.
NORAD 2015b. Study b: The basis for decisions to use results-based payments in Norwegian development aid. Oslo: The Evaluation Department.
http://www.norad.no/en/toolspublications/publications/2015/experiences-with-results-based-payments-in-norwegian-development-aid/

[23] http://www.campbellcollaboration.org/what_is_a_systematic_review/index.php

- Synthesise the results in a way that fits the needs of policy makers and practitioners.

A *review protocol* for searching procedures shall be developed that includes:

- A search strategy: includes all search terms, sources and strategies. The searching procedures for studies to be included in the study shall be designed in advanced to minimize bias, and ensure that the exercise is transparent and can be replicated.

- Inclusion and exclusion criteria: consists of criteria for selecting which studies to include in the review based on quality and relevance.

- A replicable research methodology: explains how data from included studies will be coded, analysed and synthesized.

Study B – A study of the program theory/theories behind NICFI/REDD+

The study shall be based on document reviews, supported by interviews. The previous real-time evaluations of NICFI shall be one of the main sources to the theories behind NICFI. The latter parts of this study shall build on the emerging results from study A.

Deliverables and timeframe

Proposal/Inception report

Based on this ToR, a draft technical Proposal shall be developed. The technical Proposal shall include suggested approaches for conducting Study A and B, team compositions, and a detailed budget containing number of days per category of personnel (including quality assurance and communication). This draft technical Proposal shall be discussed at the start-up meetings with the Evaluation Department and stakeholders in Oslo in August. The main aim of these meetings will be to define the two studies in detail.

In addition, for each of the studies, a short communication plan (maximum 2 pages per study) shall be developed where fit-for-purpose deliverables are identified. The communication plans shall be part of the Proposal, and be updated as suitable, as the studies are ongoing.

Final reports

Final reports shall be prepared in accordance with the Evaluation Department's "Guidelines for the evaluation process and for preparing reports" and not exceed 45 pages excluding annexes (preferably shorter). The executive summary shall not exceed four pages and shall function as a stand-alone excerpt not presupposing that the reader has access to other parts of the report.

All reports shall be prepared in accordance with the Evaluation Department's guidelines and shall be submitted in electronic form in accordance with the progress plan specified in the timeframe below. The Evaluation Department retains the sole rights with respect to distribution, dissemination and publication of the deliverables.

Deliverables and timeframe (to be further specified and agreed):

- 26-27 of August: Start-up meeting in Oslo and discussion about ToR and Proposal.

- 2 September: submission of final Proposal. Sign Call-off.

- 21 September: Submission of Inception Report

- Beginning of November: Submission of draft reports

- Mid-November: Comments on drafts report submitted to consultants

- End of November: Submission of final report

- November/December: Dissemination activities, as identified in the communication plan (ex. seminar and internal workshop with stakeholders).

Budget

The total budget for this first call-off (Study A and B) is maximum NOK 1,127,100 exclusive of VAT, which includes all expenses related to the call-off, including working hours and travel costs. This includes the planned dissemination events (fees and travels) in Oslo. Any further dissemination activities are additional to the NOK 1,127,100. The additional costs shall be specified in the communication plan and is subject to approval by the Evaluation Department.

Once the budget is agreed upon and approved, expenses exceeding the budget will not be covered.

Annex 2: Key people interviewed

Name		Institution	Role
Arild	Angelsen	NMBU/CIFOR	Researcher
Martin	Herold	Wageningen University	Researcher
John	Hudson	DFID	Practitioners, advisors
Chris	Lang	REDD+ Monitor	REDD+ Monitor Facilitator
Dr Constance	McDermott	University of Oxford	Researcher
Christopher	Martius	CIFOR REDD+	Practitioners, advisors
Charles	Meshack	Tanzania	Implementer, technical expertise
Mari	Mulyani	University of Oxford	Researcher
Ruth	Nussbaum	Proforest	Implementer, technical expertise
Matthias	Rhein	DFID, Indonesia	Practitioners, advisors
Neil	Scotland	DFID	Practitioners, advisors
Meine	Van Nordwick	ICRAF REDD+	Practitioners, advisors
Arild	Vatn	NMBU	Researcher
Anonymous		--	Implementer, technical expertise

Annex 3: Definitions, data and survey

Definition tables for team discussion

Table A3-1. Words related to evaluation

Evaluation Word or term	Comment	Note
Result	Ambiguous definition	OECD DAC definition[24] is operationally not very useful as it combines disparate elements i.e. it is multiple entity.
	Confusing	The word already exists in the English language so when specialists try to refine its meaning, non-specialists will still think of their definition.
Assumption	Ambiguous definition	OECD DAC definition[25] is of limited utility. Better to limit the term to the most powerful factor that would limit upward movement in the intervention logic column of a logical framework i.e. not to do with general risks. See example overleaf.
	Confusing	The word already exists in the English language so when specialists try to refine its meaning, non-specialists will still think of their definition.
Theory of change	Multiple meaning	Many people are using the term as a synonym for what OECD DAC would call the result chain or what the EC would call the intervention logic.
	Confusing	Theory of Change as developed by the specialists is instead a form of critical theory that ensures a transparent distribution of power dynamics[26] that in turn may be linked to political economy.

Table A3-2. Words related to REDD+

REDD+ Word or term	Comment	Note
Forest	Contested	Governments report forest cover and forest cover change using the FAO definition. Many members of the REDD+ community of practice would contest this and say it include wrong elements and excludes essential elements.
	Confusing	The general public would think that a forest worth preserving is something that has big trees and that their canopies touch each other.
	Misleading	Forest "gazetted" by governments is a classification of land and not what is on it. In India there is a significant area of forest (more correctly called forest lands) that has no trees on it.
Biodiversity	Multiple entity	Means three things at once; species, ecosystems and varieties. A plantation could contain more species of conifer than a natural forest so which has the highest biodiversity? Note: Indices of species diversity have fundamental mathematical deficiencies linked to theories of generalised entropy.
	Impossible to translate	Even if we simplify the term to "nature", different cultures have widely different understandings. In China and Indonesia most people would describe the essence of "natural forest" as clean running water.
Forest degradation	Ambiguous	No internationally accepted definition.
Climate Change Finance	Ambiguous	No internationally accepted definition. Some think it means climate flavoured ODA; others think it means UNFCC COP resolution linked dedicated climate change funds.

Table A3-3. Measures for effectiveness for interlocutors based in Norway (Literature review variables)

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[24] The output, outcome or impact (intended or unintended, positive and/or negative) of a development intervention.

[25] Hypotheses about factors or risks which could affect the progress or success of a development intervention.

[26] https://en.wikipedia.org/wiki/Theory_of_change

Measure	REDD+ context note
Percentage adoption of best practice in financial instruments, aid modalities and public financial management (including procurement)	Climate change (carbon) finance approaches Sector/general budget support or projects for a resilience sector of government MRV as proof of deliverables obtained
Percentage adoption of best practice in value for money in relation to specified outputs	Cost of mitigation per unit carbon Value of REDD+ co benefits
Percentage adoption of best practice in the facilitation of good governance, policy and planning	REDD+ governance REDD+ policy REDD+ planning
Percentage adoption of best practice in due diligence in relation to environment, gender and other cross cutting issues e.g. rights of indigenous peoples	Environmental effects Gender effects
Percentage adoption of best practice in terms of intervention design linked to results based management	Design analysis and review Payment for results approaches Results based budgets Flashlight monitoring linked to ROM Accountability: Citizen, civil society and or youth panels
Percentage adoption of best practice in terms of communication for specified actions	Transparency and advocacy for citizen action Donor coordination and sharing of relevant high impact approaches e.g. CDM and FLEGT

Table A3-4. Measures for effectiveness for interlocutors based in the TG *(Literature review variables)*

Measure	REDD+ context note
Percentage adoption of best practice in financial instruments, aid modalities and public financial management (including procurement)	Optimised REDD+ delivery in terms of choosing government, CBOs, private sector as key agency MRV as proof of deliverables obtained
Percentage adoption of best practice in value for money in relation to specified outputs	Cost of mitigation per unit carbon Value of REDD+ co benefits
Percentage adoption of best practice in the facilitation of good governance, policy and planning	REDD+ governance REDD+ policy REDD+ planning All of the above in the context of the rule of law
Percentage adoption of best practice in due diligence in relation to environment, gender and other cross cutting issues e.g. rights of indigenous peoples	Environmental effects Gender effects
Percentage adoption of best practice in terms of intervention design linked to results based management	Design analysis and review Payment for results approaches Results based budgets Flashlight monitoring linked to ROM Accountability: Citizen, civil society and or youth panels
Percentage adoption of best practice in terms of communication for specified actions	Transparency and advocacy for citizen action Donor coordination and sharing of relevant high impact approaches e.g. CDM and FLEGT

Forest definitions

Forest definition in literature

Forests, as complex ecological systems in which trees are the dominant life form, have a wide range of definitions. Lund (2008, cited UNEP 2009) found that more than 800 different definitions for forests and wooded areas were in use round the world – with some countries adopting several such definitions at the same time.

Forest definitions used for statistical purposes at national and global level can be broadly grouped in three categories: administrative, land use and land cover.

Administrative: Forests have been defined in terms of legal or administrative requirements. Typical examples follow: "Any lands falling within the jurisdiction of the Department of …" or "any lands so mapped in the ordinance survey of …" These definitions bear no relationship to the vegetation characteristics and associated carbon on that land. For this reason, definitions of forest cover that are based on administrative or legal definitions of forests may not provide as full a picture of changes in carbon stocks as some of the alternatives discussed below. Nevertheless, many national statistics are based on such definitions.

Land use: In the case of land use definition, a typical example is: "An area managed for the production of timber and other forest products or maintained as woody vegetation for such indirect benefits as protection of catchment areas or recreation." (i.e. Swedish Forest Act of 1994). Again, these definitions may fail to reflect land cover, because they incorporate an element of potential or even desirable land use (e.g. stands of seedlings that are re-growing after clear-felling or disturbance) or small, included, non-treed areas (e.g., roads and other infrastructure) or treed areas used for purposes other than the forest land-use definition, such as grazed woodlands, may be excluded-along with their substantial carbon pools. The definition of forest proposed by FAO in the Global Forest Resource Assessment (FRA) is based on this approach.

Land cover: The third category defines a forest in terms of vegetative land cover. An example follows: "An ecosystem characterized by more or less dense and extensive tree cover." Typically, the cover is assessed as percent crown cover. Different elements may be combined in the definition of forest, among them the foregoing indicators (minimum canopy cover, minimum height, and minimum biomass are the most common. Distinctions may be made between open- and closed-canopy forests. Other variants include the use of basal area, wood volume, proportion of land with trees above a minimum height, or proportion of land with tree biomass exceeding a minimum threshold, with no distinction made between single-stem or multi-stem tree forms.

When considering forests as a land use cover, and satellite images as main detecting tool, various canopy closure thresholds are used to define forest cover, however definitions are based on the ability to identify tall woody vegetation unambiguously in multispectral imagery.
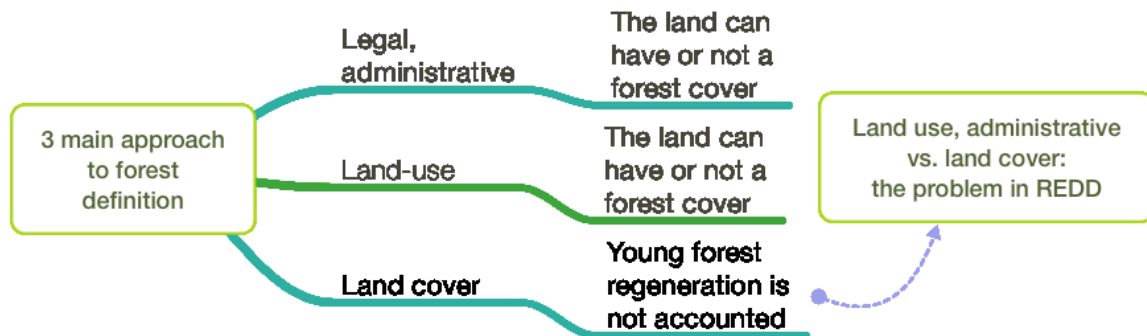
Forest definition in the international context

In the international context FAO forest definition is the mostly used one (globally accepted).

The current definition of forest is based on the land use with a combination of tree cover. According to the definition, land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10%, or trees able to reach these thresholds in situ, is a forest. It does not include land that is predominantly under agricultural or urban land use.

In the FRA forests are further divided based on *origin*: naturally regenerated forests and planted forests. Naturally regenerated forests are either primary forests or other forests. Other forests are forests where signs of human impact are evident. Primary forests equal to natural, undisturbed forests according to GHG inventory.

According to *forest designation*, the FRA includes production, protection of soil and water, conservation of biodiversity, social services and multiple uses of forests. Forest management consists of areas of permanent forest estate, area within protected areas, area under sustainable forest management and area with management plan.

Of the forests stocks, FRA includes *growing stock* (volume of living trees), biomass stock (above- and below-ground) and *carbon stock* (in biomass, dead organic matter and soil). Carbon and biomass stock estimates are based on 2006 IPCC (International Panel of Climate Change) Guidelines used in GHG reporting.

Forest statistics compiled at national level for the FRA are the most important data source for physical forest asset accounts. These statistics are also used as a basis for national greenhouse gas inventories for the GHG source and sink category "5. Land use, land use change and forestry (LULUCF)." For the forest stocks, carbon and biomass stock estimates of the FRA are based on IPCC Guidelines on GHG reporting according to the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto protocol[27].

The forest definition agreed on by UNFCCC in the context of the Clean Development Mechanism (A/R-CDM) of the Kyoto protocol has three significant parts, only the first of which has received a lot of attention:

- forest refers to a country-specific choice of a threshold canopy cover (10–30%) and tree height (2-5 m);

- these thresholds are applied through "expert judgment" based on the potential to be reached in situ, not necessarily to the current vegetation; and

- temporarily unstocked areas (without "temporarily" being defined) remain forest as long as a state forest entity thinks they will, can or should return to tree cover conditions.

Rules 2 and 3 were added to restrict the concept of reforestation and afforestation and allow forest management practices including clear-felling followed by replanting within the forest domain. This general definition of forest makes direct observation of forest difficult. The lessons from the implementation of afforestation/reforestation show that the definition that has been used does not capture what most of public discourse sees as forest or non-forest.

The role of the other international organization in defining forests is marginal. The "forest principles"[28] and UNFF adopted the expression "all types of forests", without providing a specific characterization of

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[27] The UNFCCC uses a slightly different definition of forest. It requests industrialized countries to estimate the forest area according to their own national definitions, which should be documented in the GHG inventory report.
[28] Non-legally binding authoritative statement of principles for a global consensus on the management, conservation and sustainable development of all types of forests

forests and differentiating between natural, semi-natural and planted forests. The CBD adopted the FAO definition for forest; meanwhile the UNCCD underlines the important role of dry forests in livelihood and desertification control and therefore the need for a more comprehensive term, especially if related to REDD+ potentials (i.e. agroforestry systems). Among the other international organizations related to forests (and members of the FCP), IUCN provided only a general definition of forest cover[29]. In 2009, in order to assess the state of the world's closed forests, the United Nations Environment Programme (UNEP) employed other definition criteria, considering forests only with a closed canopy (>40% forest cover).

CIFOR underlines the importance of forest definition when estimating deforestation and forest degradation for REDD+ monitoring. A case study carried out in Indonesia (Romijn et al. 2013, Box 1) highlights that the use of three forest definitions (FAO, natural, National) resulted in different estimation of the forest area

- distribution of drivers of deforestation

- estimation of forest Reference Emission Levels (RELs)

Box 3. Exploring different forest definitions and their impact on developing REDD+ reference emission levels: A case study for Indonesia

Developing countries participating in the mitigation mechanism of REDD+ need to determine a national forest reference emission level (REL) as part of their national monitoring system, which serves as a benchmark to measure the impact of their REDD+ actions. Using data from Indonesia, the authors show that the choice of a forest definition can have a large impact on estimates of deforestation and forest degradation areas, on assessment of drivers of deforestation and on the development of a REL.

The total area of deforestation between 2000 and 2009 was 4.9 million ha when using the FAO definition, 18% higher when using a 'natural forest definition' and 27% higher when using the national definition. Using the national and natural forest definitions, large areas (>50%) were classified as shrubland after deforestation. We used regression models to predict future deforestation. Deforestation was much better predicted than degradation (R^2 of 0.81 vs. 0.52), with the natural forest definition giving the best prediction. Apart from historical deforestation and initial forest cover, gross domestic product and human population were important predictors of future deforestation in Indonesia. Degradation processes were less well modelled and predictions relied on estimates of historical degradation and forest cover.
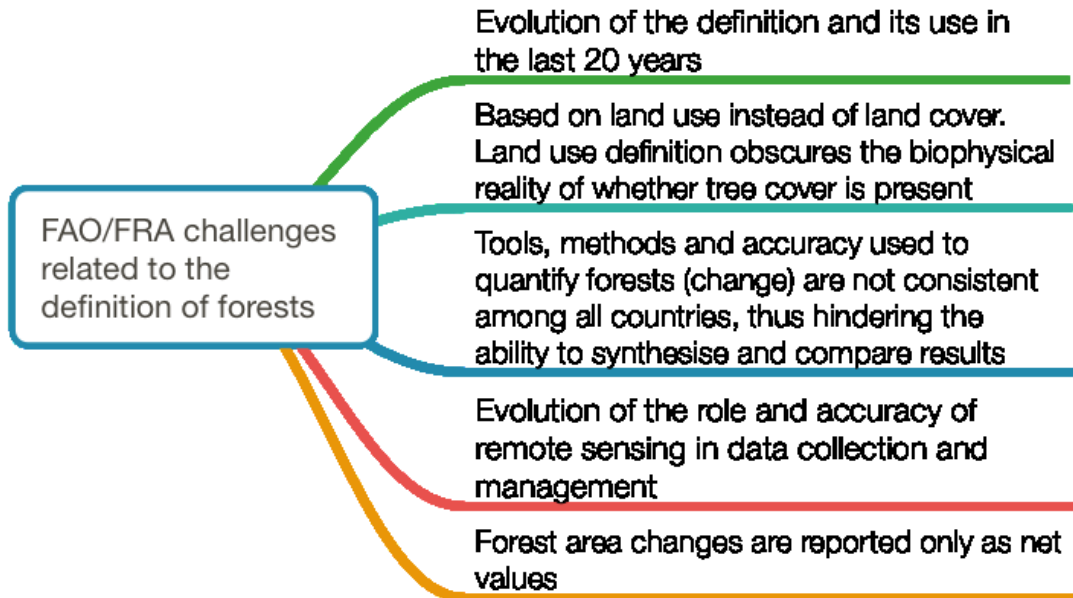
Reference: Romijn, E., Ainembabazi, J. H., Wijaya, A., Herold, M., Angelsen, A., Verchot, L., & Murdiyarso, D. (2013). Exploring different forest definitions and their impact on developing REDD+ reference emission levels: A case study for Indonesia. Environmental Science & Policy, 33, 246-259

Forest definitions need to be consistently applicable for a range of objectives and the FAO forest definition has this characteristic. However, some features of the FRA forest definition and related data limit their utility in a global forest change assessment:

- forest definition has changed over time. Until 2000, two different definitions were used for forests in developed and developing countries. Since 2000 a new definition applied. In 2015 this definition has been refined, providing further clarification, especially about borderline concepts related to forest and agricultural plantations and mangroves (see text in bold in box 1);

- the definition of "forest" is based especially on land use rather than land cover and the land use definition may obscure the biophysical reality of whether tree cover is present;

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[29] All the trees and other woody plants (scrub) covering the soil of a forest. It includes: trees and all types of bushes; bushes and weeds growing under or on forest clearings or thickets; humus or fallen leaves, branches, fallen trees, and other plant materials partially rotten on the surface and the upper soil layer.

- tools, methodologies and accuracy used to quantify forest change are not consistent among all countries, thus hindering the ability to properly compare and synthesize results;

- forest area changes are reported only as net values.

FAO/FRA challenges related to the definition of forests

- Evolution of the definition and its use in the last 20 years
- Based on land use instead of land cover. Land use definition obscures the biophysical reality of whether tree cover is present
- Tools, methods and accuracy used to quantify forests (change) are not consistent among all countries, thus hindering the ability to synthesise and compare results
- Evolution of the role and accuracy of remote sensing in data collection and management
- Forest area changes are reported only as net values

Box 4. Forest definition by FAO, Forest Resource Assessment

Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use.

Explanatory notes
- Forest is determined both by the presence of trees and the absence of other predominant land uses. The trees should be able to reach a minimum height of 5 meters.
- Includes areas with young trees that have not yet reached but which are expected to reach a canopy cover of at least 10 percent and tree height of 5 meters or more. It also includes areas that are temporarily unstocked due to clear-cutting as part of a forest management practice or natural disasters, and which are expected to be regenerated within 5 years. **Local conditions may, in exceptional cases, justify that a longer time frame is used.**
- Includes forest roads, firebreaks and other small open areas; forest in national parks, nature reserves and other protected areas such as those of specific environmental, scientific, historical, cultural or spiritual interest.
- Includes windbreaks, shelterbelts and corridors of trees with an area of more than 0.5 hectares and width of more than 20 meters.
- Includes abandoned shifting cultivation land with a regeneration of trees that have, or are expected to reach, a canopy cover of at least 10 percent and tree height of at least 5 meters.
- **Includes areas with mangroves in tidal zones, regardless whether this area is classified as land area or not**.
- Includes rubber-wood, cork oak and **Christmas tree plantations**.
- Includes areas with bamboo and palms provided that land use, height and canopy cover criteria are met.
- Excludes tree stands in agricultural production systems, such as fruit tree plantations, **oil palm plantations, olive orchards and agroforestry systems when crops are grown under tree cover. Note: Some agroforestry systems such as the "Taungya" system where crops are grown only during the first years of the forest rotation should be classified as forest.**

A study carried out by the European Forest Institute (EFI) in 1998 shows the different legislative approach of European countries in the definition of forest. A 2006 work carried out on behalf of the Program on Forests (PROFOR) showed how only one European country (Portugal) used the FRA forest definition for delimiting its forests and that only few countries have a "national" forest area similar to the FRA forest

area. It also underlines the difficulty to compare the concept of "other wooded lands" to other land use/cover categories and data collected. Finally, the study underlined the need for harmonised definitions and harmonised use of them.

Partner countries

Table A3-5: Partner countries, forest and environmental profile

Partner countries[1]	Forest cover 2015[2]	% Forest cover 2015[2]	Forest cover difference 2005-2010[2]		Forest cover difference 2010-2015[2]		Forest rents (% of GDP) 2010[3]	Ecosystem Vitality[4]	Rank[4] (out of 178)	EV - Forests[4]	EV-Biodiversity and Habitat[4]
			1 000 ha/yr	%a	1 000 ha/yr	%a					
Brazil	493,538	57.96	-1655.2	-0.57	-984	-0.20	1.39	40.13	64	10.81	66.74
Ethiopia	12,499	11.32	-140.8	-1.06	41	0.33	15.98	42.24	83	35.07	83.78
Guyana	16,526	76.88	-5.2	-0.02	-10	-0.06	7.35	17.32	97	63.12	18.66
Indonesia	91,010	50.24	-685.0	-0.31	-684	-0.74	1.22	36.78	107	7.75	78.08
Liberia	4,179	37.52	-30.0	-0.66	-30	-0.71	28.29	14.59	110	20.58	4.13
Mexico	66,040	33.62	-117.0	-0.23	-92	-0.14	0.34	45.06	112	19.87	62.32
Peru	73,973	57.56	-143.4	-0.16	-168	-0.23	0.58	37.84	139	32.52	70.36
Tanzania	46,060	48.62	-400.0	-0.79	-372	-0.79	3.97	36.39	167	14.9	79.12
Viet Nam	14,773	44.64	210.2	2.18	129	0.89	1.56	28.66	170	17.25	43.39

The data show that deforestation rates are positively regressing in Ethiopia, where reforestation schemes are implemented (often with exotic species like Eucalyptus). Partner countries have different forest profiles, in terms of forest cover, with Liberia and Ethiopia the economies mostly linked to the forest sector. Figures are quite varying in terms of capacity of conserving forests and conserving biodiversity and habitat (EPI indicators), showing Tanzania and Vietnam as the most fragile countries in terms of general Ecosystem Vitality. The Ecosystem Vitality indicator for the forests (EPI indicators) shows that forest ecosystems are mostly threatened in Indonesia, followed by Brazil and Tanzania, as the indicator considers deforestation drivers, including agriculture.

Table A3-6: Distribution of partner countries based on forest cover and average annual deforestation rates (reference period 2010-2015).
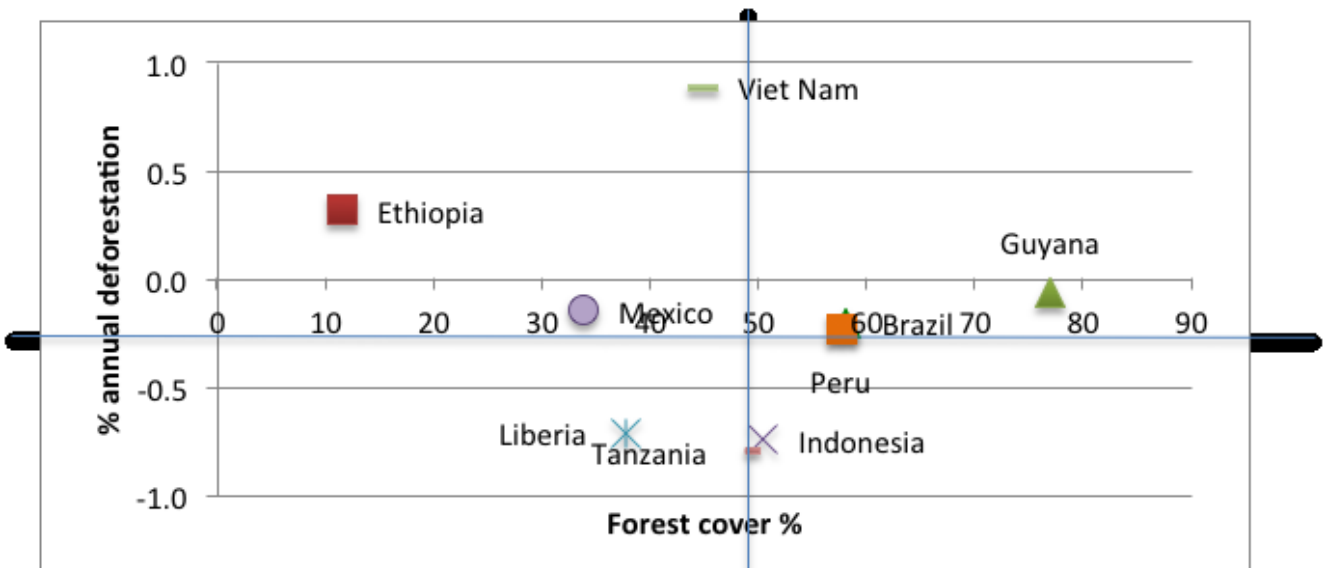

Table A3-7. Partner countries, Climate profile

Partner countries[1]	Total CO_2 Emissions Excluding Land-Use Change and Forestry (MtCO2) 2012[5]	CO_2 country totals excluding short-cycle and large-scale biomass burning 2013[6]	CO_2 fossil fuel and cement production emissions by country 2013[7]	EV - Climate and Energy[4]	Rank[4] (out of 129)	Total GHG Emissions Excluding Land-Use Change and Forestry for 2012 (MtCO$_2$e)[5]	Total GHG Emissions Including Land-Use Change and Forestry for 2012 (MtCO$_2$e)[5]	% GHG Emissions Land-Use Change and Forestry for 2012 (MtCO2e)[5]	GHG Emissions for Land-Use Change and Forestry (MtCO2e) difference 2005-2010[5]	GHG Emissions for Land-Use Change and Forestry (MtCO2e) difference 2007-2012[5]
Brazil	477.77	511.98	481.73	53.82	57	1,012.55	1,823.15	44%	-393.33	-6.37
Ethiopia	7.93	7.82	6.77	--	--	118.00	143.87	18%	-1.14	-0.05
Guyana	1.66	1.83	1.70	0.64	127	3.60	7.64	53%	-0.75	0.21
Indonesia	456.05	487.28	493.75	45.25	79	760.81	1,981.00	62%	261.54	-26.91
Liberia	0.54	0.66	0.85	--	--	1.72	16.86	90%	-0.03	0.15
Mexico	460.48	474.58	465.83	51.35	63	723.85	748.91	3%	-3.67	-0.60
Peru	49.60	47.78	64.84	16.71	119	88.24	159.50	45%	26.02	0.15
Tanzania	8.89	6.33	7.27	--	--	70.18	171.73	59%	-5.07	-0.78
Viet Nam	173.05	172.40	169.24	44.51	81	251.18	264.20	5%	2.15	26.85

The data compare three different sources for CO2 emissions, showing that estimates for CO2 emissions vary by authors. However, the three databases show that the trends in CO2 emissions are increasing by an average of 30% in the last seven years for all partners, with Mexico (approx. +10%) and Liberia (approx. -35%) the only two exceptions. The EPI indicators show that Guyana and Peru have the worst Environmental Vitality scores for the indicator of climate and energy.

Figure A3-1: CO2 emissions totals - Total CO2 emissions excluding land-use change and forestry for the nine partner countries
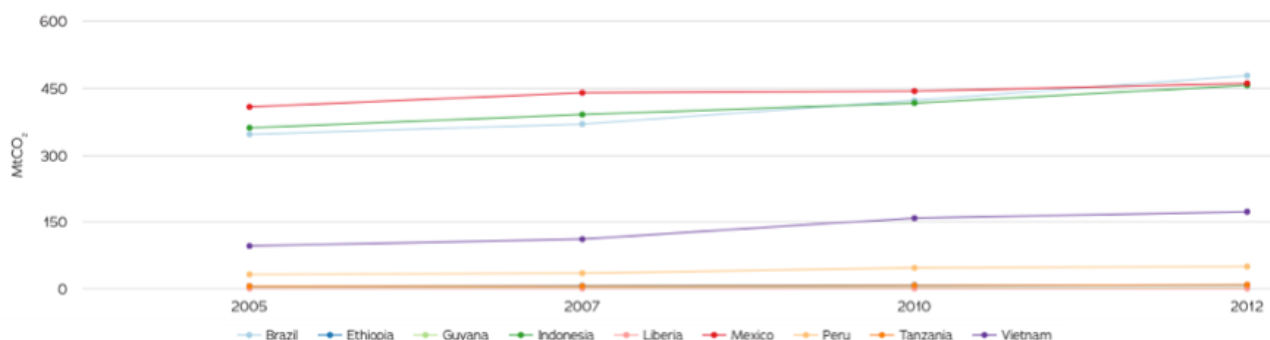
Retrieving information about CO_2 emissions related to Land Use Change and Forestry (LUCF) is difficult, for example the Emission Database for Global Atmospheric Research (EDGAR) excludes CO_2 emissions from LUCF from their data due to their high variability and uncertainty. The Global Carbon Canopy provides estimates only at global level. The WRI provides information of LUCF trends until 2012 database (derived from the FAOSTAT Emissions Database). Trends appear extremely positive for eight partner countries and especially for Indonesia[30]. Significance of these data needs to be corroborated by more accurate GHG emissions measurements at national and sub-national level.

Norway signed partnerships for REDD+ from 2008 to 2014. In the case of Guyana, Mexico, Ethiopia and Vietnam the signature occurred in coincidence or just before the COPs. In the case of Liberia and Peru the commitment occurred during the UN Climate summit and the New York declaration on forests. The letters (or memoranda) of intent clearly reflect the evolution of the discussion and knowledge about REDD+: from 2011 the letters include a description of the phased approach and opportunities for coordination among donors.

Until 2014, Norway has financed about 7,943 M of NOK (equivalent to USD 1,330 M) for supporting partner countries. The table and graphics below show the importance of Brazil, Guyana and Indonesia

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[30] In the case of Viet Nam the values presented in the WRI and in the UNFCCC databases have been probably inverted and therefore a correct evaluation of the information provided is not possible.

as main beneficiary countries. Most of the funds (82.27%) have been channelled by the Ministry of Finance and only a small budget (NOK 3.34) has been directly delivered by the Ministry of Climate and Environment to Guyana (evaluation and performance monitoring).

Chronologically, the first two and the last two agreements with Partner countries are managed with bilateral assistance. Guyana and Viet Nam partnerships are managed respectively through a multilateral fund and an agreement with UN-REDD. In Ethiopia, Indonesia and Mexico a mixed approach is implemented. The type of assistance (bilateral / multilateral) is affecting the effectiveness of disbursement, however it doesn't seem directly linked to Partner country performance.

Table A3-8 Partner countries, date of signature of partnership and resources allocated (bilateral and multi-bilateral assistance)

Partner countries[1]	Date Letter of Intent[1]		Sum of Disbursements (NOK 1000)[0]							Sum of Disbursements (NOK 1000)[0]						
			2009	2010	2011	2012	2013	2014	Total	2009	2010	2011	2012	2013	2014	Total
Brazil	9	2008	123,437	169,262		726,000	3,918,815	811,757	5,749,271	19,661	28,003		124,852	666,692	128,811	968,018
Ethiopia	12	2011					75,229	78,361	153,590					12,798	12,435	25,233
Guyana	11	2009		176,681	218,981	4,563		581,762	981,987		29,230	39,072	785		92,315	161,402
Indonesia	5	2011	12,800	185,195	8,950	58,081		160,761	425,786	2,039	30,639	1,597	9,988		25,510	69,772
Liberia	9	2014	7,000	2,000	4,922	7,261			21,183	1,115	331	878	1,249			3,573
Mexico	5	2010			45,000			36,018	81,018			8,029			5,715	13,745
Peru	9	2014	3,000	3,500	3,500	5,800		13,311	29,111	478	579	624	997		2,112	4,791
Tanzania	4	2008	41,325	43,545	58,521	138,170		64,125	345,687	6,582	7,204	10,442	23,761		10,176	58,165
Viet Nam	12	2012				100,000		54,932	154,932				17,197		8,717	25,914
Total			**187,562**	**580,183**	**339,874**	**1,039,875**	**3,994,044**	**1,801,028**	**7,942,567**	**29,874**	**95,985**	**60,642**	**178,829**	**679,490**	**285,791**	**1,330,613**

Figure A3-18: Distribution of financial resources to Partner countries as percentage and by year
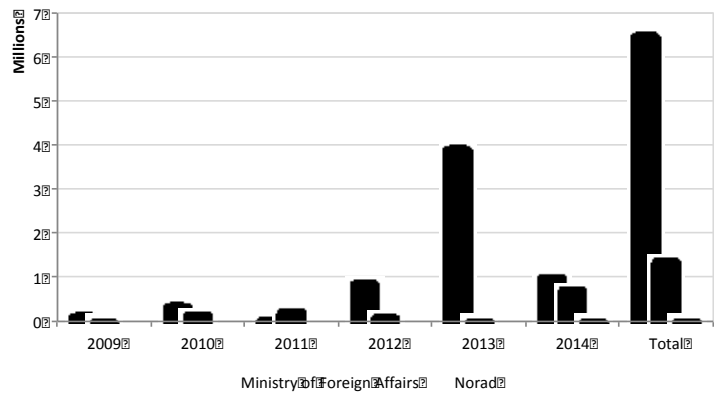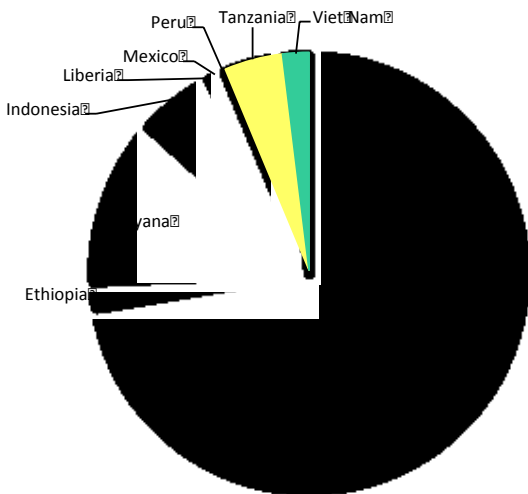

Figure A3-19. Distribution of resources by type of extending agencies and percentage provided as bilateral funds
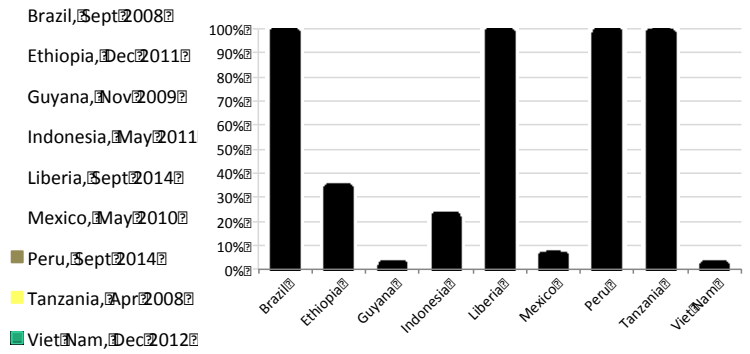
Brazil, Sept 2008

Ethiopia, Dec 2011

Guyana, Nov 2009

Indonesia, May 2011

Liberia, Sept 2014

Mexico, May 2010

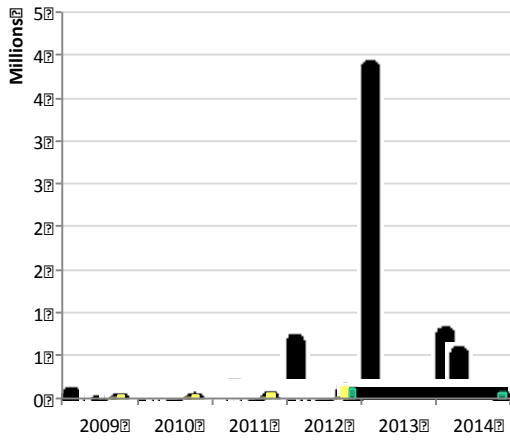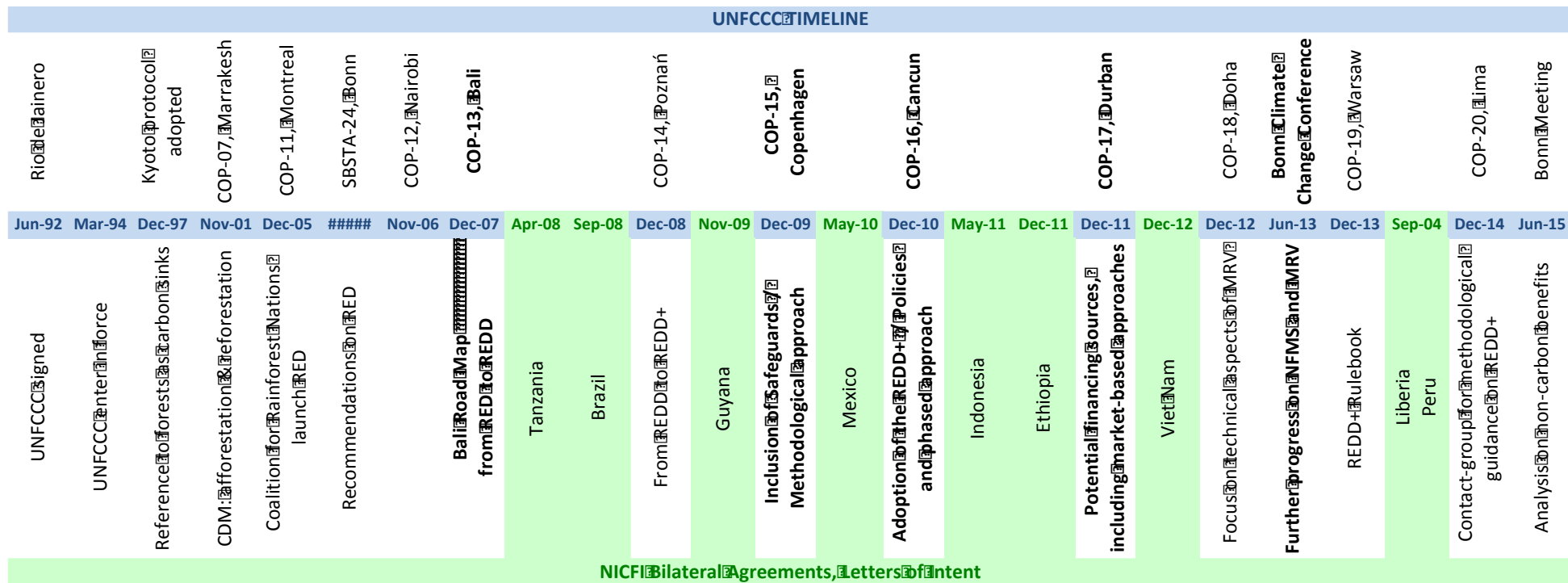Peru, Sept 2014

Tanzania, Apr 2008

Viet Nam, Dec 2012

Table A3-9. Partner countries, climate commitments

Partner countries[1*]	Summary of the Intended Nationally Determined Contributions[6]	Accounting for emissions and removals from the land sector: Coverage of the land sector as compared to total net emissions from the land sector, as a percentage if known[6]
Brazil	"Brazil intends to commit to reduce greenhouse gas emissions by 37% below 2005 levels in 2025." ... "Brazil's INDC has a broad scope including mitigation, adaptation and means of implementation, consistent with the contributions' purpose to achieve the ultimate objective of the Convention, pursuant to decision 1/CP.20, paragraph 9 (Lima Call for Climate Action)."	Not Specified
Ethiopia	"Ethiopia intends to limit its net greenhouse gas (GHG) emissions in 2030 to 145 Mt CO2 or lower. This would constitute a 255 MtCO2 reduction from the projected BAU emissions in 2030 or a 64% reduction from the BAU scenario in 2030. Ethiopia also intends to undertake adaptation initiatives to reduce the vulnerability of its population, environment and economy to the adverse effects of climate change, based on its Climate Resilient Green Economy Strategy (CRGE)."	"The target has comprehensive coverage (100%) of the land sector."
Guyana	Guyana's INDC has outlined policies, measures and actions, both conditional and unconditional that the country commits to implement up to 2025, in the energy and forestry sector. "The major overarching contribution that Guyana intends to make is to pursue a path to a Green economy using a low emission strategy pathway. Guyana has already formulated a LCDS and with limited financial resources, has begun implementation. With additional and adequate resources, Guyana can build on this and embark on a comprehensive path to a low emission and green economy." "More specifically, with the provision of adequate resources, Guyana can provide up to 52Mt CO2 equivalent to global mitigation effort, and can increase its share of renewable energy by 20 percent of its total energy usage, by 2025." The INDC also include annex on Adaptation.	Not Applicable
Indonesia	"Indonesia has committed to reduce unconditionally 26% of its greenhouse gases against the business as usual scenario by the year 2020...Indonesia is committed to reducing emissions by 29% compared to the business as usual (BAU) scenario by 2030." Conditional target: "Indonesia's target should encourage support from international cooperation, which is expected to help Indonesia to increase its contribution up to 41% reduction in emissions by 2030."Indonesia also submitted an Annex on "Indonesia Climate Resilience Strategy", including Indonesia's Vulnerability to Climate Change and Priority Actions for Climate Resilience."	Not Specified
Mexico	"Mexico is committed to reduce unconditionally 25% of its Greenhouse Gases and Short Lived Climate Pollutants emissions (below BAU) for the year 2030. This commitment implies a reduction of 22% of GHG and a reduction of 51% of Black Carbon.This commitment implies a net emissions peak starting from 2026, decoupling GHG emissions from economic growth: emissions intensity per unit of GDP will reduce by around 40% from 2013 to 2030." Mexico also submitted an Annex on adaptation, which includes descriptions of Mexico's vulnerability to climate change, adaptation actions, and capacity building, transfer of technology and finance for adaptation. A conditional reduction commitment is also communicated in the INDC.	"Afforestation, reforestation; Deforestation; Forest management; Cropland management; Grazing land management; Or equivalent land-based accounting using UNFCCC reporting categories; Other categories"
Peru	"The Peruvian iNDC envisages a reduction of emissions equivalent to 30% in relation to the Greenhouse Gas (GHG) emissions of the projected Business as Usual scenario (BaU) in 2030.The Peruvian State considers that a 20% reduction will be implemented through domestic investment and expenses, from public and private resources (non-conditional proposal), and the remaining 10% is subject to the availability of international financing and the existence of favorable conditions (conditional proposal)."It should be noted that Peru will not assume conditional commitments that might result in public debt. The INDC also includes a section on Adaptation.	Not Specified
Viet Nam	"With domestic resources, by 2030 Viet Nam will reduce GHG emissions by 8% compared to BAU, in which:- Emission intensity per unit of GDP will be reduced by 20% compared to the 2010 levels;- Forest cover will increase to the level of 45%. The above-mentioned 8% contribution could be increased to 25% if international support is received through bilateral and multilateral cooperation, as well as through the implementation of new mechanisms under the Global Climate Agreement, in which emission intensity per unit of GDP will be reduced by 30% compared to 2010 levels."The INDC also includes an adaptation component.	Forest land; Cropland; Grassland; Wetlands; Settlements; Other land.

Liberia and Tanzania didn't present their INDC to the Paris COP.

UNFCCC TIMELINE

Event	Date	Description
Rio de Jainero	Jun-92	UNFCCC signed
	Mar-94	UNFCCC enter in force
Kyoto protocol adopted	Dec-97	Reference to forests as carbon sinks
COP-07, Marrakesh	Nov-01	CDM: afforestation & reforestation
COP-11, Montreal	Dec-05	Coalition for Rainforest Nations launch RED
SBSTA-24, Bonn	#####	Recommendations on RED
COP-12, Nairobi	Nov-06	
COP-13, Bali	Dec-07	**Bali Road Map from RED to REDD**
	Apr-08	Tanzania
	Sep-08	Brazil
COP-14, Poznań	Dec-08	From REDD to REDD+
	Nov-09	Guyana
COP-15, Copenhagen	Dec-09	**Inclusion of Safeguards / Methodological approach**
	May-10	Mexico
COP-16, Cancun	Dec-10	**Adoption of the REDD+ / Policies and phased approach**
	May-11	Indonesia
	Dec-11	Ethiopia
COP-17, Durban	Dec-11	**Potential financing sources, including market-based approaches**
	Dec-12	Viet Nam
COP-18, Doha	Dec-12	Focus on technical aspects of MRV
Bonn Climate Change Conference	Jun-13	**Further progress on NFMS and MRV**
COP-19, Warsaw	Dec-13	REDD+ Rulebook
	Sep-04	Liberia / Peru
COP-20, Lima	Dec-14	Contact-group for methodological guidance on REDD+
Bonn Meeting	Jun-15	Analysis on non-carbon benefits

NICFI Bilateral Agreements, Letters of Intent

Figure A3-20. Timeline signature of bilateral agreements and their relationship with the UNFCCC REDD+ negotiation process

References as marked in each column of the tables above

1	Official websites of the Government (https://www.regjeringen.no/en/topics/climate-and-environment/climate/climate-and-forest-initiative/kos-innsikt/samarbeidspartnere/id2345203/) and Norad (http://www.norad.no/en/front/toolspublications/norwegian-aid-statistics/access-to-microdata/).
2	FAO, 2015. Forest Resource Assessment. FLUDE (The Forest Land Use Data Explorer)
3	WRI, CAIT Climate Data Explorer. 2015. CAIT Paris Contributions Map. Washington, DC: World Resources Institute. Available at: http://cait.wri.org/indcs/
4	Hsu, A., J. Emerson, M. Levy, A. de Sherbinin, L. Johnson, O. Malik, J. Schwartz, and M. Jaiteh. (2014). The 2014 Environmental Performance Index. New Haven, CT: Yale Centre for Environmental Law & Policy. Available: www.epi.yale.edu.
5	CAIT Climate Data Explorer. 2015. Washington, DC: World Resources Institute. Available online at: http://cait.wri.org. Please Note: CAIT data are derived from several sources. Any use of the Land-Use Change and Forestry or Agriculture indicator should be cited as FAO 2014, FAOSTAT Emissions Database. Any use of CO2 emissions from fuel combustion data should be cited as CO2 Emissions from Fuel Combustion, ©OECD/IEA, 2014.
6	EDGARv4.2FT2012, European Commission, Joint Research Centre (JRC)/PBL Netherlands Environmental Assessment Agency. Emission Database for Global Atmospheric Research (EDGAR), release version 4.2. http://edgar.jrc.ec.europe.eu, 2014; Olivier, J.G.J. and Janssens-Maenhout, G. (2014) CO2 Emissions from Fuel Combustion (Part III). In: "*CO2 emissions from fuel combustion, 2014 Edition*", pp. III.1-III.51. ISBN 978-92-64-21711-9. International Energy Agency, Paris. Internet: http://www.iea.org/W/bookshop/648-CO2_Emissions_from_Fuel_Combustion. EDGAR assessment excludes CO2 emissions from LUCF due to their high variability and uncertainty.
7	GCP, 2014: C. Le Quéré, R. Moriarty, R. M. Andrew, G. P. Peters, P. Ciais, P. Friedlingstein, S. D. Jones, S. Sitch, P. Tans, A. Arneth, T. A. Boden, L. Bopp, Y. Bozec, J. G. Canadell, F. Chevallier, C. E. Cosca, I. Harris, M. Hoppema, R. A. Houghton, J. I. House, A. K. Jain, T. Johannessen, E. Kato, R. F. Keeling, V. Kitidis, K. Klein Goldewijk, C. Koven, C. S. Landa, P. Landschützer, A. Lenton, I. D. Lima, G. H. Marland, J. T. Mathis, N. Metzl, Y. Nojiri, A. Olsen, T. Ono, W. Peters, B. Pfeil, B. Poulter, M. R. Raupach, P. Regnier, C. Rödenbeck, S. Saito, J. E. Sailsbury, U. Schuster, J. Schwinger, R. Séférian, J. Segschneider, T. Steinhoff, B. D. Stocker, A. J. Sutton, T. Takahashi, B. Tilbrook, G. R. van der Werf, N. Viovy, Y.-P. Wang, R. Wanninkhof, A. Wiltshire, and N. Zeng 2014. Global Carbon Budget 2014. Earth System Science Data Discussions, doi:10.5194/essdd-7-521-2014

Countries supported with multilateral agreements

Table A3-10. Multilateral agreements financed through the NICFI fund and partner countries involved, level of disbursement (information retrieved through the websites of the multilateral agencies)

Multilateral programmes[31]	N° of partner countries	Countries with disbursements	Other countries benefitting of training actions	Committed amount in Millions	Invested amount in Millions
Congo Basin Forest Fund[32]	10	8	Multinational projects with actions at Basin level	EUR 85.40	EUR 29.14
Forest Carbon Partnership Facility[33]	47	24	Some activities at global level		USD 34.4
Forest Investment Program[34]	23	8	Some activities at global level	USD 208.1	USD 13.9
UN-REDD Programme Partner countries[35]	23	18	Several activities at global level		USD 53.8
UN-REDD Programme Support National Action	N.A.	25	Several activities at global level		USD 3.59

[31] Bio Carbon Fund identified actions but didn't implement them; GGGI activities included in bilateral countries description.

[32] BAD, 2014, Fonds pour les Forêts du Bassin du Congo: Rapport annuel 2013. Data updated as of December 2013, Values in EURO.

[33] FCPF, FCPF Dashboards November, 2015 and 2014 FCPF Annual Report 2014 and institutional webpage. Data updated as June, 2015. Values in USD.

[34] CIF, CIF DISBURSEMENT REPORT, Annual Report 2014 and institutional webpage. Data updated as December 2014. Values in USD

[35] UN-REDD, Annual reports 2013 and 2013 and institutional webpage. Data on Partner country programme updated as of October, 2015. Data on Support National Action updated as of December, 2013. Values in USD.

Table A3-11. Countries benefitting of multilateral funds financed through NICFI, type of fund, year of partnership and disbursements

Countries	Funds
Argentina	UN-REDD-SNA 2014, USD M 0.19
Bangladesh	UN-REDD-SNA 2013, USD M 0.26
Bhutan	FCPF 2013, USD M 0.64; UN-REDD-SNA 2013, USD M 0.1
Bolivia	UN-REDD-PC 2013, USD M 0.54
Brazil	FIP 2012, USD M 0.4
Burkina Faso	FIP 2012, USD M 0.5
Burundi	CBFF 2012, EUR M 0.09
Cambodia	UN-REDD-PC 2010, USD M 2.88; UN-REDD-SNA 2010, USD M 0.1
Cameroon	FCPF 2008, USD M 1.05; CBFF 2009, EUR M 3.49; UN-REDD-SNA 2013, USD M 0.04
Central African Republic	CBFF 2012, EUR M 0.21
Chile	FCPF 2008, USD M 0.3
Colombia	FCPF 2010, USD M 0.2
Congo	FCPF 2008, USD M 2.54; UN-REDD-PC 2012, USD M 2.97
Congo, DR	FIP 2011, USD M 2.1; FCPF 2008, USD M 5.73; CBFF 2009, EUR M 10.2
Costa Rica	FCPF 2008, USD M 2.45; UN-REDD-SNA 2013, USD M 0.24
Cote d'Ivoire	UN-REDD-PC 2014, USD M 0.18; UN-REDD-SNA 2014, USD M 0.3; FCPF 2013, USD M 0.73
Ecuador	UN-REDD-PC 2011, USD M 3.9
El Salvador	FCPF 2009, USD M 0.19
Equatorial Guinea	CBFF 2012, EUR M 0.15
Ethiopia	FCPF 2008, USD M 1.55
Gabon	CBFF 2011, EUR M 1.43
Ghana	FIP 2012, USD M 0.8; FCPF 2008, USD M 3.39; UN-REDD-SNA 2013, USD M 0.04
Guatemala	UN-REDD-SNA 2013, USD M 0.02
Honduras	UN-REDD-SNA 2014, USD M 0.07
Indonesia	FIP 2012, USD M 0.7; FCPF 2009, USD M 3.17; UN-REDD-PC 2009, USD M 5.45; UN-REDD-SNA 2009, USD M 0.66
Kenya	FCPF 2008, USD M 0.17; UN-REDD-SNA 2013, USD M 0.43
Lao PDR	FIP 2011, USD M 4.1; FCPF 2008, USD M 0.48
Liberia	FCPF 2008, USD M 1.46
Mexico	FIP 2012, USD M 4.7; FCPF 2008, USD M 0.67
Mongolia	UN-REDD-SNA 2014, USD M 0.19
Mozambique	FCPF 2008, USD M 1.85
Myanmar	UN-REDD-SNA 2013, USD M 0.06
Nepal	FCPF 2008, USD M 2.9; UN-REDD-SNA 2013, USD M 0.09
Nicaragua	FCPF 2008, USD M 1
Nigeria	UN-REDD-PC 2011, USD M 2.4
Pakistan	UN-REDD-SNA 2013, USD M 0.11
Panama	UN-REDD-PC 2009, USD M 5
Papua New Guinea	UN-REDD-PC 2010, USD M 4.28; UN-REDD-SNA 2010, USD M 0.1
Paraguay	UN-REDD-PC 2010, USD M 3.17; UN-REDD-SNA 2010, USD M 0.1
Peru	FIP 2013, USD M 0.3
Philippines	UN-REDD-PC 2010, USD M 0.46
Republic of Congo	CBFF 2010, EUR M 1.57
Rwanda	CBFF 2012, EUR M 0.63
Solomon Islands	UN-REDD-PC 2010, USD M 0.48913977
South Sudan	UN-REDD-SNA 2013, USD M 0.05
Sri Lanka	UN-REDD-PC 2012, USD M 1.62; UN-REDD-SNA 2012, USD M 0.01
Sudan	UN-REDD-SNA 2013, USD M 0.03
Suriname	UN-REDD-SNA 2013, USD M 0.17
Tanzania	UN-REDD-PC 2009, USD M 4.13
Thailand	FCPF 2008, USD M 0.2
Togo	FCPF 2013, USD M 0.35
Uganda	FCPF 2008, USD M 1.5
United Nations	UN-REDD-PC 2009, USD M 110.25
Vanuatu	FCPF 2008, USD M 0.31
Viet Nam	FCPF 2008, USD M 1.59; UN-REDD-PC 2009, USD M 4.35; UN-REDD-SNA 2009, USD M 0.12
Zambia	UN-REDD-PC 2010, USD M 4.44

Notes on UNFCCC key COP decisions

"Although deforestation and degradation are the immediate priorities, there is widespread recognition that a future REDD mechanism could have a staggered approach, that phases in degradation and/or enhancement activities at later stages. The rationale behind this approach is mainly practical for reasons including: the political feasibility of negotiations under the UNFCCC with a simpler scope and **the need for developing countries to build capacity in carbon accounting practices" (page 14, § 3.3).**

RED → REDD → REDD+   more complex, the requests of the UNFCCC also in terms of technical and institutional arrangements are high, not looking on how to improve or potentiate existing institutional frameworks.

The major changes can be summarised as (see also report 3.14):

iv.   The focus has moved from carbon only to multiple objectives;

v.   The policies adopted so far are not only, or even primarily, directed at achieving result-based payments;

vi.   The funding to date is mainly from international aid and the national budgets of REDD+ countries, and not from carbon markets, with development implications.

As stated also by the first insights of Study A (pages 5 and 6)

- No quick-fix solutions. REDD+ is complex, demanding complex solutions. Clarification of rights is one of the most pressing issues.

- There is still a huge gap in understanding REDD+. There is a lot of confusion with the voluntary market and the UNFCCC REDD+ as in project based vs national approaches to REDD+ implementation;

- Poor understanding in countries as to what IPCC means and how you apply these guidance notes and methodologies in practice. Wider awareness of IPCC and the available tools is needed to lower costs. There is a growing number of open source (freely available) software and data and these are continually improving, e.g. Google Earth, FAO, Global Forest Watch.

- Design on good understanding of drivers. Should first of all understand why deforestation and degradation is happening? What are the drivers? Who is involved? What are the agents of D&D?

- Knowledge gaps in REDD+ impact, disconnection between literature and field experiences.

Poor understanding of issues is usually leading to more complex approaches.

The NICFI structure (with financing through 4 channels and multiple actors) is also complex, especially when reflected at national level (in 3.14 and personal comment).

However, without Norway REDD+ would not exist today. NICFI has put forests on the agenda again. Complexity is approached in 3 COP decisions:

Simpler approach	COP16/Dec.73	Phased approach
	COP17/Dec.12	Forest definition based on national, sub-national criteria
	COP19/Dec.11	Forest inventories based on national, sub-national criteria

i.   **Decision 1/CP.16 The Cancun Agreements:** Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention

73. Decides that the activities undertaken by Parties referred to in paragraph 70 above should be implemented in phases, beginning with the development of national strategies or action plans, policies and measures, and capacity-building, followed by the implementation of national policies and measures and national strategies or action plans that could involve further capacity-building, technology development and transfer and results-based demonstration activities, and evolving into results-based actions that should be fully measured, reported and verified;

ii.   **Decision 12/CP.17** Guidance on systems for providing information on how safeguards are addressed and respected and modalities relating to forest reference emission levels and forest reference levels as referred to in decision 1/CP.16

11. Acknowledges that subnational forest reference emission levels and/or forest reference levels may be elaborated as an interim measure, while transitioning to a national forest reference emission level and/or forest reference level, and that interim forest reference emission levels and/or forest reference levels of a Party may cover less than its entire national territory of forest area;

Annex Guidelines for submissions of information on reference levels (d).   The definition of forest used in the construction of forest reference emission levels and/or forest reference levels and, if appropriate, in case there is a difference with the definition of forest used in the national greenhouse gas inventory or in reporting to other international organizations, an explanation of why and how the definition used in the construction of forest reference emission levels and/or forest reference levels was chosen. [9th plenary meeting, 10–11 December 2010].

iii.   **Decision 11/CP.19** Modalities for national forest monitoring systems The Conference of the Parties, Recalling decisions 2/CP.13, 4/CP.15, 1/CP.16, 2/CP.17 and 12/CP.17,

4. Further decides that national forest monitoring systems, with, if appropriate, subnational monitoring and reporting as an interim measure as referred to in decision 1/CP.16, paragraph 71(c), and in decision 4/CP.15, paragraph 1(d) should:

(a) Build upon existing systems, as appropriate;

(b) Enable the assessment of different types of forest in the country, including natural forest, as defined by the Party;

(c) Be flexible and allow for improvement;

(d) Reflect, as appropriate, the phased approach as referred to in decision 1/CP.16, paragraphs 73 and 74; [10th plenary meeting 22 November 2013]

The elements to be underlined in Norway's support to the different UNFCCC decisions are:

- The Norwegian approach has been consistent, maintaining interest on the result based approach and the importance of the reduction of GHG emissions and their potential in carbon markets;

- The quality of the technical support provided with key supporting documents in the different COPs;

- The promotion of a relatively flexible and pragmatic approach that has supported:

  - Adoption or development technical modalities (i.e. forest definitions and forest inventories) that can reflect national circumstances;

  - Facilitation of the "phased approach" that that allows participants to develop plans and actions at variable speeds but within a coherent framework.

Annex 4: Methodology

The study reviews key topics from the ToRs and Study B. In the process of the systematic review some additional topics were introduced from Study B and the literature review has taken into account these key topics in the analysis phase. We have combined the topics set out in the ToRs and with the outcomes of the Study B workshop with NICFI, introducing some flexibility into the systematic review. Key topics include:

Additionality, leakage, permanence, MRV, participation, land tenure, benefits sharing, financing – from the ToR question.

In addition to the above, adding the five key topics identified in Study B, which can be of relevance for NICFI (Results Based Finance, environment-poverty, gender, private sector, "hands-off approach").   The basis for the review in the first instance is the literature that has already been collected by this systematic review.

Criteria for the review - indicators

This systematic review study focuses on key indicators of REDD+ along the lines of governance, technical, economics and social. The various elements within each theme of investigation are outlined below:

- Governance – this includes institutions (multi-scalar), power and influence, stakeholder engagement, tenure and carbon rights, policies, laws and strategies.

- Technical – this includes reference emission levels, monitoring, reporting and verification, permanence, additionality and leakage.

- Economics – this includes the implementation costs of REDD+, the opportunity costs.

- Social – community livelihoods, culture, gender, co-benefits, safeguards, trade-offs.   Other key initiatives necessary to inform NICFI's work are included within the topics of investigation. These include FLEGT and CDM plus ICDPs. To avoid a disconnect between the literature on REDD+ and what practitioners of REDD+ are doing we hope to bring to the fore some of the 'disconnects' through this systematic literature review and through identifying the relevance for Study B in particular and future programming of NICFI in general.

Analysis

Thematic: pulls together the findings in the literature using the defined indicators to draw conclusions in terms of 3Es (Equity, Efficiency and Effectiveness) aspects of the key topics and feeds into Study B.

Scope and size of sample of literature and interviews

The first scoping of the literature was a random sample of 50 abstracts from CABI data-base to establish what baseline information was available on REDD+.

The review process commenced by examining possible frameworks available to draw out the various elements necessary to understand REDD+ implementation processes, the outcomes with respect to emissions reductions, costs, benefits and the bigger impact on socio-political systems. The 3Es framework emerged as the best framework based on its ability to capture the various elements of purpose, achieved purpose, progress, quality of outputs and cost effectiveness of REDD+.

The review has been undertaken in parallel with expert interviews to allow a continuous triangulation of the findings from scholarship with the information gleaned from people in the field. In total, 11 interviewees or 'key REDD+ informants' have been engaged. The selection criteria for "key informants" were based on: gender, region, expertise, and stakeholder type. Interviews were piloted and questions revised; two questions were removed whilst others were rephrased. One new question was added (Question O) to capture a pertinent area of inquiry. See appendix for extended list of interviewees and the list of interview questions.

The scope of the review has included relevant research, systematic reviews and syntheses of re- search and evaluations relevant for REDD+ in published and grey literature, and not limited to the research financed by NICFI/Norway. Evidence relevant for REDD+ may also include insights from research on other initiatives, for example Forest Law Enforcement, Governance and Trade (FLEGT), Clean Development Mechanism (CDM) and other initiatives, as well as other research of relevance. Both qualitative and quantitative research is considered. We also include insights from members of the contracted evaluation team to get an overview of relevant research.

We adopted a systematic review process to answer the sub-questions identified in the TOR (see appendix). Based on the wordings of the overarching question, we identified preliminary key search terms and 'synonyms' (in the table below) to search for literature in databases, on the web and online libraries. The review process comprised a three-tier approach: systematic search, critical appraisal and synthesis. Within each tier, we followed various steps as specified by Pickering and Byrne (2013). All steps and stages of the review were documented to ensure robustness in findings if similar approach is pursued.

Table A4-1. Key search terms and 'synonyms'.

Category 1	Category 2	Category 3
REDD+	Governance	Develop*
Avoided deforestation	Institutions	Benefits
Results based finance	Participate*	Change
Climate mitigation	Engage*	Sustain*
Payment for environmental services	Monitor	Costs
CDM	Measurement	
FLEGT	Enforcement	Risks
	Capacity	Poverty
	Hands-off approach	Gender

We have used key words above in the order of all combinations of category 2 and category 3 with REDD+. Various forms of the truncated (*) key words were used (Benefits/improvements). For example, sustain* included 'sustainable', 'sustainability' as the search items. All combinations of searches used the Boolean logic 'AND'. The literature sourced was from 1997, ten years before NICFI initialized, to present day 2015. Databases searched include: Science Direct, Web of Science, Google Scholar, Google and CABI. We have read all abstracts of the papers sourced from the databases to pick out the essential ones to be included for the in-depth review. Both peer review literature and grey literature are sourced in the review. Our sources under Study A are secondary (empirical and theoretical), conceptual and anecdotal derived from REDD+

expert interviews. The types of sources covered specifically include peer-reviewed journals, reports, and websites of key organisations, case studies and project documentation. Part of the team is sourcing the peer review literature from 1997-2015. The other half of the team is looking at grey literature from a sample of ten selected key organizations.

Sampling strategy

The sampling strategy for literature was based on the inclusion criteria of 1) empirical peer- reviewed REDD+ research 2) empirical peer-reviewed forest carbon initiative like CDM 3) not general forest governance research. For interviews, we adopted a criterion sampling of key experts and organizations in the area of REDD+, land use, climate change on an initial profiling of interviewees and supported with snowball sampling approach to identify other experts in the field. We aimed as far as possible to cover a balance of gender, region, expertise, and stakeholder type.

Structure of the review

The first search has generated a large volume of papers and grey material, which we have filtered down to a smaller number based on the second inclusion criteria. As the second criteria, we have adapted 3Es under a broader framework of political economy to serve as an analytical lens for reviewing the final set of papers. This would allow us to examine the critical list of sub-questions posed in the TORs.

The process of the actual review and analysis has been organized and captured in a database created in Microsoft Excel. The first 10% of papers will be entered into the database in an iterative process that tests and revises categories for capturing findings that answer the research questions. Once the database is reviewed to capture all the necessary components, the bulk of papers will be evaluated and entered into the database. As part of the last tier, gaps in research will be identified and findings synthesized for a comprehensive overview of REDD+ (see Filtering Matrix). We will also critically appraise the quality of the studies by drawing on well-established guidelines (e.g. those provided by the Department for International Development, UK).

The systematic approach further helps us to capture details of geographic spread of REDD+ projects and the scholarship that exists for which regions. We will obtain insights from the leading authors in the field through the review.

The review and analysis of the selected papers that passed the inclusion criteria will be within the 3e's framework (see Excel spreadsheet).

Modus operandi for the analysis

- We prepared a matrix that presents a distribution of the material collected so far along two dimensions: key topics and indicators (table 4).

- We identified the key topics of relevance for NICFI with feedback from Study B.

- We identified the gaps (empty cells) in the literature collected for a 10% sample of peer review articles.

In the inception report - for a relevant topic where one has a critical mass of information:

- We provide abstracts of the literature tested in the prototype (see attachment)

- We provide a prototype of the analyses in terms of 3e for the relevant topic

In order to filter the long list of articles to a short list and to attain balance between the empirical and theoretical literature we devised a prototype matrix (table 4) by which we could identify across the literature which key indicators (4) were reflected in the key topics (8) outlined earlier. This helped us to filter down the key topics covered in the literature, specifically the empirical literature and its coverage of the key topics. From the literature on these topics/indicators we should be able to draw conclusions on the three Es and make some evaluation of how relevant these conclusions are to NICFI. This way we may provide sufficient linking into Study B and future programming of NICFI.

The prototype has been tested with a random sample of 15 peer-review articles (10% sample of the peer-review literature). We selected abstracts randomly and read 15-peer review articles assessing the number of times these key words in the topics and indicators were mentioned.

In summary, of the 15 randomly sampled articles the core issues clustered around: participation and governance, financing and governance/economics, and to a slightly lesser extent topics of MRV, leakage and additionality, land tenure, benefits sharing, poverty, gender, RBF and private sector. Permanence scored quite low and hands-off approach did not appear in this sample. From this test we decided to introduce the topic hands-off approach in our search terms. This test provides a prototype of the analyses in terms of 3es for the relevant topic.

Limitations: topics not covered in the matrix which emerged in the prototype test articles included: policies and measures, law, democracy, transparency, reference emissions levels, safeguarding, agency, scale, drivers of deforestation, co-benefits and nested-governance.

Table A4-1: Matrix that presents a distribution of the material collected so far along two dimensions: key topics and indicators. Dark grey = highest number of mentions, medium grey = middle number of mentions, and light grey = lowest number of mentions in our sample.

Topics or Indicators	Additionality	Leakage	Permanence	MRV	Participation	Land tenure	Benefits sharing	Financing	Poverty	Gender	RBF	Private sector	Hands-off approach
Governance	light grey	medium grey	light grey	.	dark grey	medium grey	light grey	dark grey		light grey	medium grey	light grey	
Technical	light grey			light grey									
Economics	light grey				light grey		light grey	dark grey	light grey			light grey	medium grey
Social				medium grey	light grey	medium grey	light grey	medium grey	medium grey	light grey	light grey		

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Annex 5: References and abstracts

Peer reviewed literature

Pilot project reviews

Atela, J. O., Quinn, C. H., Minang, P. a., & Duguma, L. a. (2015). Implementing REDD+ in view of integrated conservation and development projects: Leveraging empirical lessons. Land Use Policy, 48, 329–340. doi:10.1016/j.landusepol.2015.06.011
There are diverse lessons that subnational projects designed to reduce emissions from deforestation and forest degradation (REDD+) should learn from integrated conservation and development projects (ICDPs) working in developing country settings. This paper develops and applies a lesson learning framework to identify and analyse lessons that the Kasigau REDD+ project learns from a governmental ICDP (national park) and a nongovernmental ICDP (World Vision) that have been implemented in Taita-Taveta county, Kenya. Fieldwork and document reviews revealed 24 lessons drawn from both positive and negative ICDP experiences. At the design level, the REDD+ project maintained the commonly critiqued top-down intervening approach as used by the ICDPs by excluding community input into its globally-linked design. At the implementation level, the REDD+ project promoted better community representation in project decisions and benefit sharing when compared to the ICDPs. A landscape approach, democratic institutional choices and pro-poor benefit sharing were the key interventions that enabled the REDD+ project to improve on the ICDP experiences. The usefulness of the ICDP experiences was however weakened by a lack of direct consultative platform between the projects. The REDD+ project relied mainly on the local community to learn from ICDP experiences, but this led to partial implementation deficits by promoting local participation interests over global mitigation goals. Further, community-driven lesson learning appeared to disconnect the project from State institutions that the community perceived negatively due to past resource centralization regimes. These State institutions are however the legal custodians of most assets (such as land) required for REDD+ implementation. ICDP lessons are therefore necessary for effective REDD+ implementation but can only be useful if the process of adopting lessons is cognizant of relevant stakeholders such as the State.

Awono, A., Somorin, O. a., Eba'a Atyi, R., & Levang, P. (2014). Tenure and participation in local REDD+ projects: Insights from southern Cameroon. Environmental Science and Policy, 35, 76–86. doi:10.1016/j.envsci.2013.01.017
The new climate change mitigation scheme for developing countries known as Reducing Emissions from Deforestation and Forest Degradation (REDD+) has been proposed as a way of reducing carbon emissions in the forest sector, whilst also protecting and improving the livelihoods and wellbeing of communities. This paper argues that it is important to resolve tenure ambiguity and ensure that communities participate in the REDD+ process by engaging them in project development and implementation. Drawing on data collected in six villages under two REDD+ projects targeted in Cameroon, this paper addresses four questions: (1) What are the tenure conditions at the two study sites? (2) How have the project proponents perceived the tenure and other challenges and how do they plan to address those challenges? (3) What have the proponents done to engage communities in the process of establishing REDD+? (4) Are communities informed about and satisfied with the process of establishing REDD+? The paper shows that while the proponents have worked to resolve tenure issues and engage communities, there is still frustration among project participants because of a lack of progress toward implementing compensation and benefit sharing system. The paper concludes that it is crucial to safeguard the rights, access and participation of local communities, and benefits to them, throughout the design and implementation of REDD+ projects.

Bourgoin Castella, J.-C., Hett, C., Lestrelin, G., Heinimann, A.,J., Bourgoin, J., Castella, J., Hett, C., Lestrelin, G., & Heinimann, A. (2013). Engaging Local Communities in Low Emissions Land-Use Planning : a Case Study from Laos. Ecology And Society, 18(2), -. doi:10.5751/ES-05362-180209
Reducing Emissions from Deforestation and Forest Degradation and enhancing forest carbon stocks (REDD+) is a performance-based payment mechanism currently being debated in international and national environmental policy and planning forums. As the mechanism is based on conditionality, payments must reflect land stewards' level of compliance with carbon-efficient management practices. However, lack of clarity in land governance and carbon rights could undermine REDD+ implementation. Strategies are needed to avoid

perverse incentives resulting from the commoditization of forest carbon stocks and, importantly, to identify and secure the rights of legitimate recipients of future REDD+ payments. We propose a landscape- level approach to address potential conflicts related to carbon tenure and REDD+ benefit sharing. We explore various land-tenure scenarios and their implications for carbon ownership in the context of a research site in northern Laos. Our case study shows that a combination of relevant scientific tools, knowledge, and participatory approaches can help avoid the marginalization of rural communities during the REDD+ process. The findings demonstrate that participatory land-use planning is an important step in ensuring that local communities are engaged in negotiating REDD+ schemes and that such negotiations are transparent. Local participation and agreements on land-use plans could provide a sound basis for developing efficient measurement, reporting, and verification systems for REDD+.

Brockhaus, M., & Di Gregorio, M. (2014). National REDD + policy networks: from cooperation to conflict. Ecology and Society, 19(4), 14. doi:10.5751/ES-06921-190414
Reducing emissions from deforestation and forest degradation (REDD+) is a financial mechanism aimed at providing incentives to reduce carbon emissions from forests and enhance carbon stocks. In most forest-rich developing countries, policy actors, i.e., state and nonstate as well as international and national, are designing national REDD+ policies. Actors' interests and beliefs shape patterns of interactions, ranging from cooperation to conflict, and these interactions influence a country's direction and progress in REDD+ policy formulation and implementation. We used a comparative policy network approach to analyze the power structures in national REDD+ policy domains in seven countries. We drew on the typology of power structures defined by two dimensions, namely the distribution of power in the policy arena and the dominant type of interaction, cooperative or conflictual, among actors, and we mapped the progress of national REDD+ decision-making processes against these power structures. We tested three hypotheses and found that (1) national ownership over the policy process is a prerequisite for progress. In addition, (2) the level of concentration of power in an actor group can facilitate progress in REDD+; however, particularly when concentration of power is high, progress will be possible only if the interests of the most powerful are aligned with the objectives of REDD+ and address the drivers of deforestation and forest degradation. Furthermore, (3) although cooperation is perceived as ideal in any collective decision-making setting, a certain level of conflict is necessary for progress in REDD+ decision making. This applies particularly in more advanced national REDD+ domains, where, following a honeymoon phase during which most policy actors embrace the broad idea of REDD+, policy decisions must deal with difficult realities associated with negotiating established business-as-usual interests, which entails high political costs.

Cerbu, G. a., Sonwa, D. J., & Pokorny, B. (2013). Opportunities for and capacity barriers to the implementation of REDD+ projects with smallholder farmers: Case study of Awae and Akok, Centre and South Regions, Cameroon. Forest Policy and Economics, 36, 60–70. doi:10.1016/j.forpol.2013.06.018
There is increasing consensus over the inclusion of smallholder farmers in REDD+ (Reduced Emissions through reduced Deforestation and Degradation) initiatives, expected to be one essential component within the new set of "Flexible Mechanisms" in the post-Kyoto Climate Change Agreement. However, with few long-term REDD+ pilot projects implemented with smallholders, this paper attempts to anticipate potential synergies and constrains of such initiatives from smallholders' point of view by developing a framework to examine the capacities of two rural communities in Cameroon as a case study. Smallholder experiences with REDD+ pilots and their predecessors such as integrated conservation and development projects (ICDPs), Payments for Environmental Services (PES) and the Clean Development Mechanism's Afforestation/Reforestation Projects (CDM AR), are outlined in order to highlight local-level REDD+ project requirements. This paper assesses the capacity for smallholders in the South and Centre Provinces of Cameroon to respond to these requirements through data collected from individual and small-group key informant interviews. The two case study communities possess similar but different livelihood capitals regarding proximities to market, forest cover, livelihood strategies and access to extension services. For both villages smallholder capacity for future REDD+ project adoption was found to require reinforcement to guarantee local feasibility of REDD+ projects. Possibilities to encourage already in use agroforestry systems under a REDD+ scheme are discussed. From these results, we outline recommendations, areas of concern and key targets for capacity building for future REDD+ initiatives with small- holders in rural Africa.

Pfaff, A., Robalino, J., Lima, E., Sandoval, C., & Herrera, L. D. (2014). Governance, Location and Avoided Deforestation from Protected Areas: Greater Restrictions Can Have Lower Impact, Due to Differences in Location. World Development, 55, 7–20. doi:10.1016/j.worlddev.2013.01.011
For Acre, in the Brazilian Amazon, we find that protection types with differences in governance, including different constraints on local economic development, also differ in their locations. Taking this into account, we

estimate the deforestation impacts of these protection types that feature different levels of restrictions. To avoid bias, we compare these protected locations with unprotected locations that are similar in their characteristics relevant for deforestation. We find that sustainable use protection, whose governance permits some local deforestation, is found on sites with high clearing threat. That allows more avoided deforestation than from integral protection, which bans clearing but seems feasible only further from deforestation threats. Based on our results, it seems that the political economy involved in sitting such restrictions on production is likely to affect the ability of protected areas to reduce emissions from deforestation and degradation.

Reimer, F.; Börner, J.; Wunder, S. 2012: Monitoring deforestation for REDD: An overview of options for the Juma Sustainable Development Reserve Project. Technical Bref no. June 2012. Amazonas Sustainable Foundation, Manaus, Brazil.
No abstract available.

Yananoshita, M.Y. and M. Amano 2011: Capacity development of local communities for project sustainability in Afforestation and Reforestation Clean Development Mechanism. Mitig Adapt Strateg Global Change (2012) 17: 425-440.
It has been recognized that the involvement of local community is essential to ensure the sustainability of A/R CDM (afforestation/reforestation clean development mechanism) project. This study verifies if the risks of non-permanence and leakage are addressed in a registered small scale A/R CDM project in Vietnam. Workshops, interviews, and a questionnaire survey of local villagers revealed that the project has caused a shortage of land for conventional activities such as grazing, fuel wood collection and shifting cultivation, and consequently posed the risks of project non-permanence and leakage. It is suggested that participation of all stakeholders in the community to the A/R CDM project beyond existing land tenure and adequate carbon benefit sharing according to the level of contribution to the project are required to reduce the risk of non permanence. To ensure the participation, the community should have capability such as consensus building and collective action. Leakage would be minimized if the community has alternative measures to the conventional activities before starting the project. We argue that it is necessary to first develop a community's capabilities in the readiness phase of any A/R CDM project in order to reduce the risks for the project sustainability, and that new sources of funding are needed for this purpose.

National and regional reviews

Aggarwal, A. (2014). How sustainable are forestry clean development mechanism projects?-A review of the selected projects from India. *Mitigation and Adaptation Strategies for Global Change*, *19*, 73–91. doi:10.1007/s11027-012-9427-x
This paper analyses social, economic and ecological issues affecting sustain- ability of the four selected forestry clean development mechanism (CDM) projects from India. Data from the group discussions and stakeholder interviews suggest that three out of the four projects are economically unsustainable for local people because of high opportunity cost of land and labour, and delayed and low benefits. The average opportunity cost of the land is 20000, 12000 and 9000 INR/ha/year in case of Haryana, Himachal Pradesh and Tamil Nadu, India projects respectively, which is unlikely to be met through projected carbon revenues and other benefits. A significant number of farmers have already withdrawn their private lands in Haryana and Tamil Nadu projects. Very few of them have undertaken plantations on the private lands in the Himachal project. All the four projects have undertaken block plantations of predominantly fast growing species such as Eucalyptus (Eucalyptus hybrid), Casuarina (Casuarina equisettifolia) and Ailanthus (Ailanthus excelsa) for high growth and quick returns, which could have adverse social and ecological impacts over long term. There are social and institutional issues such as low participation of local communities, weak or non-existing community institutions, inflexible design and rigid CDM rules, which affect sustainability of these projects. It has implications for other carbon forestry programmes such as Green India Mission and Reducing Emissions from Deforestation and Degradation (REDD+) being rolled out at a large scale in the country. The rationale and significance of these programmes needs to be objectively reexamined in context of the issues affecting CDM projects.

Aguilar-Støen, M. (2015). Global forest conservation initiatives as spaces for participation in Colombia and Costa Rica. *Geoforum*, *61*, 36–44. doi:10.1016/j.geoforum.2015.02.012
This paper investigates the spaces for participation that have been created by readiness preparations launched in connection with the international initiative ''Reduced Emissions from Deforestation and Forest Degradation'' (REDD+) in Colombia and Costa Rica. I analyse the emergence of these spaces and who is leading the process in each country. My findings indicate that in Costa Rica, the public sector is leading preparation activities and creating the public spaces for participation in REDD to which private actors are invited. In Colombia on the other hand, NGOs, development assistance agencies and other pri- vate actors are leading the process and the state

is the invited actor. I identify four factors that determine the scope of different actors' possibilities to participate in the REDD+ spaces. These are (a) control of key resources, (b) ideological affinity, (c) the creation and dissemination of information and knowledge, and (d) the creation of norms to validate REDD+ pilot initiatives. The separation between these factors is not clear-cut and consequently they reinforce each other at different levels. The research presented here con- tributes to a better understanding of the implications that national REDD+ politics may have in the future functioning of the programme.

Agung, P., Galudra, G., Van Noordwijk, M., & Maryani, R. (2014). Reform or reversal: the impact of REDD+ readiness on forest governance in Indonesia. *Climate Policy*, *14*(6), 748–768. **doi:10.1080/14693062.2014.941317**

Indonesia has turned its alleged role as global leader of land-based carbon emissions into a role as a global trailblazer exploring modalities for Reducing Emissions from Deforestation and Forest Degradation (REDD+). REDD+ readiness is largely about improving forest governance, but this itself is a multilayered concept. This article analyses how the processes and practices of REDD+ readiness are leading to various forest governance reforms in Indonesia. We analysed six dimensions of REDD+ readiness progress over the past six years and the way these interact with land tenure reform and land-use planning. We found evidence that (1) tenure issues are taken more seriously, as evidenced by the development of social safeguard mechanisms and efforts to accelerate the gazettement of forest boundaries, although a constitutional court recognition in 2013 for customary forest management is, however, yet to be operationalized; (2) spatial planning relates forests more clearly to other parts of the land- scape in terms of compliance with Nationally Appropriate Mitigation Actions (NAMAs) commitments; and (3) the forest and peatland conversion moratorium initiative led to a revamping of forest management. Despite progress, there are still major obstacles to full REDD+ implementation in Indonesia. The discussion focuses on the weaker part of readiness and possible ways forward.

Aquino, A., & Guay, B. (2013). Implementing REDD+ in the Democratic Republic of Congo: An analysis of the emerging national REDD+ governance structure. *Forest Policy and Economics*, *36*, 71–79. **doi:10.1016/j.forpol.2013.04.003**

The national governance structure for REDD+ refers to the institutions, processes, decision-making mechanisms that enable the country to channel resources from the international level to measures on the ground that address the drivers of deforestation. The emerging national governance structure for REDD+ in DRC has a hybrid nature, combining the establishment of a national REDD+ fund and independent REDD+ projects at the local level. The authors argue that, in the DRC context, the legitimacy and effectiveness of this emerging governance structure is higher than that of other options. This hybrid structure would experience a fairly high level of legitimacy from government entities, civil society organizations and private sector given its participatory design and broad accessibility to funding for different stakeholders. This structure would be more effective in that it allows the country to target both underlying causes of deforestation through international payments conditioned to policy reforms through the National REDD+ Fund; and direct drivers of deforestation through REDD+ projects. The efficiency of the system is difficult to assess at present, as it is not yet known what type of activities would be supported by the National REDD + Fund or what REDD + projects would be implemented. However, this governance structure is likely to attract more financing to REDD, both from donors and private sector. The authors suggest that institutional and policy indicators should be used to measure and reward REDD + "performance" at a national level in lieu of emissions reductions in the REDD+ investment phase, paving the way for DRC to capture payments for verified emissions reduction in the long term. Informing policy reforms through project interventions is a key element of this governance structure, and particularly important in a country where deforestation rates may increase dramatically in the future given new emerging pressures. The authors recognize, however, that structural policy changes will face vigorous opposition from vested interests, and implementation challenges typical of a fragile state.

Asare, R. a, Kyei, A., & Mason, J. J. (2013). The community resource management area mechanism: a strategy to manage African forest resources for REDD+. *Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences*, *368*(1625), 20120311. **doi:10.1098/rstb.2012.0311**

Climate change poses a significant threat to Africa, and deforestation rates have increased in recent years. Mitigation initiatives such as REDD+ are widely considered as potentially efficient ways to generate emission reductions (or removals), conserve or sustainably manage forests, and bring benefits to com- munities, but effective implementation models are lacking. This paper presents the case of Ghana's Community Resource Management Area (CREMA) mechanism, an innovative natural resource governance and landscape-level planning tool that authorizes communities to manage their natural resources for economic and livelihood benefits. This paper argues that while the CREMA was originally developed to facilitate community-based wildlife management and habitat protection, it offers a promising community-based structure and process for managing African forest resources for REDD+. At a theoretical level, it conforms to the ecological, socio-cultural

and economic factors that drive resource-users' decision process and practices. And from a practical mitigation standpoint, the CREMA has the potential to help solve many of the key challenges for REDD+ in Africa, including definition of boundaries, smallholder aggregation, free prior and informed consent, ensuring permanence, preventing leakage, clarifying land tenure and carbon rights, as well as enabling equitable benefit-sharing arrangements. Ultimately, CREMA's potential as a forest management and climate change mitigation strategy that generates livelihood benefits for smallholder farmers and forest users will depend upon the willingness of African governments to support the mechanism and give it full legislative backing, and the motivation of communities to adopt the CREMA and integrate democratic decision-making and planning with their traditional values and natural resource management systems.

Astuti, R., & McGregor, A. (2015). Governing carbon, transforming forest politics: A case study of Indonesia's REDD+ Task Force. *Asia Pacific Viewpoint*, *56*(1), 21–36. doi:10.1111/apv.12087

The Reducing Emissions from Deforestation and Forest Degradation Plus (REDD+) programme seeks to reshape the way we value, govern and interact with forests. Rather than managing forests according to interests in timber, conservation, land or livelihoods, REDD+ encourages forms of forest management that prioritise carbon. While international negotiations are shaping the rules of the programme, how it takes place on the ground will depend on its interpretation and implementation in different places. In this paper, we are interested in how the REDD+ Task Force (Satgas REDD+), an ad hoc body formed by presidential decree to design and implement REDD+ readiness activities in Indonesia, has attempted to mainstream the programme from 2010 to 2013. We develop a governmentality approach to focus on how the Task Force sought to introduce REDD+ carbon rationalities to forest politics. Based on extended ethnographic research, we identify three strategies: adopting and promoting the carbon discourses circulating among global REDD+ com- munities; making carbon visible and governable through mapping technologies; and implementing participatory technologies to encourage pro-REDD+ subjectivities. In some ways, the Task Force has been successful in building awareness about forest carbon among forest stakeholders in Indonesia. National civil society organisations, in particular, appear to be supportive of REDD+; however, they emphasise 'co-benefits' framed as 'Beyond Carbon', informed by social and environmental justice. For others, however, forests remain sources of timber and land, and new strategies are required if REDD+ is to have substantial impacts on forest governance in Indonesia. The Task Force's efforts reveal the difficult and contested processes through which global climate change programmes come to be embedded in national arenas.

Babon, A., Mcintyre, D., Gowae, G. Y., Gallemore, C., Carmenta, R., & Gregorio, M. Di. (2014). Advocacy coalitions , REDD + , and forest governance in Papua New Guinea : how likely is transformational change ? *Ecology and Society*, *19*(3), 16. doi:10.5751/es-06486-190316

Tropical forests in developing countries are increasingly being valued for their role in carbon sequestration. Such interest is reflected in the emergence of international initiatives for Reducing Emissions from Deforestation and Forest Degradation (REDD+). REDD+ requires addressing both tropical forests as complex social-ecological systems and the multiple sectors involved in tropical forest resources, which may necessitate transformational change away from business-as-usual approaches to forest governance. We studied the potential for REDD+ to mobilize an influential coalition of actors promoting transformational change in forest governance in Papua New Guinea (PNG), a leading proponent of REDD+ internationally. Combining policy network approaches with the advocacy coalition framework, we identified four advocacy coalitions in the REDD+ policy domain in PNG and estimated the influence of each coalition. We found the most influential advocacy coalition is promoting the status quo rather than governance reforms capable of reducing deforestations and forest degradation, leading us to suggest that business as usual is the dominant perspective in the REDD+ policy domain in PNG. This may explain why, despite the large amount of REDD+ rhetoric, there has been only modest change in formal policy or practice in PNG to date. However, we did find influential coalitions calling for transformational change. Although these are currently minority coalitions, we identified several pathways through which they could increase their power to realize transformational change.

Bae, J. S., Kim, Y.-S., Fisher, L., Moeliono, M., & DeShazo, J. (2014). Promises and Perils of Decentralized Forest Governance: The Case of Indonesia's Forest Management Units in Reducing Emission from Deforestation and Forest Degradation (REDD+). *Society & Natural Resources*, *27*(12), 1346–1354. doi:10.1080/08941920.2014.945061

Indonesia's forest management unit (Kesatuan Pengelolaan Hutan or KPH) system can be a promising mechanism for balancing international and national interests for global carbon mitigation initiatives with local interests in project implementation. We discuss the potential role of the KPH system in implementing REDD+ (Reducing Emission from Deforestation and Forest Degradation) projects and improving decentralized forest governance. Substantial financial gains from inter- national initiatives like REDD+ and others can provide appropriate motivation for the central government to ensure successful decentralization of forest management.

Development and implementation of REDD activities can also support the KPHs in performing their basic functions: conducting forest inventory, developing and implementing forest management plans, and strengthening communication and coordination with local communities. However, engaging indigenous peoples and local communities, which is a legal mandate for the system, will require building some measure of democratic process that can hold the KPHs accountable to local people.

Barbier, E. B., & Tesfaw, A. T. (2012). Can REDD+ save the forest? The role of payments and tenure. *Forests*, **3(4), 881–895. doi:10.3390/f3040881**
A recent policy response to halting global forest deforestation and degradation, and any resulting greenhouse gas emissions is REDD+, which also includes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks. Although still in its infancy, the success of REDD+ will depend significantly on whether it can be economically viable and if any resulting payments are sufficient to cover the opportunity cost plus any transaction cost. Where tenure security over forest is weak, REDD+ can pose a risk for forest communities, who could be dispossessed, excluded and marginalized. This review of existing studies explores how payment for avoided deforestation, and forest tenure impact the success of REDD+ projects in terms of effectiveness, efficiency and equity. Effectiveness refers to the difference between deforestation with and without REDD+, efficiency refers to avoiding deforestation at minimal cost, and equity refers to the implication of REDD+ on benefit sharing. We conclude that the potential success or failure of REDD+ as a means to reduce deforestation and carbon emission on forest commons depends critically on designing projects that work within existing informal tenure institutions to ensure that carbon storage benefits align with livelihood benefits.

Barr, C. M., & Sayer, J. a. (2012). The political economy of reforestation and forest restoration in Asia–Pacific: Critical issues for REDD+. *Biological Conservation*, *154*, 9–19. **doi:10.1016/j.biocon.2012.03.020**
Under REDD+, the enhancement of carbon stocks through reforestation and restoration of degraded forest landscapes offers considerable potential benefits. In the Asia–Pacific region, however, many previous reforestation and forest restoration initiatives have exacerbated existing inequities by concentrating resources among powerful political and economic actors, often to the detriment of forest-dependent communities. Both in design and implementation, tree-planting programs have been guided by forest rent distribution practices of state forestry bureaucracies and by corporate accumulation strategies linked to increasingly globalized commodity chains. This article examines the political economy of reforestation and forest restoration programs in Asia– Pacific and highlights governance challenges these pose. In various contexts, they have: consolidated the control of state agencies and corporate actors over 'degraded' forest landscapes, often resulting in the displacement of rural communities;   exacerbated economic disparities by channelling large capital subsidies and resource rents to companies with close ties to state elites;   facilitated corruption and financial fraud, in some cases on a grand scale;   accelerated biodiversity loss by creating perverse incentives for the conversion of 'degraded' secondary forests; and   generated mixed results for rural small-holders, at times locking them in inequitable agreements with   plantation companies, and in other cases, offering enhanced tenure security.   To avoid the negative results of earlier reforestation schemes, REDD+ must incorporate: (1) rights- based spatial planning; (2) equitable and accountable distribution of financial incentives; (3) improved financial governance to prevent corruption and fraud; (4) policy reform to remove perverse incentives for forest conversion; (5) strengthening of economic benefits and safeguards for smallholders.

Bastakoti, R. R., & Davidsen, C. (2014). REDD+ and forest tenure security: concerns in Nepal's community forestry. *International Journal of Sustainable Development & World Ecology*, *21*(February 2015), 168–180. doi:10.1080/13504509.2013.879542
As one of the dominant large-scale mechanisms proposed to combat climate change, biodiversity loss, and rural poverty, REDD+ (Reducing Emissions from Deforestation and Forest Degradation) has added further complexity to the challenging governance of rights and resources in global forests. As REDD+ is commodifying carbon, concerns emerge about how carbon ownership and its rights can be accommodated into the existing framework that governs local forest resource rights. The Nepalese government has formally entered into REDD+ policy preparations, but it lacks clear legal provisions regarding key forest tenure rights such as carbon ownership, benefit sharing, and the political participation of community forest user groups from national to local. As a result, Nepal's policy process points toward performance-based carbon forestry in a way that may undermine and weaken existing community tenure rights and forest tenure security. This paper discusses Nepal's potential impacts of new REDD+ and carbon ownership arrangements on forest tenure security and community-based forest governance. In a threefold methodological approach, the paper presents three scenarios for a REDD+-oriented tenure reform within the existing framework and assesses their concerns through in-depth qualitative interviews with key stakeholders, representatives, and advocates of Nepal's

community forestry system, complemented by a review of government documents and academic literature of REDD+ lessons so far. The analysis identifies critical concerns for forest tenure security, state-community power relationships, and effective local institutions of the commons, and suggests that Nepal's REDD+ process is taking place at a particularly consequential time for structural changes of the forest governance framework.

Beymer-Farris, B. a., & Bassett, T. J. (2012). The REDD menace: Resurgent protectionism in Tanzania's mangrove forests. *Global Environmental Change*, 22(2), 332–341. doi:10.1016/j.gloenvcha.2011.11.006

Reduced Emissions from Deforestation and Degradation (REDD+) is being proclaimed as "a new direction in forest conservation" (Anglesen, 2009: 125). This financial incentives-based climate change mitigation strategy proposed by the UNEP, World Bank, GEF and environmental NGOs seeks to integrate forests into carbon sequestration schemes. Its proponents view REDD+ as part of an adaptive strategy to counter the effects of global climate change. This paper combines the theoretical approaches of market environmentalism and environmental narratives to examine the politics of environmental knowledge that are redefining socio-nature relations in the Rufiji Delta, Tanzania to make mangrove forests amenable to markets. Through a case study of a "REDD-readiness" climate change mitigation and adaptation project, we demonstrate how a shift in resource control and management from local to global actors builds upon narratives of environmental change (forest loss) that have little factual basis in environmental histories. We argue that the proponents of REDD+ (Tanzanian state, aid donors, environmental NGOs) underestimate the agency of forest-reliant communities who have played a major role in the making of the delta landscape and who will certainly resist the injustices they are facing as a result of this shift from community-based resource management to fortress conservation.

Bottazzi, P., Crespo, D., Soria, H., Dao, H., Serrudo, M., Benavides, J. P., … Rist, S. (2014). Carbon Sequestration in Community Forests: Trade-offs, Multiple Outcomes and Institutional Diversity in the Bolivian Amazon. *Development and Change*, 45(1), 105–131. doi:10.1111/dech.12076

Carbon sequestration in community forests presents a major challenge for the Reducing Emissions from Deforestation and Forest Degradation (REDD+) programme. This article uses a comparative analysis of the agricultural and forestry practices of indigenous peoples and settlers in the Bolivian Amazon to show how community-level institutions regulate the trade-offs between community livelihoods, forest species diversity, and carbon sequestration. The authors argue that REDD+ implementation in such areas runs the risk of: 1) reinforcing economic inequalities based on previous and potential land use impacts on ecosystems (baseline), depending on the socio-cultural groups targeted; 2) increasing pressure on land used for food production, possibly reducing food security and redirecting labour towards scarce off- farm income opportunities; 3) increasing dependence on external funding and carbon market fluctuations instead of local production strategies; and 4) further incentivising the privatization and commodification of land to avoid transaction costs associated with collective property rights. The article also advises against taking a strictly economic, market-based approach to carbon sequestration, arguing that such an approach could endanger fragile socio-ecological systems. REDD+ schemes should directly support existing efforts towards forest sustainability rather than simply compensating local land users for avoiding deforestation and forest degradation.

Brockhaus, M., Di Gregorio, M., & Mardiah, S. (2014). Governing the design of national REDD+: An analysis of the power of agency. *Forest Policy and Economics*, 49, 23–33. doi:10.1016/j.forpol.2013.07.003

This paper investigates how three aspects of governance systems, namely the policy context, the influence of key agents and their discursive practices, are affecting national-level processes of policy design aimed at REDD+, reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries. We conducted analysis in six REDD + countries (Brazil, Cameroon, Indonesia, Nepal, Papua New Guinea and Vietnam). The paper combines three methods: policy analysis, media-based discourse analysis and policy network analysis. The paper shows that policies both within and outside the forestry sector that support deforestation and forest degradation create path dependencies and entrenched interests that hamper policy change. In addition, most dominant policy coalitions do not challenge business-as-usual trajectories, reinforcing existing policy and political structures. No minority policy coalitions are directly tackling the root causes of deforestation and forest degradation, that is, the politico-economic conditions driving them. Instead they focus on environmental justice issues, such as calls for in- creased participation of indigenous people in decision-making. Only in two of the six countries are these transformational change coalitions vocal enough to be heard, yet to exercise their agency effectively and to support more substantial reforms, these coalitions would need the participation of more influential policy actors, particularly state agencies that have the authority to make binding decisions about policy. Furthermore, discourses supporting transformational change would need to be reflected in institutional practices and policy decisions.

Brofeldt, S., Theilade, I., Burgess, N. D., Danielsen, F., Poulsen, M. K., Adrian, T., … Widayati, A. (2014). Community monitoring of carbon stocks for REDD+: Does accuracy and cost change over time? *Forests*, *5*(8), 1834–1854. doi:10.3390/f5081834**

Reducing emissions from deforestation and forest degradation in developing countries, and the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks in developing countries (REDD+) is a potentially powerful international policy mechanism that many tropical countries are working towards implementing. Thus far, limited practical consideration has been paid to local rights to forests and forest resources in REDD+ readiness programs, beyond noting the importance of these issues. Previous studies have shown that community members can reliably and cost-effectively monitor forest biomass. At the same time, this can improve local ownership and forge important links between monitoring activities and local decision-making. Existing studies have, however, been static assessments of biomass at one point in time. REDD+ programs will require repeated surveys of biomass over extended time frames. Here, we examine trends in accuracy and costs of local forest monitoring over time. We analyse repeated measurements by community members and professional foresters of 289 plots over two years in four countries in Southeast Asia. This shows, for the first time, that with repeated measurements community members' biomass measurements become increasingly accurate and costs decline. These findings provide additional support to available evidence that community members can play a strong role in monitoring forest biomass in the local implementation of REDD+.

Broich, M., Hansen, M., Stolle, F., Potapov, P., Margono, B. A., & Adusei, B. (2011). Remotely sensed forest cover loss shows high spatial and temporal variation across Sumatera and Kalimantan, Indonesia 2000–2008. *Environmental Research Letters*, *6*(1), 014010. doi:10.1088/1748-9326/6/1/014010**

The Indonesian islands of Sumatera and Kalimantan (the Indonesian part of the island of Borneo) are a center of significant and rapid forest cover loss in the humid tropics with implications for carbon dynamics, biodiversity conservation, and local livelihoods. The aim of our research was to analyze and interpret annual trends of forest cover loss for different sub-regions of the study area. We mapped forest cover loss for 2000–2008 using multi-resolution remote sensing data from the Landsat enhanced thematic mapper plus (ETM+) and moderate resolution imaging spectroradiometer (MODIS) sensors and analyzed annual trends per island, province, and official land allocation zone. The total forest cover loss for Sumatera and Kalimantan 2000–2008 was 5.39 Mha, which represents 5.3% of the land area and 9.2% of the year 2000 forest cover of these two islands. At least 6.5% of all mapped forest cover loss occurred in land allocation zones prohibiting clearing. An additional 13.6% of forest cover loss occurred where clearing is legally restricted. The overall trend of forest cover loss increased until 2006 and decreased thereafter. The trends for Sumatera and Kalimantan were distinctly different, driven primarily by the trends of Riau and Central Kalimantan provinces, respectively. This analysis shows that annual mapping of forest cover change yields a clearer picture than a one-time overall national estimate. Monitoring forest dynamics is important for national policy makers, especially given the commitment of Indonesia to reducing greenhouse gas emissions as part of the reducing emissions from deforestation and forest degradation in developing countries initiative (REDD+). The improved spatio-temporal detail of forest change monitoring products will make it possible to target policies and projects in meeting this commitment. Accurate, annual forest cover loss maps will be integral to many REDD+ objectives, including policy formulation, definition of baselines, detection of displacement, and the evaluation of the permanence of emission reduction.

Brown, H. C. P., Smit, B., Somorin, O. A., Sonwa, D. J., & Nkem, J. N. (2014). Climate Change and Forest Communities: Prospects for Building Institutional Adaptive Capacity in the Congo Basin Forests. *Ambio*, *43*(6), 759–769. doi:10.1007/s13280-014-0493-z**

Tropical forests are vulnerable to climate- change representing a risk for indigenous peoples and forest-dependent communities. Mechanisms to conserve the forest, such as REDD?, could assist in the mitigation of climate change, reduce vulnerability, and enable people to adapt. Ninety-eight interviews were conducted in three countries containing the Congo Basin forest, Cameroon, CAR, and DRC, to investigate perceptions of decision- makers within, and responses of the institutions of the state, private sector, and civil society to the challenges of climate change. Results indicate that while decision-makers' awareness of climate change is high, direct institutional action is at an early stage. Adaptive capacity is currently low, but it could be enhanced with further development of institutional linkages and increased coordination of multi- level responses across all institutions and with local people. It is important to build networks with forest-dependent stakeholders at the local level, who can contribute knowledge that will build overall institutional adaptive capacity.

Brown, H. C. P., Smit, B., Sonwa, D. J., Somorin, O. a., & Nkem, J. (2011). Institutional Perceptions of Opportunities and Challenges of REDD+ in the Congo Basin. *The Journal of Environment & Development, 20,* 381–404. doi:10.1177/1070496511426480

Tropical forests have a central role to play in a new mechanism designed to mitigate climate change, known as REDD+ (Reduced Emissions From Deforestation and Forest Degradation). Through semi structured interviews and content analysis of relevant documents, the perceptions of the opportunities and challenges of REDD+ of institutions, who may be directly implicated in or affected by its implementation are investigated. Research takes place in three Central African countries, Cameroon, Central African Republic, and Democratic Republic of Congo, which contain the Congo Basin forest. Perception of opportunities include economic development and poverty reduction, biodiversity conservation, network building, and governance reform. Challenges identified include REDD+'s complexity, lack of technical capacity for implementation, opportunities for participation, benefit sharing, and the traditional system of shifting cultivation. Those involved in designing REDD+ internationally need to understand developing-country perspectives, and institutions at all levels need to work together to develop concrete strategies to improve overall outcomes

Burgess, N. D., Bahane, B., Clairs, T., Danielsen, F., Dalsgaard, S., Funder, M., … Zahabu, E. (2010). Getting ready for REDD+ in Tanzania: a case study of progress and challenges. *Oryx, 44*(03), 339–351. doi:10.1017/S0030605310000554

The proposed mechanism for Reducing Emissions from Deforestation and Degradation (REDD+) offers significant potential for conserving forests to reduce negative impacts of climate change. Tanzania is one of nine pilot countries for the United Nations REDD Programme, receives significant funding from the Norwegian, Finnish and German governments and is a participant in the World Bank's Forest Carbon Partnership Facility. In combination, these interventions aim to mitigate greenhouse gas emissions, provide an income to rural communities and conserve biodiversity. The establishment of the UN-REDD Programme in Tanzania illustrates real-world challenges in a developing country. These include currently inadequate baseline forestry data sets (needed to calculate reference emission levels), inadequate government capacity and insufficient experience of implementing REDD+-type measures at operational levels. Additionally, for REDD+ to succeed, current users of forest resources must adopt new practices, including the equitable sharing of benefits that accrue from REDD+ implementation. These challenges are being addressed by combined donor support to implement a national forest inventory, remote sensing of forest cover, enhanced capacity for measuring, reporting and verification, and pilot projects to test REDD+ implementation linked to the existing Participatory Forest Management Programme. Our conclusion is that even in a country with considerable donor support, progressive forest policies, laws and regulations, an extensive network of managed forests and increasingly developed locally-based forest management approaches, implementing REDD+ presents many challenges. These are being met by coordinated, genuine partnerships between government, non-government and community-based agencies.

Bushley, B. R. (2014). REDD + policy making in Nepal : toward state-centric, polycentric, or market-oriented governance ? *Ecology and Society, 19*(3), 34. doi:10.5751/ES-06853-190334

Over the past 40 years, Nepal has become renowned for its community-based forestry policies, initiatives, and institutions, characterized by local autonomy in decisions about forest management and use and a gradual shift toward more inclusive national policy processes. In recent years, the government, international nongovernmental organizations (NGOs), donors, and some civil society organizations have instigated policy and piloting initiatives for an international climate change mitigation scheme known as "reducing emissions from deforestation and forest degradation and enhancement of forest carbon stocks in developing countries" (REDD+). Although many people see REDD+ as a means of bolstering forest conservation efforts and enhancing rural livelihoods, its broader implications for decentralized forest governance in Nepal and elsewhere remain uncertain and contested. Using policy network analysis and theories of polycentric and network governance, I examined influence, inclusiveness, and deliberation among actors involved in REDD+ policy making in Nepal. Data were collected between June and December 2011 through a survey of 34 organizations from government, civil society, educational and research institutions, international NGOs and donors, and the private sector. I investigated whether policy processes and the configurations of actors involved reflect state-centric, market-oriented, or polycentric governance, and I discuss the implications for decentralized forest governance in general and for the implementation of REDD+ in particular. Results indicate that REDD+ policy making is dominated by a "development triangle", a tripartite coalition of key government actors, external organizations (international NGOs and donors), and select civil society organizations. As a result, the views and interests of other important stakeholders have been marginalized, threatening recentralized forest governance and hampering the effective implementation of REDD+ in Nepal.

Cadman, T., & Maraseni, T. (2012). The governance of REDD+: an institutional analysis in the Asia Pacific region and beyond. *Journal of Environmental Planning and Management*, *55*(5), 617–635. doi:10.1080/09640568.2011.619851

This paper explores the changing nature of North/South relations in con- temporary climate change governance. Focusing on the United Nations Collaborative Programme to Reduce Emissions from Deforestation and Forest Degradation (REDD+), the paper presents a theoretical framework, through which stakeholder perceptions of REDD+ governance quality and institutional legitimacy can be evaluated. This is tested by means of a small-n survey of state and non-state participants from both the developed and developing countries, including the Asia-Pacific region. The survey results reveal generally higher ratings for REDD+ amongst Southern participants than in the North. A number of caveats are placed on the interpretation of data, and some conclusions drawn regarding contemporary climate governance and the emergence of a possible 'South/North Divide', challenging traditional notions of global power politics.

Cadman, T., & Maraseni, T. (2013). More equal than others? A comparative analysis of state and non-state perceptions of interest representation and decision-making in REDD+ negotiations. *Innovation: The European Journal of Social Sciences*, *26*(3), 214–230. doi:10.1080/13511610.2013.771880

This paper provides a quantitative analysis of stakeholder perceptions regarding the governance of the UN climate change negotiations on reducing emissions from deforestation and forest degradation in developing countries (REDD). Governance quality and legitimacy were evaluated by means of an online survey conducted in 2011, using a normative framework of principles, criteria and indicators. The paper concentrates on national-level stakeholders active in REDD in Nepal, and their perceptions of governance quality, with a discussion, given the focus of this special volume, that emphasizes inclusiveness, equality and resources (indicators of interest representation) and democracy, agreement and dispute settlement (indicators of decision-making). Respondents were selected from state (i.e. governmental) and non-state (i.e. civil society) interests from a range of sectors active in REDD at the national level. The results show that survey respondents generally found REDD to be inclusive, but did not consider that there was the necessary capacity, or resources, for meaningful participation. A concluding section reviews the framework applied, and comments on the nature of multi-stakeholder relations in contemporary global governance, and REDD specifically.

Cerbu, G. a., Swallow, B. M., & Thompson, D. Y. (2011). Locating REDD: A global survey and analysis of REDD readiness and demonstration activities. *Environmental Science and Policy*, *14*(2), 168–180. doi:10.1016/j.envsci.2010.09.007

Mechanisms that support reduced emissions from deforestation and forest degradation (REDD/REDD+) have potential to counteract a large share of global greenhouse gas emissions if implemented effectively across the tropics. In 2007 the conference of parties to the United Nations Framework Convention on Climate Change called upon parties and international organizations to promote REDD through investments in capacity building and demonstration activities. This prompted many new actors to become involved in REDD activities at a variety of locations and scales. A global survey of REDD activities was undertaken in 2009 to enable better understanding of the intensity and geographic distribution of these activities. Existing compilations, literature review, web-based sources, face-to-face and telephone interviews, and e-mail questionnaires were used to compile data for the inventory. Inter alia, data were collected on the location of activities and official and unofficial factors influencing location choices. Inventory data were combined with secondary data to estimate a statistical count model (Poisson) of factors affecting the number of REDD activities undertaken in the 64 developing countries that experienced significant emissions from deforestation. The results show that there were at least 79 REDD readiness activities and 100 REDD demonstration activities as of October 2009. Of these, the largest shares of REDD readiness and demonstration activities were implemented in Indonesia (7 and 15 respectively) and Brazil (4 and 13 respectively), countries widely agreed to have the greatest potential for reducing forest-based emissions. The statistical results found no national characteristic to have a statistically significant effect on the number of REDD readiness activities, but five national characteristics to have significant effects on the number of REDD demonstration projects. Baseline CO_2 emissions, forest carbon stock, number of threatened species, quality of governance, and region all had significant effects. The results reveal the importance of biodiversity and good governance, and the relative unimportance of human need and opportunity cost of land. The results also reveal a bias against Africa and toward Latin America. Unless this pattern is countered, REDD and REDD+ may have geographic biases that undermine its broad political support.

Chhatre, A., & Agrawal, A. (2009). Trade-offs and synergies between carbon storage and livelihood benefits from forest commons. *Proceedings of the National Academy of Sciences of the United States of America*, *106*(42), 17667–17670. doi:10.1073/pnas.0905308106

Forests provide multiple benefits at local to global scales. These include the global public good of carbon

sequestration and local and national level contributions to livelihoods for more than half a billion users. Forest commons are a particularly important class of forests generating these multiple benefits. Institutional arrangements to govern forest commons are believed to substantially influence carbon storage and livelihood contributions, especially when they incorporate local knowledge and decentralized decision making. However, hypothesized relationships between institutional factors and multiple benefits have never been tested on data from multiple countries. By using original data on 80 forest commons in 10 countries across Asia, Africa, and Latin America, we show that larger forest size and greater rule-making autonomy at the local level are associated with high carbon storage and livelihood benefits; differences in ownership of forest commons are associated with trade-offs between livelihood benefits and carbon storage. We argue that local communities restrict their consumption of forest products when they own forest commons, thereby increasing carbon storage. In showing rule-making autonomy and ownership as distinct and important institutional influences on forest outcomes, our results are directly relevant to international climate change mitigation initiatives such as Reduced Emissions from Deforestation and Forest Degradation (REDD) and avoided deforestation. Transfer of ownership over larger forest commons patches to local communities, coupled with payments for improved carbon storage can contribute to climate change mitigation without adversely affecting local livelihoods.

Chhatre, A., Lakhanpal, S., Larson, A. M., Nelson, F., Ojha, H., & Rao, J. (2012). Social safeguards and co-benefits in REDD+: a review of the adjacent possible. *Current Opinion in Environmental Sustainability*, *4*(6), 654–660. doi:10.1016/j.cosust.2012.08.006
We provide a synthesis of recent scholarship on social safeguards and co-benefits in REDD+ with a focus on debates on: first, tenure security, and second, effective participation of local communities. Scholars have explored both proximate and long-term co-benefits of REDD+ interventions, with an emerging trend that links safeguards to improved social co- benefits. Proximate co-benefits include improved rural livelihoods and lower costs of implementation. Long-term co- benefits include greater adaptive capacity of local communities and increasing transparency and accountability in forest governance. Our review suggests that greater tenure security and effective participation of local communities in management will not only prevent adverse social outcomes, but will also enable better forest outcomes and improved capacity for forest governance.

Cronkleton, P, Bray, D.B., and G. Medina 2011: Community forest management and the emergence of multi-scale governance institutions: Lessons for REDD+ development from Mexico, Brazil and Bolivia. Forests 2011 (2), 451-473.
At their most local, initiatives to reduce emissions from deforestation and degradation (REDD) will depend on rural people to manage forest resources. Although the design of frameworks, mechanisms and arrangements, to implement REDD programs have received significant attention, it is not yet clear how REDD+ will function on the ground or how the participation of local populations will be assured. Community forest management (CFM) could be an option under REDD+ depending on how it is negotiated, largely because of the expectation that CFM could reduce emissions from deforestation and degradation. Examining institutional factors in the emergence of successful CFM systems and local forest enterprises could provide valuable lessons for REDD planners. We examine cases of CFM development in Mexico, Brazil and Bolivia, to assess the role of multi-scaled governance institutions in their development. Comparing and contrasting advanced CFM systems to regions where it is still emerging, we will show how the establishment of a local organizational base for communal resource management is crucial.

Contreras-Hermosilla, A. (2011). People, governance and forests-the stumbling blocks in forest governance reform in Latin America. *Forests*, *2*(1), 168–199. doi:10.3390/f2010168
This article examines common barriers to achieving adequate levels of forest resource governance in countries of Latin America. It looks at the deficiencies of the policy and regulatory frameworks affecting forests, the common failure to impose the rule of law, the main factors that constrain the effectiveness of government actions in the forest sector and at the political barriers to introducing reforms for change in governance structures. The elimination of these barriers acquires new importance in the implementation of successful REDD+ programs in the countries of the region.

Corbera, E., Estrada, M., May, P., Navarro, G., & Pacheco, P. (2011). *Rights to land, forests and carbon in REDD+: Insights from Mexico, Brazil and Costa Rica*. *Forests* (Vol. 2). doi:10.3390/f2010301
Land tenure and carbon rights constitute critical issues to take into account in achieving emission reductions, ensuring transparent benefit sharing and determining non-permanence (or non-compliance) liabilities in the context of REDD+ strategies and projects. This is so because tenure systems influence who becomes involved in efforts to avoid deforestation and improve forest management, and that land tenure, carbon rights and liabilities may be linked or divorced with implications for rural development. This paper explores these issues by looking at tenure regimes and carbon rights issues in Mexico, Brazil and Costa Rica. It is effectively shown

that complex bundles of rights over forest resources have distinct implications for REDD+ design and implementation, and that REDD+ strategies in selected countries have to date failed in procedurally addressing land-use conflicts and carbon rights entitlements and liabilities.

de la Plaza Esteban, C., Visseren-Hamakers, I. J., & de Jong, W. (2014). The Legitimacy of Certification Standards in Climate Change Governance. *Sustainable Development*, *22*(6), 420–432. **doi:10.1002/sd.1568**
This article explores the role of two private steering mechanisms, the Forest Stewardship Council (FSC) and the Climate, Community and Biodiversity Alliance (CCBA), in REDD+, the climate change mitigation policy that aims to avoid deforestation and forest degradation in developing countries. It does so by analyzing input and output legitimacy of the two certification standards at the global level, and at national and local levels in Peru. The findings show an increasing interest among REDD+ actors in using these standards, and a relatively large number of Peruvian REDD+ projects that are certified by the FSC or CCBA. The findings also suggest intrinsic link- ages between input and output legitimacy of the FSC and CCBA within single governance levels and across different scales. The article also demonstrates the added value of studying the legit- imacy of policy instruments, such as the FSC and CCBA, in a specific context such as REDD+.

Di Gregorio, M., Brockhaus, M., Cronin, T., Muharrom, E., Santoso, L., Mardiah, S., … Buedenbender, M. (2013). Equity and REDD plus in the Media: a Comparative Analysis of Policy Discourses. *Ecology and Society*, *18*(2), art39. **doi:10.5751/ES-05694-180239**
Reducing emissions from deforestation and forest degradation (REDD+) is primarily a market-based mechanism for achieving the effective reduction of carbon emissions from forests. Increasingly, however, concerns are being raised about the implications of REDD+ for equity, including the importance of equity for achieving effective carbon emission reductions from forests. Equity is a multifaceted concept that is understood differently by different actors and at different scales, and public discourse helps determine which equity concerns reach the national policy agenda. Results from a comparative media analysis of REDD+ public discourse in four countries show that policy makers focus more on international than national equity concerns, and that they neglect both the need for increased participation in decision making and recognition of local and indigenous rights. To move from addressing the symptoms to addressing the causes of inequality in REDD+, policy actors need to address issues related to contextual equity, that is, the social and political root causes of inequality.

Dixon, R., & Challies, E. (2015). Making REDD+ pay: Shifting rationales and tactics of private finance and the governance of avoided deforestation in Indonesia. *Asia Pacific Viewpoint*, *56*(1), 6–20. **doi:10.1111/apv.12085**
This paper presents an analysis of changing rationales and tactics among actors engaged in mobilising private finance for Indonesia's emergent Reducing Emissions from Deforestation and Forest Degradation (REDD+) programme. Despite limited flows of private finance so far, private sector actors have been responsible for a great deal of development and innovation in the forest carbon sector in Indonesia, and have thus played – and continue to play – an important part in shaping the country's REDD+ programme. Drawing on extended field research and interviews with key actors engaged with REDD+ in Indonesia, we identify a variety of private investor motivations, strategies and tactics, many of which depart considerably from the common understanding of REDD+ as avoided deforestation funded through carbon offsets. As non-state actors increasingly shape emerging REDD+ projects, they assume important roles as agents of environmental governance – working through a variety of private market and hybrid modes of forest/climate governance. We describe four general modes of engagement, centred around: investment in REDD+ verified emissions reductions; corporate social responsibility; sustainable commodities; and impact investment. The research thus contributes to an improved understanding of the nature of private REDD+ finance in Indonesia, and the implications, potential and limits of private, market-based climate governance.

Dkamela, G. P., Brockhaus, M., Djiegni, F. K., Schure, J., & Mvondo, S. A. (2014). Lessons for REDD+ from Cameroon's past forestry law reform: a political economic analysis. *Ecology an Society*, *19*(3), 30. **doi:10.5751/ES-06839-190330**
Reducing emissions from deforestation and forest degradation and enhancing forest carbon stocks (REDD+) is gaining traction in Cameroon. However, given the deep-rooted trans-sectoral drivers of forest loss, enforcing REDD+ policies will require major policy change and reform both within and beyond the forestry sector. In this paper, we view the REDD+ policy arena in Cameroon within a political economy framework and conduct policy network analysis to explore the factors that will enable or hinder efforts to implement the broad policy change required to realize REDD+. As the REDD+ context is shaped by the history of Cameroon's forestry sector, we draw lessons for REDD+ from the forestry law reform undertaken in 1994. We focus our analysis on three

factors considered necessary for REDD+ success: (i) autonomy of the nation state from interests behind deforestation and forest degradation, (ii) national ownership over reform processes, and (iii) inclusiveness of policy processes. We find that the REDD+ policy process in Cameroon is repeating the weaknesses of the earlier forestry law reform, as seen in the minimal ownership of REDD+ by national actor groups and low inclusiveness among domestic actors at both national and local levels, as well as the absence of a national coalition for REDD+. Furthermore, politics and private agendas are compromising state agencies' autonomy in making decisions about forest resources. Our findings suggest that responses to these weaknesses, as well as to inconsistencies between sectoral policies and to competition over forest resources, will determine whether REDD+ can induce change within and beyond Cameroon's forestry sector.

Doherty, E., & Schroeder, H. (2011). Forest Tenure and Multi-level Governance in Avoiding Deforestation under REDD+. *Global Environmental Politics*, *11*(4), 66–88. doi:10.1162/GLEP_a_00084
This paper investigates the role of forest tenure in creating a sustainable and effective mechanism on Reducing Emissions from Deforestation and Forest Degradation (REDD+). It draws together existing knowledge and experience of forest tenure issues as they play out in real contexts, and evaluates their implications for REDD+. In particular, it challenges the argument that simply harmonising different tenure systems will lead to improved tenure security and ensure that REDD+ does not disenfranchise local communities. By bringing to light the ways in which local tenure could shape the implementation of REDD+, this paper provides insights that can contribute to the design of a sustainable, effective and equitable REDD+ agreement. The findings suggest that a more nuanced and locally specific understanding of tenure security and ownership are required in order to create favourable grounds for REDD+ implementation.

Dokken, T., Caplow, S., Angelsen, A., & Sunderlin, W. D. (2014). Tenure issues in REDD+ pilot project sites in Tanzania. *Forests*, *5*(2), 234–255. doi:10.3390/f5020234
REDD+ has been proposed as a viable option for addressing climate change in the near term, and at relatively low cost. There is a broad consensus that clearly defined tenure rights are important for the implementation and success of REDD+, both to manage forests effectively and to protect local communities' livelihoods. We use primary data from 23 villages in six REDD+ pilot sites in Tanzania to identify causes of deforestation and forest degradation, and tenure rights issues, at the village level prior to project implementation. Further, interviews with project proponents and examination of project documents yields insights into how the proponents plan to address tenure issues. Most villages perceive their tenure as secure and have exclusion rights, while collective action challenges are prevalent in villages experiencing deforestation and forest degradation. These findings suggest that the main tenure issues are related to internal institutional arrangements. While we find that tenure is high on the agenda for all the project proponents, they are mainly focusing on formalization and securing tenure rights from state to community level. Though we do find this to be a precondition for reducing deforestation and degradation, some of their focus should be shifted to strengthening village institutions and enhancing internal compliance.

Duchelle, A. E., Cromberg, M., Gebara, M. F., Guerra, R., Melo, T., Larson, A., … Sunderlin, W. D. (2014). Linking Forest Tenure Reform, Environmental Compliance, and Incentives: Lessons from REDD+ Initiatives in the Brazilian Amazon. *World Development*, *55*, 53–67. doi:10.1016/j.worlddev.2013.01.014
Pervasive tenure insecurity in developing countries is a key challenge for REDD+. Brazil, a leader in REDD+, has advanced efforts to link forest tenure reform and environmental compliance. We describe how these policies have shaped sub-national interventions with detailed data on land tenure and livelihoods in four REDD+ pilot sites in the Brazilian Amazon. Despite different local contexts, REDD+ proponents have converged on a similar strategy of collaborating with government agencies to clarify tenure and pave the way for a mix of regulatory enforcement and incentive-based REDD+ mechanisms. This polycentric governance model holds promise for effective and equitable REDD+ implementation.

Evans, K., Murphy, L., & de Jong, W. (2014). Global versus local narratives of REDD: A case study from Peru's Amazon. *Environmental Science & Policy*, *35*, 98–108. doi:10.1016/j.envsci.2012.12.013
This paper seeks to analyze local perspectives in Peruvian Amazon forest communities toward REDD and contrast those perspectives with current global and national REDD narratives. REDD is a global market-based approach to provide financial incentives for local actors to halt deforestation or to improve carbon stocks. To date, the REDD framework has not demonstrated that it is equipped to incorporate the diverse perspectives, potential interactions and uncertainties facing forest communities. We interviewed forest community members in the Amazonian state of Loreto, Peru, using "future scenarios" methods to elicit potential alternative narratives, both with and outside REDD. Indigenous voices reveal ambiguous attitudes toward REDD with regard to livelihoods, benefit distribution and the long-term impacts for communities and forests. They reveal considerable

uncertainty about the future and lack of trust in governance regimes. Long-term community priorities were in generating work, providing educational opportunities for their children, and improving the quality of their forest. Conflict—within the community, with local loggers and with the recently established regional conservation area—was a prevalent theme. A REDD design that recognizes communities as active participants in global and national climate management and pays attention to local narratives will more likely generate the multiple benefits of healthy forests, strong communities and, ultimately, global climate change mitigation.

Fisher, B., Lewis, S. L., Burgess, N. D., Malimbwi, R. E., Munishi, P. K., Swetnam, R. D., … Balmford, A. (2011). Implementation and opportunity costs of reducing deforestation and forest degradation in Tanzania. *Nature Climate Change*, *1*(3), 161–164. doi:10.1038/nclimate1119
The Cancún Agreements provide strong backing for a REDD+ (Reducing Emissions from Deforestation and Forest Degradation) mechanism whereby developed countries pay developing ones for forest conservation[1]. REDD+ has potential to simultaneously deliver cost-effective climate change mitigation and human development[2,3,4,5]. However, most REDD+ analysis has used coarse-scale data, overlooked important opportunity costs to tropical forest users[4,5] and failed to consider how to best invest funds to limit leakage, that is, merely displacing deforestation[6]. Here we examine these issues for Tanzania, a REDD+ country, by comparing district-scale carbon losses from deforestation with the opportunity costs of carbon conservation. Opportunity costs are estimated as rents from both agriculture and charcoal production (the most important proximate causes of regional forest conversion[7,8,9]). As an alternative we also calculate the implementation costs of alleviating the demand for forest conversion—thereby addressing the problem of leakage—by raising agricultural yields on existing cropland and increasing charcoal fuel-use efficiency. The implementation costs exceed the opportunity costs of carbon conservation (medians of US\$6.50 versus US\$3.90 per Mg CO_2), so effective REDD+ policies may cost more than simpler estimates suggest. However, even if agricultural yields are doubled, implementation is possible at the competitive price of ~US\$12 per Mg CO_2

Fletcher, R., & Breitling, J. (2012). Market mechanism or subsidy in disguise? Governing payment for environmental services in Costa Rica. *Geoforum*, *43*(3), 402–411. doi:10.1016/j.geoforum.2011.11.008
Costa Rica's national payment for environmental services (PES) program has inspired a large body of research, most of which seeks to assess its impacts on deforestation and/or poverty. The specific forms of governance shaping the program, by contrast, have received much less attention. While the program, like PES in general, is commonly considered a paradigmatically neoliberal ''market-based'' conservation mechanism, its actual operation to date has deviated substantially from this description. Despite program planners' express intent to establish self-regulating markets for the direct transfer of payments from consumers of ecosystem services to their producers, such markets have yet to become widespread, and the program remains supported primarily by strong state intervention in various forms. Thus, while the pro- gram's ostensive success in combating deforestation has been widely praised, we suggest that its relative inability to establish a free-standing market to accomplish this aim may be equally instructive. For instance, the ambitious Reduced Emissions from Deforestation and Degradation (REDD) mechanism envisioned to mitigate climate change on a global scale takes PES as one of its main sources of inspiration, a perspective that may be complicated by acknowledgment of such gaps between ''vision'' and ''execution'' in neoliberal conservation governance

Fox, J., Castella, J.-C., & Ziegler, A. D. (2014). Swidden, rubber and carbon: Can REDD+ work for people and the environment in Montane Mainland Southeast Asia? *Global Environmental Change*, *29*, 318–326. doi:10.1016/j.gloenvcha.2013.05.011
Swidden (also called shifting cultivation) has long been the dominant farming system in Montane Mainland Southeast Asia (MMSEA). Today the ecological bounty of this region is threatened by the expansion of settled agriculture, including the proliferation of rubber plantations. In the current conception of REDD+, landscapes involving swidden qualify almost automatically for replacement by other land-use systems because swiddens are perceived to be degraded and inefficient with regard to carbon sequestration. However, swiddening in some cases may be carbon-neutral or even carbon positive, compared with some other types of land-use systems. In this paper we describe how agricultural policies and institutions have affected land use in the region over the last several decades and the impact these policies have had on the livelihoods of swiddeners and other smallholders. We also explore whether incentivizing transitions away from swiddening to the cultivation of rubber will directly or reliably produce carbon gains. We argue that because government policies affect how land is used, they also influence carbon emissions, farmer livelihoods, environmental services, and a host of other variables. A deeper and more systematic analysis of the multiple consequences of these policies is consequently necessary for the design of successful REDD+ policies in MMSEA, and other areas of the developing world. REDD+ policies should be structured not so much to 'hold the forest boundary' but to influence the types of land-use changes that are occurring so that they support both sustainable livelihoods and

environmental services, including (but not limited to) carbon.

Gallemore, C., Di Gregorio, M., Moeliono, M., Brockhaus, M., & Prasti H., R. D. (2015). Transaction costs, power, and multi-level forest governance in Indonesia. *Ecological Economics*, *114,* 168–179. **doi:10.1016/j.ecolecon.2015.03.024**

Since 2005, there has been considerable international interest in Reducing Emissions from Deforestation and Forest Degradation (REDD+), a program intended to finance protection of tropical forests through the sale of carbon offsets or from donor funding. Requiring the collaboration of local and international civil society stakeholders, firms, and donor and host governments, REDD+ is inherently a multi-level governance project, but to date participation in REDD + and coordination across governmental levels have been weak. Combining literature on multi-level and polycentric governance of socioecological systems with transaction-cost economics, we argue that transaction costs structure cross-level information-sharing and collaboration relationships among organizations engaged in REDD+ policy development at the national and provincial levels in Indonesia. Using an exponential random graph modelling approach with data collected from interviews with over 80 organizations between 2010 and 2012, we find that powerful organizations tend to dominate cross-level connections, though this effect is somewhat mediated by organizational similarity, which reduces transaction costs. We suggest that explicit efforts to help local organizations overcome the transaction costs of building cross-level relationships will be a central component of building an effective and equitable multi-level governance system for REDD+ in Indonesia.

Gebara, M. F., Fatorelli, L., May, P., & Zhang, S. (2014). REDD + policy networks in Brazil : constraints and opportunities for. *Ecology and Society*, *19*(3).

The prospective introduction of REDD+ (Reducing Emissions from Deforestation and forest Degradation and enhancement of carbon stocks) in Brazil has generated many questions about its form of implementation and likely environmental effectiveness. These issues must be addressed to reduce the risks associated with REDD+, such as conflicts over land and forest resources, and increase the likelihood of successful outcomes, as equitable benefits sharing. In this study, we examine how policy actors such as NGOs, government, and the private sector influence the REDD+ policy process in Brazil. We analyze actors' positions on key issues in REDD+ (conflicts; benefits sharing; free, prior, and informed consent; tenure; and coordination) to identify associated constraints and opportunities for REDD+ policy making with a focus on the national strategy. We examine the structure of three policy networks in this policy arena (prestige, information exchange, and collaboration) with the aim of explaining these constraints and opportunities, so that policy can be positively modified or adapted ahead of its implementation. We note that the presence of polarization on the issues analyzed implies the need for better negotiation among actors if REDD+ is to move forward effectively. Furthermore, the absence of coordination between types of actors (private sector, government, and NGOs) suggests that achieving optimal REDD+ governance in Brazil will be difficult. Finally, we propose some directions for REDD+ policy making in Brazil that could help policy managers and stakeholders improve the design and implementation of the national.

G. Grussu, F. Attorre, D. Mollicone, P. Dargusch, A. Guillet & M. Marchetti 2014: Implementing REDD+ in Papua New Guinea: Can biodiversity indicators be effectively integrated in PNG's National Forest Inventory?, Plant Biosystems - An International Journal Dealing with all Aspects of Plant Biology, 148:3, 519-528, DOI:10.1080/11263504.2014.900131

UNFCCC's "Cancun safeguards" (COP 16, 2010) provide a strong call for comprehensive steps to prevent harm to biodiversity from Reducing Emissions from Deforestation and forest Degradation (REDD+) activities and to support its conservation. However, as non-binding "principles" and due to their general wording, they are not operational in the present form. Additionally, the scientific literature on biodiversity monitoring for REDD+ is still very limited, particularly when it comes to REDD+ in tropical forests and at the national scale. Whereas some authors suggest that biodiversity integration can be achieved by means of standardised protocols and techniques, others consider that an effective monitoring of biodiversity in tropical forests at the national scale may be an impossible task to achieve in a cost-effective way. However, recent research offers some functional approaches to tackle the many challenges involved. This paper explores the perspectives and limits of developing and effectively incorporating appropriate biodiversity objectives and indicators in Papua New Guinea's multipurpose National Forest Inventory (PNG's NFI). The PNG's NFI is currently being designed under the UN-REDD programme as a key component of the National Forest Monitoring System that PNG is required to establish in order to participate in a future REDD+ mechanism. We conclude that the challenge cannot be effectively tackled only at the design stage of the NFI, as it needs to address a number of issues related to different stages of the REDD+ preparedness process:

1 If biodiversity integration is carried out directly at the NFI stage, it will need to rely on proxies derived from indicators designed to monitor carbon stock change;

2 At the planning stage, a carbon–biodiversity overlay map analysis would allow for a preliminary selection of areas of high biodiversity that could be threatened by REDD+ activities either directly or indirectly through "leakage";

3 During the implementation stage, the selection could be refined by identifying a sub-sample of sites where forests are undergoing the greatest changes;

4 A comprehensive biodiversity monitoring programme involving field measurements of key species could only be designed once the priority areas have been clearly defined and limited in both number and size.

Hajjar, R. (2015). Advancing small-scale forestry under FLEGT and REDD in Ghana. *Forest Policy and Economics*, *58*(January 2014), 12–20. doi:10.1016/j.forpol.2014.09.014

In Ghana, small and medium-scale forest enterprises (SMFEs) provide income and livelihoods for three million people and supply a growing domestic timber demand. However, most SMFEs operate in the informal sector, and thus have become a target for current forest sector reforms stemming from Ghana's involvement in two international mechanisms: FLEGT and REDD. This paper examines how SMFEs are being incorporated into FLEGT and REDD plans, and asks whether reforms under these mechanisms will serve to advance SMFEs in the country while tackling illegal and unsustainable forest activities. The analysis shows that FLEGT-related reforms will target governance issues downstream in the domestic lumber supply chain, without tackling a root cause of illegalities and challenges within the SMFE sector: tree tenure. In contrast, REDD planning includes a strong focus on the illusive tenure issue, but to date has placed little emphasis on SMFE promotion. The paper concludes that reforms associated with both mechanisms may work complementarily to advance a legal and sustainable SMFE sector, but only if local communities are incentivized to manage forest and tree resources through clarification of land and tree tenure. Reasons for why tenure reform has been such a sticking point are discussed.

Hall, A. (2001). Getting REDD-Y; conservation and climate change in Latin America. *Latin American Research Review*, *46*(2011), 184–210.

Deforestation in Latin America, especially in the Amazon basin, is a major source of greenhouse gases such as carbon dioxide that contribute to global warming. Protected areas play a vital role in minimizing forest loss and in supplying key environmental services, including carbon sequestration and rainfall regulation, which mitigate the adverse impacts of climate change amid a rising tide of economic development in the region. The area of protected forest has expanded rapidly since 1980 to cover one-fifth of Latin America and more than two-fifths of Amazonia, a region whose rain forest captures some 40 percent of Latin America's carbon emissions. The reserve sector has traditionally suffered from severe underfunding, but the possibility of new resources being generated through financial compensation for "reduced emissions from deforestation and forest degradation" (REDD) or "avoided deforestation" under a new Kyoto protocol after 2012 could help strengthen the environmental and social roles of protected areas. However, a number of major implementation and governance challenges will need to be addressed.

Hayes, T., & Persha, L. (2010). Nesting local forestry initiatives: Revisiting community forest management in a REDD+ world. *Forest Policy and Economics*, *12*(8), 545–553. doi:10.1016/j.forpol.2010.07.003

Understanding the relationship between components of varied decentralized governance models for community or collaborative management and forest conservation outcomes has taken on renewed importance in the context of community engagement in forest conservation efforts through policies to reduce emissions from deforestation and forest degradation (REDD+). In this paper, we synthesize lessons from two comparative case studies of decentralized forest management in Mesoamerica and East Africa in order to examine the institutional factors that contribute to successful tropical forest management in developing countries and, draw insights for policymakers regarding how national policy initiatives, including REDD+, might better embed local level institutions for forest management within broader state institutions and promote more positive local livelihoods and forest conservation outcomes. The case studies presented in this synthesis used a consistent research framework to gather data on forestry reforms, governance processes, local forest institutions, household forest uses and forest conservation outcomes. Our synthesis suggests that successful sustained forest management depends on institutional arrangements that (1) establish local resident rulemaking autonomy, (2) facilitate the flow of external financial and institutional assistance for monitoring and enforcement of local rules, and (3) buffer residents and their respective local institutions from more powerful, and at times corrupt, actors and agencies involved in forest exploitation. The results particularly suggest a role for external, independent non-governmental organizations to help mediate demands on local forest governance systems in nested contexts.

Holmes, I., & Potvin, C. (2014). Avoiding Re-Inventing the Wheel in a People-Centered Approach to REDD. *Conservation Biology, 28*(5), 1380–1393. doi:10.1111/cobi.12301

One important debate regarding Reducing Emissions from Deforestation and Forest Degradation (REDD+) in developing countries concerns the manner in which its implementation might affect local and indigenous communities. New ways to implement this mechanism without harming the interests of local communities are emerging. To inform this debate, we conducted a qualitative research synthesis to identify best practices (BPs) from people-centered approaches to conservation and rural development, developed indicators of BPs, and invited development practitioners and researchers in the field to assess how the identified BPs are being adopted by community-level REDD+ projects in Latin America. BPs included: local participation in all phases of the project; project supported by a decentralized forest governance framework; project objectives matching community livelihood priorities; project addressing community development needs and expectations; project enhancing stakeholder collaboration and consensus building; project applying an adaptive management approach; and project developing national and local capacities. Most of the BPs were part of the evaluated projects. However, limitations of some of the projects related to decentralized forest governance, matching project objectives with community livelihood priorities, and addressing community development needs. Adaptive management and free and prior informed consent have been largely overlooked. These limitations could be addressed by integrating conservation outcomes and alternative livelihoods into longer-term community development goals, testing nested forest governance approaches in which national policies support local institutions for forest management, gaining a better understanding of the factors that will make REDD+ more acceptable to local communities, and applying an adaptive management approach that allows for social learning and capacity building of relevant stakeholders. Our study provides a framework of BPs and indicators that could be used by stakeholders to improve REDD+ project design, monitoring, and evaluation, which may help reconcile national initiatives and local interests without reinventing the wheel.

Howell, S. (2015). Politics of appearances: Some reasons why the UN-REDD project in Central Sulawesi failed to unite the various stakeholders. *Asia Pacific Viewpoint*, **56**(1), 37–47. doi:10.1111/apv.12081
REDD+ (Reducing Emissions from Deforestation and Forest Degradation) started as a global project aimed at reducing CO_2 emissions by protecting tropical forests. At the same time, several so-called co-benefits were listed in the original documents, such as biodiversity and other environ- mental services, poverty reduction and sustainable livelihoods, and good governance. I argue that REDD+ quickly became a project in which these co-benefits have emerged to be of central concern and that the rights of affected forest populations today dominate much of the REDD+ discourse. One reason for the redirected focus of REDD+ can be attributed to the activities of international and national environmental and human rights organisations. While this has arguably contributed to a process of democratisation in Indonesia, it has also slowed down the implementation of readiness projects. Taking my example from the UN-REDD initiative in Central Sulawesi, I examine some reasons why it has been difficult to establish the proposed five REDD sites in the province.

Irawan, S., Tacconi, L., & Ring, I. (2013). Stakeholders' incentives for land-use change and REDD+: The case of Indonesia. *Ecological Economics*, **87**, 75–83. doi:10.1016/j.ecolecon.2012.12.018
The opportunity costs of Reducing Emissions from Deforestation and Forest Degradation (REDD +) accruing to different stakeholders in Indonesia, including companies and the national, provincial and district level governments, are estimated, with particular emphasis on the influence of alternative discount rates. A cost–benefit analysis of the opportunity costs of avoided deforestation is conducted. The three major land-use activities considered are commercial logging, timber and oil palm plantation. The opportunity cost of oil palm plantations on mineral soil preceded by logging of degraded forest is prohibitively high. REDD+ measures that impose restrictions on the development of those land-use activities would lead to a substantial loss of public revenues at the various government levels. The results of this study reveal that land-use management in Indonesia is rather centralistic, where the national government retains most of the revenues from land-use alternatives to REDD+. To influence their behaviour towards land-use change, REDD+ schemes need to create a direct link between the distribution of public revenues and district governments' decisions on land-use activities in their localities.

Jagger, P., Brockhaus, M., Duchelle, A., Gebara, M., Lawlor, K., Resosudarmo, I., & Sunderlin, W. (2014). Multi-Level Policy Dialogues, Processes, and Actions: Challenges and Opportunities for National REDD+ Safeguards Measurement, Reporting, and Verification (MRV). *Forests*, **5**(9), 2136–2162. doi:10.3390/f5092136
REDD+ social safeguards have gained increasing attention in numerous forums. This paper reviews the evolution of multi-level policy dialogues, processes, and actions related to REDD+ social safeguards (e.g., Cancun Safeguards 1–5) among policy makers, civil society organizations, and within the media in Brazil, Indonesia and Tanzania, three countries with well advanced REDD+ programs. We find that progress on core aspects of social safeguards is uneven across the three countries. Brazil is by far the most advanced having drafted a REDD+ social safeguards policy. Both Brazil and Indonesia have benefited from progress made by

strong sub-national entities in the operationalization of REDD+ safeguards including free prior and informed consent (FPIC), participation, and benefit sharing. Tanzania has weakly articulated how social safeguards will be operationalized and has a more top-down approach. We conclude that in all three countries, measuring, reporting and verifying progress on social safeguards is likely to be a complex issue. Stakeholders with vested interests in REDD+ social safeguards operate in polycentric rather than nested systems, suggesting that aggregation of information from local to national-scale will be a challenge. However, polycentric systems are also likely to support more transparent and comprehensive safeguards systems. Clear direction from the international community and financing for REDD+ safeguard MRV is essential if REDD+ social safeguards are to be meaningfully integrated into forest-based climate mitigation strategies.

Jaung, W., & Bae, J. S. (2012). Evaluating socio-economic equity of REDD+ in a rights-based approach: Rapid equity appraisal matrix. *Environmental Science and Policy*, *22*, 1–12. doi:10.1016/j.envsci.2012.05.007
The success or failure of REDD+ will be determined not only by carbon emission reductions but also by equity for local communities and indigenous peoples. We have developed a methodology, the rapid equity appraisal matrix (REAM), for evaluating the equity capacity of REDD+ projects and stakeholders. REAM consists of three axes: a REDD+ project axis, a stakeholder axis, and an indicator axis. A systematic literature review was employed to establish ten indicators as minimum requirements for REDD+ projects to achieve socio- economic equity. The indicators were weighted according to their relative importance based on responses to an online survey of REDD+ experts and project proponents. Conjoint analysis was used for the weight estimations. Experts viewed "actions to improve governance and regulation are taken" as the most important criterion, whereas the lowest ranked criterion was "monetary benefits". This finding reflects a potential challenge for REDD+ mechanisms for making payments to affected indigenous peoples and local communities. REAM was evaluated with two stakeholder groups involved in six REDD+ projects in Indonesia. The results suggested that Indonesia does not yet have sufficient capacity to achieve equitable REDD+ schemes.

Kalaba, F. K., Quinn, C. H., & Dougill, A. J. (2014). Policy coherence and interplay between Zambia's forest, energy, agricultural and climate change policies and multilateral environmental agreements. *International Environmental Agreements-Politics Law and Economics*, *14*(2), 181–198. doi:10.1007/s10784-013-9236-z
There is increasing international demand by policymakers focused on Reduction of Emissions from Deforestation and forest Degradation for developing countries to conserve forests in the face of pressure from agriculture and energy demands. Improving forest conservation efforts requires a better understanding of how policies influence forest resources management, hence a need for better analysis of policy coherence and interaction. This study employs a content analysis of national sectoral policies in agriculture, energy and forestry, and national programmes under United Nations Rio conventions in Zambia to examine coherence and interplay between international- and national-level policies. Results show positive horizontal interplay between energy and forestry policies, while conflicts were observed between the agricultural and forestry policies despite the potential of conservation farming to provide a mutually supportive link. Policy documents show inconsistencies between national sectoral policies and national statements to the Rio conventions. Additionally, although national statements to Rio conventions share common ground on measures to address deforestation, they seem to be poorly mainstreamed into national policies and broader development policies at national level. Findings have further revealed a lack of coherence between national commitments to Rio conventions and national forest legislation. The paper concludes that although developing countries, such as Zambia, are ratifying international environmental conventions, measures are often not drafted into national policies and linkages remain largely superficial.

Kashwan, P. (2015). Forest Policy, Institutions, and REDD+ in India, Tanzania, and Mexico. *Global Environmental Politics*, *15*(3), 46–64. doi:10.1162/GLEP
This article investigates forest policies and institutions surrounding REDD+ in three heavily forested countries: India, Tanzania, and Mexico. The comparative analysis leads to three key insights. First, each of the case study countries has multiple land tenure statutes that result in different distributions of the costs and benefits of forest protection for key stakeholders. Second, land tenure regimes that offer local communities the most secure forest rights are not necessarily those associated with benefit-sharing mechanisms outlined in national REDD+ policy proposals. Third, a credible commitment by government to share REDD+ benefits with forest-dependent people is contingent on the interests of key actors involved in the policy process. Political and administrative structures that limit the power and authority of forest government bodies lead to more responsive and accountable policy outcomes.

Korhonen-Kurki, K., Sehring, J., Brockhaus, M., & Di Gregorio, M. (2014). Enabling factors for establishing REDD+ in a context of weak governance. *Climate Policy*, *14*(2), 167–186. **doi:10.1080/14693062.2014.852022**
Reducing emissions from deforestation and forest degradation (REDD+) has emerged as an important carbon governance mechanism. However, forest governance is weak in most REDD+ countries, which undermines efforts to establish REDD+. This study analyses the factors that enable national REDD+ processes in the context of weak governance using a two-step 'qualitative comparative analysis' (QCA) of 12 REDD+ countries. Assuming that actor-related factors can be effective only if certain institutional preconditions are met, six factors were divided into two categories that were analysed separately: institutional setting (pressure from forest-resource shortage; forest legislation, policy, and governance; already initiated policy change) and the policy arena (national ownership; transformational coalitions; inclusiveness of the policy process). The factors were analysed to determine their role in efforts to establish comprehensive REDD+ policies that target transformational change. The results reveal path dependencies and institutional stickiness in all the study countries. Only countries already undertaking institutional change have been able to establish REDD+ policies in a relatively short period – but only in the presence of either high pressure from forest-resource shortages or key features of effective forest legislation, policy, and governance. Furthermore, where an enabling institutional setting is in place, the policy arena conditions of national ownership and transformational coalitions are crucial. Policy relevance: Although the aim of REDD+ is to provide performance-based payments for emissions reductions, the outcomes in terms of actual emission reductions or co-benefits are not yet observable. Most REDD+ countries are still at the design and implementation stage for policies and measures. Indicators and criteria to measure progress in this phase are required to identify which factors enable or hinder countries' performance in delivering necessary policy change to provide targeted financial incentives to support countries' efforts. This study analyses the factors that shape national REDD+ processes in the context of weak governance using a two-step QCA of 12 REDD+ countries. The results show a set of enabling conditions and characteristics of the policy process under which REDD+ policies can be established. These findings may help guide other countries seeking to formulate REDD+ policies that are likely to deliver efficient, effective, and equitable outcomes.

Krause, T., Collen, W., & Nicholas, K. A. (2013). Evaluating Safeguards in a Conservation Incentive Program: Participation, Consent, and Benefit Sharing in Indigenous Communities of the Ecuadorian Amazon. *Ecology and Society*, *18*(4), art1. **doi:10.5751/ES-05733-180401**
Critics suggest that Reducing Emissions from Deforestation and forest Degradation (REDD+) may not generate improvements in well-being for participating stakeholders, and may in fact undermine indigenous rights. To ensure positive social benefits from REDD+ projects, the United Nations REDD Programme has proposed core safeguards, including local stakeholder participation; free, prior, and informed consent; and equitable distribution of benefits. However, there is little experience to date in implementing and evaluating these safeguards. We apply these core safeguards as a framework to study how people in indigenous communities in the Ecuadorian Amazon perceive and benefit from Programa Socio Bosque, a conservation incentive program in Ecuador's national REDD+ Programme portfolio. We interviewed 101 individuals in five communities that had participated in the Programa Socio Bosque for at least 18 months. Close to 80% of respondents reported that the decision to join Socio Bosque was made democratically, that they were familiar with the conservation goals of Socio Bosque, and that they were aware which area their community had selected for conservation. However, only 17% were familiar with the overall terms of the conservation agreement, implying that they were either not fully informed of or did not fully understand what they were consenting to in joining the program. Although the terms of the program require a community investment plan to be democratically developed by community members, less than half of respondents were aware of the existence of the investment plan, and fewer than 20% had participated in its development. The majority of respondents (61%) reported that they did not know the amount of incentives that their community currently receives, and only 44% stated that incentives were managed democratically in communal assemblies. Moreover, although a slight majority (53%) said they had noticed benefits to the community from participating in Socio Bosque, the majority (57%) said their family had not received any benefits. These results demonstrate a need to strengthen inclusive participation, better inform participants about program design, and improve the management of incentives within communities if incentive-based conservation programs are to achieve their social development and environmental goals.

Krause, T., & Loft, L. (2013). Benefit Distribution and Equity in Ecuador's Socio Bosque Program. *Society & Natural Resources*, *26*(September 2013), 1170–1184. **doi:10.1080/08941920.2013.797529**
In this article we analyze the equity and distribution of financial incentives in Ecuador's Programa Socio Bosque (PSB). PSB aims to conserve native ecosystems on privately owned lands while reducing rural poverty. Based on the analysis of 1,563 conservation contracts, representing nearly 900,000ha of land in Ecuador and more than 90,000 beneficiaries, we scrutinize the regional distribution of benefits among three regions (the Coast, the

Andes, and the Amazon) and two contract types: land under individual ownership and land under collective ownership. We com- pare incentive distribution before and after a substantial change in the incentive scale, differentiating collective and individual landowners as well as forests and pa ́ramo ecosystems. Although PSB is a mechanism that incentivizes conservation stewardship, its distributional equity and ability to reduce rural poverty remain questionable, because poverty levels and population density in collective contracts are not sufficiently considered in the incentive scale.

Krause, T., & Nielsen, T. D. (2014). The legitimacy of incentive-based conservation and a critical account of social safeguards. *Environmental Science and Policy*, **41**, 44–51. **doi:10.1016/j.envsci.2014.04.015**

Incentive-based conservation has become a significant part of how tropical forests are being governed. Reducing emissions from deforestation and forest degradation (REDD+) is a mechanism to mitigate climate change that many countries have started to implement. REDD+, however, is criticized for its potential negative impacts on local populations and Indigenous people. To prevent and mitigate the negative impacts, safeguards are increasingly being used to prevent and shift the focus toward 'non-carbon' elements of forest conservation. We discuss the legitimacy of these types of projects from a stakeholder perspective. Using a normative framework, we assess the Ecuadorian Socio Bosque conservation program, concentrating more specifically on the level of input and output legitimacy. Results show that Socio Bosque in its current form has shortcomings in both input and output legitimacy. We argue that an encompassing conception of legitimacy, including input and output criteria, particularly from a local stakeholder perspective, is essential for the future success of incentive-based conservation and particularly for REDD+ projects.

Larson, A. M. (2011). Forest tenure reform in the age of climate change: Lessons for REDD+. *Global Environmental Change*, **21**(2), 540–549. **doi:10.1016/j.gloenvcha.2010.11.008**

Numerous authors have stressed the importance of guaranteeing and protecting the tenure and human rights of indigenous and other forest-based communities under schemes for reducing emissions from deforestation and forest degradation (REDD, or REDD+); and important international indigenous organizations have spoken out strongly against REDD+. This article examines two specific issues that present risks for local communities: rights to forests and rules for resource use. It draws on the findings of a study conducted by the Center for International Forestry Research (CIFOR) on forest tenure reforms in selected countries in Asia, Africa and Latin America from 2006 to 2008. The study underlines the numerous obstacles faced by communities after rights are won, in moving from statutory rights to their implementation and to access to benefits on the ground. It argues that there is currently little reason to expect better results from national policies under REDD+ without binding agreements to protect local rights.

Larson, A. M., & Petkova, E. (2011). An introduction to forest governance, people and REDD+ in latin america: Obstacles and opportunities. *Forests*, **2**(1), 86–111. **doi:10.3390/f2010086**

REDD+ is a potentially significant financial mechanism for shifting the incentives from deforestation and land use change to forest conservation and sustainability. Even though REDD+ is not primarily a governance reform, it will affect or be affected by forest governance, it can improve forest governance or be undermined by its failures and, therefore, it depends on good forest governance if it is to be efficient, effective and equitable. This article provides an overview of key issues in forest governance in Latin America and discusses the risk and opportunities for REDD+. Though progress has been made in some areas, there is still much to be done, and REDD+ could reinforce or be undermined by problematic governance tendencies that affect its effectiveness, ability to decrease carbon emissions, and/or its legitimacy. The article recommends priority investments in institutional capacity, inter-institutional negotiation mechanisms, citizen participation and safeguards for forest-based populations.

Leggett, M., & Lovell, H. (2012). Community perceptions of REDD+: a case study from Papua New Guinea. *Climate Policy*, **12**(1), 115–134. **doi:10.1080/14693062.2011.579317**

REDD projects have received considerable attention for their potential to mitigate the effects of climatic change. However, the existing literature has been slow to assess the impacts of proposed REDD projects on the livelihoods of forest communities in the developing world, or the implications of these local realities for the success of REDD+ initiatives in general. This study presents ethnographic research conducted with communities within the April-Salomei pilot REDD+ Project in Papua New Guinea (PNG). Several cases of institutional biases and uneven power relationships have been exploited by local elites to prevent landowners from making free and informed choices about their involvement in the project, although landowners and local communities are well positioned to capture forthcoming project benefits. By underestimating the scale and impact of traditional shifting cultivation practices, the credibility of the REDD+ project design and the value of any future carbon credits are critically undermined. Based on the actual practices found in PNG, the authors'

radical proposal is to call for a halt on REDD development in PNG while institutional enabling conditions are improved, comprehensive landowner consultations conducted, and detailed mapping and genealogical surveys of landowners completed. Without these developments, future REDD+ projects in PNG are unlikely to benefit either the global climate or local development.

Leventon, J., Kalaba, F. K., Dyer, J. C., Stringer, L. C., & Dougill, A. J. (2014). Delivering community benefits through REDD+: Lessons from Joint Forest Management in Zambia. *Forest Policy and Economics, 44*, **10–17. doi:10.1016/j.forpol.2014.03.005**
In implementing reducing emissions from deforestation and degradation (REDD), significant attention is being paid to ensuring that communities stand to benefit. Safeguards to protect local people's rights and interests have been formulated in response concerns over the potential negative impact on communities of forest preservation. To fulfil safeguards, many sub-Saharan African countries are looking to community-based natural re- source management (CBNRM). Current critiques of CBNRM projects outline the importance of project design and policy context in shaping whether or not communities actually stand to benefit. This paper explores these aspects in a case study of Joint Forest Management (JFM) in Zambia, and examines the role of Zambia's REDD pre-paredness programme in shaping them. The case study was evaluated using stakeholder and policy document analyses, informed by interviews, and tied into the broader forest governance network. The findings highlight the way in which the politics and policies of forest governance in Zambia shape the on-the-ground JFM project and influence community benefits. In the case studied, even with careful local-level project design, JFM would be hindered in its delivery of REDD safeguards. Therefore, for REDD to deliver community safeguards, it must be considered as a broader process of political and governance change.

Maraseni, T. N., & Cadman, T. (2015). A comparative analysis of global stakeholders' perceptions of the governance quality of the clean development mechanism (CDM) and reducing emissions from deforestation and forest degradation (REDD+). *International Journal of Environmental Studies*, *7233*(March 2015), **1–17. doi:10.1080/00207233.2014.993569**
The Clean Development Mechanism (CDM) and the nascent solution of Reducing Emissions from Deforestation and Forest Degradation (REDD+) are two global market-based mechanisms that link developed and developing countries. This paper provides a quantitative and qualitative analysis of global-level stakeholders' perceptions regarding the governance of the CDM focusing on environ- mental, social, economic, governmental and institutional participants. The research conducted was by means of an anonymous online survey using an analytical approach based on principles, criteria and indicators (PC&I). It compares these findings with the results of a similar survey conducted by the authors on REDD+. Stakeholders from both developed countries and the developing countries were asked to rate the quality of these mechanisms against 11 performance indicators using a Likert scale (1–5). Overall, the results of CDM stakeholders from both developed and developing countries were very similar, indicating a common perception. The highest and lowest total scores were obtained from institutional and social stakeholders, respectively, demonstrating that these two groups have considerable differences in perceptions from other interests. CDM failed two indicators, 'equality' and 'resources', and passed all other nine indicators only marginally. The performance of REDD+ was much higher than CDM in all aspects of governance surveyed. The major differences were in 'equality' and 'problem solving', followed by 'transparency' and 'democracy'. If the CDM is to continue in the post-Kyoto period, some major systemic changes in governance are necessary. Here, there are some lessons to be learnt from REDD+.

Marcovitch, J., & Pinsky, V. C. (2014). Amazon Fund: financing deforestation avoidance. *Revista de Administração, 49*(2), **280–290. doi:10.5700/rausp1146**
The Amazon Fund, created in 2008 by the Brazilian Federal Government, is managed by Banco Nacional de Desenvolvimento Econômico e Social (BNDES). It is a pioneering initiative to fundraise and manage national resources to cut back deforestation and support sustainable development for 30 million inhabitants in the Amazon Biome. The Amazon Fund has already received more than R$ 1.7 billion in grants (about USD 787 million). This essay analyzes the Amazon Fund's governance and management with focus on its operation and from its stakeholders' perspectives. A combination of research methods includes: documental research, in-depth interviews, and speech analysis. The study offers a comparative analysis of strengths and weaknesses related to its governance. Furthermore, it proposes ways to improve its management towards greater effectiveness. The essay also includes an assessment of the government of Norway, a major donor to the fund. The governments of Norway and Germany, in partnership with Brazil, reveal how important it is to experiment with new means of international cooperation to successfully reduce greenhouse gas emissions through rainforest preservation.

Mathur, V. N., Afionis, S., Paavola, J., Dougill, a J., & Stringer, L. C. (2014). Experiences of host communities with carbon market projects: towards multi-level climate justice. *Climate Policy*, *14*(1), 42–62. doi:10.1080/14693062.2013.861728

The literature on equity and justice in climate change mitigation has largely focused on North–South relations and equity between states. However, some initiatives (e.g. the Clean Development Mechanism (CDM), the Reducing Emissions from Deforestation and Forest Degradation programme (REDD), and voluntary carbon markets (VCMs)) are already establishing multi- level governance structures that involve communities from developing countries in global mitigation efforts. This poses new equity and justice dilemmas: how the burdens and benefits of mitigation are shared across various levels and how host com- munities are positioned in multi-level governance structures. A review of the existing literature is used to distil a framework for distinguishing between four axes of climate justice from the perspective of communities. Empirical evidence from African and Asian carbon market projects is used to assess the distributive and procedural justice implications for host communities. The evidence suggests that host communities often benefit little from carbon market projects and find it difficult to protect their interests. Capacity building, attention to local power relations, supervision of business practices, promotion of projects with primarily development aims and an active involvement of non-state actors as bridges between local communities and the national/international levels could potentially contribute towards addressing some of the key justice concerns. Policy relevance: International negotiations on the institutional frameworks that are envisaged to govern carbon markets are proceeding at a rather slow pace. As a consequence, host countries and private-sector actors are making their own arrangements to safeguard the interests of local communities. While several standards have emerged to guide carbon market activity on the ground, distributive as well as procedural justice concerns nevertheless remain salient. Four empirical case studies across Asia and Africa show that within the multi-scale and multi-actor carbon market governance, local-level actors often lack sufficient agency to advance their claims and protect their interests. This evidence suggests that ameliorating policy reforms are needed to enhance the positioning of local communities. Doing so is important to ensure future acceptability of carbon market activity in potential host communities as well as for ensuring their broader legitimacy.

Matthews, R. B., van Noordwijk, M., Lambin, E., Meyfroidt, P., Gupta, J., Verchot, L., … Veldkamp, E. (2014). Implementing REDD plus (Reducing Emissions from Deforestation and Degradation): evidence on governance, evaluation and impacts from the REDD-ALERT project. *Mitigation and Adaptation Strategies for Global Change*, *19*(6), 907–925. doi:10.1007/s11027-014-9578-z

The REDD-ALERT (Reducing Emissions from Deforestation and Degradation from Alternative Land Uses in the Rainforests of the Tropics) project started in 2009 and finished in 2012, and had the aim of evaluating mechanisms that translate international-level agreements into instruments that would help change the behaviour of land users while minimising adverse repercussions on their livelihoods. Findings showed that some developing tropical countries have recently been through a forest transition, thus shifting from declining to expanding forests at a national scale. However, in most of these (e.g. Vietnam), a significant part of the recent increase in national forest cover is associated with an increase in importation of food and timber products from abroad, representing leakage of carbon stocks across international borders. Avoiding deforestation and restoring forests will require a mixture of regulatory approaches, emerging market-based instruments, suasive options, and hybrid management measures. Policy analysis and modelling work showed the high degree of complexity at local levels and highlighted the need to take this heterogeneity into account—it is unlikely that there will be a one size fits all approach to make Reducing Emissions from Deforestation and Degradation (REDD+) work. Significant progress was made in the quantification of carbon and greenhouse gas (GHG) fluxes following land-use change in the tropics, contributing to narrower confidence intervals on peat-based emissions and their reporting standards. There are indications that there is only a short and relatively small window of opportunity of making REDD+ work—these included the fact that forest-related emissions as a fraction of total global GHG emissions have been decreasing over time due to the increase in fossil fuel emissions, and that the cost efficiency of REDD+ may be much less than originally thought due to the need to factor in safeguard costs, transaction costs and monitoring costs. Nevertheless, REDD+ has raised global awareness of the world's forests and the factors affecting them, and future developments should contribute to the emergence of new landscape-based approaches to protecting a wider range of ecosystem services.

Mbatu, R. S. (2015). Domestic and international forest regime nexus in Cameroon: An assessment of the effectiveness of REDD+ policy design strategy in the context of the climate change regime. *Forest Policy and Economics*, *52*, 46–56. doi:10.1016/j.forpol.2014.12.012

The major goals of forest governance arrangements are sustainable forest management (SFM), poverty alleviation, and enhancement of forest biodiversity. However, in recent years, climate change mitigation, through

reducing emissions from deforestation and forest degradation (REDD+[1]) has emerged as one of the most important aspects of forest governance arrangements. This is due to the fact that REDD + has the potential to

pro- vide a framework for mitigating greenhouse gas emissions from deforestation and forest degradation while ad- dressing rural poverty and conserving forest biodiversity at the same time. In other words, the REDD+ scheme provides co-benefits beyond its main goal of reducing greenhouse gas emissions. Therefore, REDD+ is seen by many forest governance experts as a scheme that has the potential to slow down deforestation in a country like Cameroon, which arguably, has the highest rate of deforestation in the Congo Basin. However, this will depend on the effectiveness of Cameroon's REDD+ policy strategy, its efficiency in meeting its objectives at the lowest cost, and its ability to equitably distribute costs and benefits associated with the scheme. This paper assesses the effectiveness of REDD+ policy design in Cameroon within the context of the climate change regime. The paper employs the policy design approach to analyze four components of Cameroon's REDD+ policy design framework — governance and institutional arrangement; emissions baseline; leakage and scale; and technical is- sues. An economic-based assessment of the forest transition curve and the environmental Kuznets curve (EKC) reveals limitations that could render the REDD+ scheme cost ineffective for Cameroon. The paper suggests that Cameroon would have to focus on strengthening its existing governance structures and nurturing its forest related international agreements, if it is to design a REDD+ policy strategy that is consistent with the "nested" climate change regime approach.

McDermott, C. L. (2014). REDDuced: From sustainability to legality to units of carbon—The search for common interests in international forest governance. *Environmental Science & Policy*, *35*, 12–19. doi:10.1016/j.envsci.2012.08.012

This paper examines the institutional history of international forest governance, from the emergence of global intergovernmental forestry forums, to non-state market-based certification schemes, to regional illegal logging initiatives, to Reducing Emissions from Deforestation and Degradation and forest enhancement (REDD+) under the UNFCCC. It observes how the early initiatives were criticised for their failure to achieve coordinated and widespread action on forest conservation due to a lack of economic incentives and conflict over environmental and social priorities. This failure has been proceeded by a narrowing of core focus across each successive institution—from sustainability to legality to units of carbon—thereby transforming forest conservation into an increasingly legible and tradable commodity. Indeed, a wide range of environmental, economic and social actors appear to share the goal of making forest management more globally legible. This narrowing of focus, however, has served to displace rather than resolve a large array of environmental and social conflicts. The issues have been displaced across both space and time, generating a growing plethora of institutions involved in defining REDD+ modalities and ''safeguards'', including various UN bodies and programmes, international development banks, private certification schemes and national and subnational governments. Meanwhile there is little evidence of whether, where and how these efforts might affect forest change. In fact, the largest impact of REDD+ may ultimately be the production of information to facilitate exchange among states, investors and other actors rather than achievement of shared global forest goals.

McElwee, P., Nghiem, T., Le, H., Vu, H., & Tran, N. (2014). Payments for environmental services and contested neoliberalisation in developing countries: A case study from Vietnam. *Journal of Rural Studies*, *36*, 423–440. doi:10.1016/j.jrurstud.2014.08.003

Forest and water protection once relied primarily on regulatory means to achieve conservation ends, but an explosion of market-based and neoliberal approaches to environmental policy now depend instead on the creation and harnessing of financial instruments to value environmental goods and provide the funding needed for their preservation. Payments for environmental services (PES), which provides incentives for soil, water and forest conservation from users of services to those who provide them, is one of the most well-known of these approaches. However, many challenges remain for PES as a policy approach, and this paper explores how PES schemes have been implemented in practice in developing countries, how well they fit with descriptions of neoliberal environmental governance, and how these policies are being shaped by rural actors to make them more favourable to social, cultural or economic priorities in local areas. The paper shows that seemingly neoliberal policies like PES are actually a mix of both market economic incentives and regulatory approaches, and thus should not be labelled solely "neoliberal" per se. Further, much of this variegation in PES policy has resulted from active engagement of rural actors in shaping the parameters of what parts of neoliberal policy are acceptable, and what are not, and data from a Vietnam case study emphasize this point. Finally, the paper shows how key goals of neoliberal approaches, namely efficiency and conditionality, are often actually the weakest components of PES schemes, in Vietnam and elsewhere, particularly when they clash with local concerns over equity, which should pose a rethinking of how to understand PES success. The article concludes that PES plans should not be considered exclusively neoliberal per se, as they may in fact strengthen both state regulation and local participation and involvement in rural environmental management at the same time.

Milne, S., & Adams, B. (2012). Market Masquerades: Uncovering the Politics of Community-level Payments for Environmental Services in Cambodia. *Development and Change*, *43*(1), 133–158. doi:10.1111/j.1467-7660.2011.01748.x

A growing number of Payments for Environmental Services (PES) schemes are being implemented at the community level in developing countries, especially in the context of climate change mitigation efforts to Reduce Emissions from Deforestation and forest Degradation (REDD). In parallel, there is vigorous commentary about the implications of market-based or neoliberal conservation strategies, and their potential effects on communities that depend on natural resources. This article explores the political dimensions of community-level PES in Cambodia, where contracts for 'avoided deforestation' and 'biodiversity conservation' were implemented in five communities. The research examines three aspects of the community-level PES model that are inherently political: the engagement of communities as single homo- generous entities, capable of entering PES contracts; the simplification of land-use practices and resource rights; and the assumption that contracts are voluntary or reflect 'community choice'. These elements of PES work both discursively and practically to silence certain voices and claims, while privileging others. Therefore, the problematic nature of community-level PES is not that it is a market *per se*, but that it is a powerful intervention masquerading as a market. This process of 'market masquerades' emerges as a key element in the politics of neoliberal conservation in practice.

Minang, P. A., Van Noordwijk, M., Duguma, L. a, Alemagi, D., Do, T. H., Bernard, F., … Leimona, B. (2014). REDD+ Readiness progress across countries: time for reconsideration. *Climate Policy*, *14*(May), xx. doi:10.1080/14693062.2014.905822

Efforts towards Reducing Emissions from Deforestation and Forest Degradation plus conservation, sustainable management of forests and enhancement of carbon stocks (REDD+) have grown in importance in developing countries following negotiations within the United Nations Framework Convention on Climate Change (UNFCCC). This has favoured investments in processes to prepare countries for REDD+ at the national level (a process referred to as REDD+ Readiness). Yet, little attention has been given to how Readiness can be assessed and potentially improved. This article presents a framework for Readiness assessment and compares progress in REDD+ Readiness across four countries, namely Cameroon, Indonesia, Peru, and Vietnam. The Readiness assessment framework comprises six functions, namely planning and coordination; policy, laws, and institutions; measurement, reporting, verification (MRV), and audits; benefit sharing; financing; and demonstrations and pilots. We found the framework credible and consistent in measuring progress and eliciting insight into Readiness processes at the country level. Country performance for various functions was mixed. Progress was evident on planning and coordination, and demonstration and pilots. However, MRV and audits; financing; benefit sharing; and policies, laws and institutions face major challenges. The results suggest that the way national forest governance has been shaped by historical circumstances (showing path dependency) is a critical factor for progress in Readiness processes. There is need for a rethink of the current REDD+ Readiness infrastructure given the serious gaps observed in addressing drivers of deforestation and forest degradation, linking REDD+ to broader national strategies and systematic capacity building. Policy relevance: Policy makers, researchers and analysts helping to plan and implement REDD+, environmental services and climate change would find this paper potentially helpful. The paper explores progress on REDD+ Readiness across four countries (Cameroon, Indonesia, Peru and Vietnam) and provides broad lessons, recommendations and examples across these countries for further improving REDD+. The paper also suggests an innovative, credible and universally applicable set of criteria and indicators derived through a systematic review that could serve further global comparative analysis of readiness for REDD+ and relevant national environmental services delivery systems, including climate change mitigation.

Moeliono, M., Gallemore, C., Santoso, L., Brockhaus, M., & Di Gregorio, M. (2014). Information networks and power: Confronting the "wicked problem" of REDD+ in Indonesia. *Ecology and Society*, *19*(2). doi:10.5751/ES-06300-190209

Reducing Emissions from Deforestation and Forest Degradation (REDD+) is a priority issue for forest and climate policy in Indonesia, and REDD+ policy-making activity has been characterized by considerable public consultation. Despite this engagement, discussions on REDD+ in Indonesia are reported to have remained top-down, a disconcerting pattern when adaptive governance and transformational change require cross-scale and cross-sectoral communication. Explicitly modeling the patterns of information exchange related to REDD+ can clarify these claims and help identify potential barriers to the transformational change needed to implement REDD+. We used data obtained through semi structured and structured interviews held in 2011 with representatives from a broad range of organizations (N = 64), formally or informally involved in the national REDD+ policy processes in Indonesia, to study REDD-related information exchange. Adopting a social network analysis approach, we found that (1) organizations perceived as most influential in REDD+ policy formulation, often, but not exclusively, those with institutional authority over particular aspects of REDD+, tend not to seek information from other actors and (2) organizations exchange information primarily within three clusters of

similar organizations, with weak connections between clusters. This evidence suggests weak information exchange between the national government, national civil society, and transnational actors. We contend that the emergence of brokers able to connect these different clusters will be crucial for effective and inclusive REDD+ governance in Indonesia.

Mulyani, M., & Jepson, P. (2013). REDD+ and Forest Governance in Indonesia: A Multistakeholder Study of Perceived Challenges and Opportunities. *The Journal of Environment & Development*, *22*(3), **261–283. doi:10.1177/1070496513494203**

Reducing Emissions from Deforestation and Forest Degradation (REDD+) represents the strategic linkage between a climate change regime and international forest policy. But the future success of REDD+ will depend, in part, on how policy makers perceive the challenges and opportunities it offers stakeholders. This study investigated perceptions toward REDD+ based on interviews with 60 Indonesia-based key- informants influencing REDD+ policy. Interviewees cited "governance reform," "network building," "conservation," and "economic development" as opportunities. The perceived challenges included "REDD+'s complexity," "uncertainty of REDD+ decisions," "REDD+ is a tool of developed countries," and problems inherent within existing forest governance related to coordination, lack of capacity, ambiguity of legal system, and corruption. Adopting a clientelist perspective we draw attention to the underlying causes of these problems and the implication for REDD+. Despite highlighting significant challenges, most informants viewed the REDD+ mechanism as a potentially useful instrument to improve forest governance. Based on our findings, we suggest that identifying governance reforms that do not require major structural changes in the bureaucratic system in the short-term hold the best chance of success for capitalizing on the opportunities REDD+ may offer in the future.

Mulyani, M., & Jepson, P. (2015). Social learning through a REDD+ "village agreement": Insights from the KFCP in Indonesia. *Asia Pacific Viewpoint*, *56*(1), 79–95. doi:10.1111/apv.12083

This paper examines the process for establishing a 'village agreement' using the Kalimantan Forests and Climate Partnership (KFCP) as a case study. REDD+ is designed as a 'performance-based' mechanism and requires a contractual agreement between the parties involved. Since its implementation will affect the life of forest-dependent communities, it is vital that villagers have sufficient ability to negotiate their interests during the agreement process. This paper investigates the degree of 'social learning' essential for developing actors' capacity to negotiate rules and interests with outsiders involved in the agreement process (between KFCP and the seven villages involved) and how this meshes with notions of 'participation'. It found that while 'social learning' occurred as a result of the well-designed participatory process conducted by KFCP, villagers' ability to secure their interests was influenced by a learning experience accumulated from their previous engagement with several development/conservation projects. This finding contributes to literature by emphasising how historical context plays a significant role in the success of present learning and the efficacy or otherwise of a contractual agreement. Therefore historical aspects should be taken into account in site selection and the design of future REDD+ projects.

Mustalahti, I., Bolin, A., Boyd, E., & Paavola, J. (2012). Can REDD+ reconcile local priorities and needs with global mitigation benefits? Lessons from angai forest, Tanzania. *Ecology and Society*, *17*(1), **16. doi:10.5751/ES-04498-170116**

The scope of the reducing emissions from deforestation and forest degradation (REDD) mechanism has broadened REDD+ to accommodate different country interests such as natural forests, protected areas, as well as forests under community- based management. In Tanzania the REDD+ mechanism is still under development and pilot projects are at an early stage. In this paper, we seek to understand how local priorities and needs could be met in REDD+ implementation and how these expectations match with global mitigation benefits. We examine the local priorities and needs in the use of land and forest resources in the Angai Villages Land Forest Reserve (AVLFR) in the Liwale District of Lindi Region in Tanzania. Primary data was collected in two villages, Mihumo and Lilombe, using semistructured key informant interviews and participatory rural appraisal methods. In addition, the key informant interviews were conducted with other village, district, and national level actors, as well as international donors. Findings show that in the two communities REDD+ is seen as something new and is generating new expectations among communities. However, the Angai villagers highlight three key priorities that have yet to be integrated into the design of REDD+: water scarcity, rural development, and food security. At the local level improved forest governance and sustainable management of forest resources have been identified as one way to achieve livelihood diversification. Although the national goals of REDD+ include poverty reduction, these goals are not necessarily conducive to the goals of these communities. There exist both structural and cultural limits to the ability of the Angai villages to implement these goals and to improve forestry governance. Given the vulnerability to current and future climate variability and change it will be important to consider how the AVLFR will be managed and for whose benefit?

Mustalahti, I., & Rakotonarivo, O. S. (2014). REDD+ and Empowered Deliberative Democracy: Learning from Tanzania. *World Development*, *59*, 199–211. doi:10.1016/j.worlddev.2014.01.022
This study was guided by the Empowered Deliberative Democracy (EDD) discourse. We analyzed how the Tanzanian Community Carbon Enterprise (CCE) model could reinforce the representation of disadvantaged groups in Reducing Emissions from Deforestation and Forest Degradation (REDD+). The findings from Tanzanian suggest unmet conditions with disadvantages groups' representation in local decision-making and project implementation. We argue that mechanism to support horizontal accountability could include audits and monitoring carried out by disadvantaged groups. This type of internal mechanism could for example allow careful consideration of carbon responsibilities and to allow disadvantaged groups to influence service delivery and implementation.

Mustalahti, I., & Tassa, D. T. (2012). Analysis of three crucial elements of REDD plus in participatory forest management. *Scandinavian Journal of Forest Research*, *27*(2), 200–209. doi:10.1080/02827581.2011.635083
It is claimed that reduced emissions from deforestation and forest degradation (REDD) could contribute to sustainable management of forests and enhancement of forest carbon stocks as well as having the potential to deliver significant social and environmental co-benefits ( ). From the perspectives of local factors and broader governance issues related to REDD , this study aims to explore findings related to three crucial elements, commitment, transparency and continuity, implemented jointly with participatory forest management in Tanzania in the case of the REDD mechanism. This paper argues that commitment and transparent systems are needed at village level, as well as at the various levels of forest governance and among the donors, in order for REDD benefits to be shared equitably at the REDD project level. Any REDD project should include safeguards that recognise and protect the continuity of multipurpose functions of the forest to local people and avoid dependence on external payments.

Neeff, T., Göhler, D., & Ascui, F. (2014). Finding a path for REDD+ between ODA and the CDM. *Climate Policy*, *14*(March 2015), 149–166. doi:10.1080/14693062.2013.831289
A new financing mechanism known as REDD+ (reducing emissions from deforestation and forest degradation, and conservation, sustainable management of forests and enhancement of forest carbon stocks) is being established to achieve large-scale reductions in GHG emissions from tropical forestry and land use. Can REDD+ successfully integrate an emphasis on sustainable development benefits (as with Official Development Assistance, ODA) with a focus on delivering emission reductions (as with the Clean Development Mechanism, CDM)? It is argued that there is a real risk that REDD+ will stay too close to ODA and fail to move beyond its 'readiness' phase. Moreover, as with the CDM, there could be an over-emphasis on results in terms of emission reductions, which would only make it attractive for a small set of activities in relatively few countries. In order to balance sustainable development with cost-effective emission reductions, REDD+ needs to involve the private sector in project implementation and financing, its rules for reference levels and crediting arrangements need to be flexible, and forest countries need to proactively direct activities. Policy relevance: REDD+ has the potential to deliver funding at an unprecedented scale for forestry and land use activities in developing countries. However, this will only occur if the mechanism can successfully transition from its current readiness phase (which is similar to ODA) to a results-based REDD+ phase (which implies similarities with the CDM). A framework for analysing the attractiveness of results-based REDD+ for both forest and funder countries is provided. It is argued that the interests of forest and funder countries coincide when there are activities that score well with respect to financing and co-funding requirements, socio- economic impacts, and governance implications, within the context of each forest country's policy environment and capabilities. An early case study of a results-based REDD+ transaction, the Indonesian logging moratorium, suggests this conceptual framework provides an effective decision support tool to help design future REDD+ policy interventions to avoid the various pitfalls of ODA and the CDM.

Nepstad, D. C., Boyd, W., Stickler, C. M., Bezerra, T., & Azevedo, A. A. (2013). Responding to climate change and the global land crisis: REDD+, market transformation and low-emissions rural development. *Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences*, *368*(1619), 20120167. doi:10.1098/rstb.2012.0167
Climate change and rapidly escalating global demand for food, fuel, fibre and feed present seemingly contradictory challenges to humanity. Can greenhouse gas (GHG) emissions from land-use, more than one-fourth of the global total, decline as growth in land-based production accelerates? This review examines the status of two major international initiatives that are designed to address different aspects of this challenge. REDD+ is an emerging policy framework for providing incentives to tropical nations and states that reduce their GHG emissions from deforestation and forest degradation. Market transformation, best represented by

agricultural commodity roundtables, seeks to exclude unsustainable farmers from commodity markets through international social and environmental standards for farmers and processors. These global initiatives could potentially become synergistically integrated through (i) a shared approach for measuring and favouring high environmental and social performance of land use across entire jurisdictions and (ii) stronger links with the domestic policies, finance and laws in the jurisdictions where agricultural expansion is moving into forests. To achieve scale, the principles of REDD and sustainable farming systems must be embedded in domestic low-emission rural development models capable of garnering support across multiple constituencies. We illustrate this potential with the case of Mato Grosso State in the Brazilian Amazon.

Newton, P., Schaap, B., Fournier, M., Cornwall, M., Rosenbach, D. W., DeBoer, J., … Agrawal, A. (2015). Community forest management and REDD+. *Forest Policy and Economics*, *56*, 27–37. **doi:10.1016/j.forpol.2015.03.008**

The urgent need to limit anthropogenic carbon emissions has led to the global initiative on Reducing Emissions from Deforestation and forest Degradation (REDD+). One option to facilitate the design and implementation of REDD+ is to build on the experiences of community forest management (CFM). Despite tensions between the central objectives of REDD+ and CFM, the two policy interventions share the objective of managing forests sustainably. REDD+ projects can build on and benefit from the environmental, social, human, and institutional capital associated with existing community forest governance. Using a comparative case approach with studies from Nepal and Tanzania, we illustrate interactions between REDD+ and CFM. In Nepal, most REDD+ pilot projects have been located in community forest sites, especially in high-carbon forests. In Tanzania, REDD+ funding is being used to expand the area of forest under Participatory Forest Management. Our study also highlights how community forestry institutions may need to be modified to satisfy key REDD+ criteria. Greater institutional coordination, equitable benefit sharing mechanisms, and higher community capacity for monitoring, reporting, and verification are key areas needing change. There are significant risks, but the vast experience and significant successes of CFM can improve prospects for achieving REDD+ objectives in other less-industrialized, forested countries.

Ngendakumana, S., Minang, P. A., Feudjio, M., Speelman, S., Van Damme, P., & Tchoundjeu, Z. (2014). Institutional dimensions of the developing REDD+ process in Cameroon. *Climate Policy*, *14*(6), **769–787. doi:10.1080/14693062.2014.877221**

The reducing emissions from deforestation and forest degradation (REDD+) initiative has emerged in recent years as a mechanism to simultaneously address climate change, biodiversity, and poverty reduction challenges at the margins of tropical forests. Congo Basin countries, including Cameroon, have embraced the opportunities that REDD+ provides, with great expectations. Yet, it needs to be investigated whether the enabling institutional environment, which is required for implementing REDD+, is present. Understanding is still limited on how to build adequate and strong institutional relations that could shape the reforms towards the establishment of efficient emissions reductions schemes. Furthermore, uncertainty remains on the operational mechanisms of REDD+ , suggesting that, to catalyse effectiveness, there is a need to come up with a governance model nested in relevant policy frameworks. This study builds on a modified '4Is' framework – Institutions, Interests, Ideas and Information – to analyse REDD+ and explore stakeholders' perceptions on the local forest governance potential. A structural implementation model to optimize the effectiveness of REDD+ is developed. Findings suggest that governments need to review existing policies to take into account participation, local people rights, and information access as a way to stimulate actors' willingness to contribute to emissions reductions and carbon stock increases under REDD+ regimes. Policy relevance: Currently, there is no agreed framework for REDD+ in Cameroon, despite the potential role its humid forests could have to mitigate climate change at national and global levels. Furthermore, there are no initiatives that have fully mapped the boundary institutions to be engaged in REDD+ processes at the landscape level, although there is high commitment of various stake-holders to influence policies towards the implementation of the mechanism itself. For example, forestry companies, local com- munities, and conservation institutions would like to get involved. Findings indicate that there is potential for a cross-sectoral change and provide guidance as to how the uncertainties and risks, which may undermine the effective participation of stake- holders in the REDD+ processes at local and national levels, might be tackled. The schematic model and analytical frameworks suggested should prove very important to bridge various discourses among diverse actors. The end result is anticipated to be a governance structure for CO_2 emissions reductions through changes in land-use practices.

Ochieng, R. M., Visseren-Hamakers, I. J., & Nketiah, K. S. (2013). Interaction between the FLEGT-VPA and REDD+ in Ghana: Recommendations for interaction management. *Forest Policy and Economics*, *32*, 32–39. **doi:10.1016/j.forpol.2012.07.003**

Deforestation and forest degradation remain high worldwide, and one of the dominant underlying causes for this forest loss is illegal logging. Numerous international policies have been developed aimed at addressing

these issues. This article studies two of these regimes, the European Union's Forest Law Enforcement, Governance and Trade (FLEGT) action plan and its Voluntary Partnership Agreement (VPA) with Ghana, and the climate mitigation policy of reducing emissions from deforestation and forest degradation (REDD+). The interactions between these two international policies at the national level, namely in Ghana, are analysed. The research shows numerous current and anticipated interactions between the two regimes. Most of these interactions potentially have a positive influence, but much depends on the future implementation of both regimes. The article makes recommendations on how to manage the interactions in order to improve the synergies and enhance effectiveness, including institutionalizing information sharing and learning, jurisdictional delimitation, and improving collaboration.

Oestreicher, J. S., Benessaiah, K., Ruiz-Jaen, M. C., Sloan, S., Turner, K., Pelletier, J., … Potvin, C. (2009). Avoiding deforestation in Panamanian protected areas: An analysis of protection effectiveness and implications for reducing emissions from deforestation and forest degradation. *Global Environmental Change*, *19*(2), 279–291. doi:10.1016/j.gloenvcha.2009.01.003

Reducing greenhouse gas emissions from deforestation and forest degradation (REDD) is likely to be central to a post-Kyoto climate change mitigation agreement. As such, identifying conditions and factors that will shape the success or failure of a reduced deforestation scheme will provide important insights for policy planning. Given that protected areas (PAs) are a cornerstone in forest conservation, we draw on interviews and secondary data to analyse the effects of available PA resources, governance ability, the level of community involvement, and provincial deforestation rates on land-cover change in nine PAs in Panama. Our results illustrate that coupling surveillance measures with greater funding and strong governance are paramount to reducing deforestation. Alone, however, these factors are insufficient for forest protection. We argue that conservation approaches that complement effective surveillance with community participation and equitable benefit sharing will address the wider issues of leakage and permanence

Okereke, C., & Dooley, K. (2010). Principles of justice in proposals and policy approaches to avoided deforestation: Towards a post-Kyoto climate agreement. *Global Environmental Change*, *20*(1), 82–95. doi:10.1016/j.gloenvcha.2009.08.004

This paper offers a normative analysis of the current negotiations on reducing emissions from deforestation and forest degradation (REDD) under the United Nations Framework Convention on Climate Change (UNFCCC). Drawing on existing theories of distributive justice, we seek to determine which interpretations of equity are embodied in the key proposals and policy approaches to REDD in the run up to a post-Kyoto climate agreement. Our analysis indicates that whilst the various proposals are characterised by different and sometimes contradictory notions of equity, it is the ideas that are more consistent with neoliberal concepts of justice that tend to prevail. The result is that despite abiding contestations and controversies, emerging REDD policy solutions for the post-2012 climate regime looks very likely to reflect a commitment to market-based approaches to forest governance. However, whilst such market-based approaches might serve the preferences of powerful players, their effectiveness in terms of forest preservation, the protection of indigenous peoples and sustainable community development remains extremely dubious. On a broader note, our analysis reinforces the growing realization that the international arena is not beyond the pale of moral arguments but rather that the governance of global environmental change implicates elemental ethical questions regarding which ways of life human beings ought to pursue.

Paudel, N. S., Vedeld, P. O., & Khatri, D. B. (2015). Prospects and challenges of tenure and forest governance reform in the context of REDD+ initiatives in Nepal. *Forest Policy and Economics*, *52*, 1–8. doi:10.1016/j.forpol.2014.12.009

This paper argues that the Reducing Emission from Deforestation and Forest Degradation (REDD+) initiatives in Nepal have not adequately understood and considered institutional and political issues around forest tenure and governance challenges. The paper is developed based on reviews of polices, assessments of project activities, interviews with key informants, and observation of ongoing REDD+ related public discussions. We found that the REDD+ initiatives so far appear to have prioritized technical issues such as carbon assessment, reference scenario, and measurement, reporting and verification of emissions. However, a major policy challenge in Nepal is the substantial deforestation and degradation going on, which leads to substantial challenges of leakage and threatens Nepal's National REDD+ policy ambition. The key drivers of deforestation and degradation in Nepal are still poorly identified, analysed and understood. Inadequate focus of Nepal's present REDD+ readiness on the core issues of contested forest tenure and frail governance entails that an unrealistic policy and institutional measures would be developed in addressing these issues of deforestation and degradation. Consequently, it would seriously undermine the prospect of achieving emission reduction — the very goal of REDD+. It is suggested that a robust analysis, collective understanding and broadly agreed policy measures for curbing deforestation must be at the core of REDD+ readiness process.

Peskett, L., Schreckenberg, K., & Brown, J. (2011). Institutional approaches for carbon financing in the forest sector: Learning lessons for REDD+ from forest carbon projects in Uganda. *Environmental Science and Policy, 14*(2), 216–229. doi:10.1016/j.envsci.2010.10.004

With momentum building around the implementation of REDD+ programmes and projects, questions surrounding the appropriate structuring of institutions are becoming increasingly important. We examine how the variations in the institutional arrangements related to the carbon finance aspects of projects affect the opportunities for poor rural producers involved, or those living in the vicinity of projects. Evidence is drawn from a review of three forest carbon projects in Uganda, based on qualitative stakeholder interviews and supported by policy documents and literature. Three aspects of project institutions are discussed; actors, rules and links to existing external institutions. The findings suggest that supporting such projects with carbon finance can have some positive impacts on opportunities through improved monitoring, but that considerable progress needs to be made in balancing the interests of project financers with those of the communities involved and improving policy coordination with existing institutions external to projects. We suggest that these lessons are particularly transferable to the growing number of REDD+ approaches that are strongly performance based or funded through carbon markets, and implemented through direct payment systems between buyers and local producer groups or individuals.

Pettenella, D., & Brotto, L. (2012). Governance features for successful REDD+ projects organization. *Forest Policy and Economics, 18*, 46–52. doi:10.1016/j.forpol.2011.09.006

Projects aiming at reducing emissions from deforestation and forest degradation (REDD+) still account for a small share of the voluntary carbon market. Indeed, although carbon buyers claimed REDD credits to be the most desirable ones, and despite the steps forward for a REDD+ approval under the UNFCCC, REDD+ project development appears problematic. Good governance is often a prerequisite for the development of a REDD+ project. With the scope of determining the governance features for a successful REDD+ project, the research pro- poses a logical framework for REDD+ project governance assessment. Starting from the Governance of Forests Initiative Toolkit developed by the World Resource Institute, a set of REDD+ governance indicators are selected and applied in two Peruvian REDD+ field case studies. The methodology is then tested on REDD+ projects where no primary information is available. REDD+ projects are found to be successful when transparency and accountability are carefully addressed and when forest management and land use planning are endorsed. In this sense the Forest Stewardship Council certification appears to be an important pre-condition for the success of REDD+.

Pham, T. T., Gregorio, M. Di, Carmenta, R., Brockhaus, M., & Le, D. N. (2014). The REDD + policy arena in Vietnam : participation of policy actors. *Ecology and Society, 19*(2), 22–32. doi:10.5751/ES-06389-190222

Reducing emissions from deforestation and degradation (REDD+) has gained increasing global attention because of its potential to reduce carbon emissions and improve forest governance. Reducing emissions from deforestation and degradation requires successful inclusive decision making and accountability. However, there have been limited empirical studies that examine the effectiveness of the current participatory mechanism used in REDD+. Our research analyses the participation of policy actors in the development of the REDD+ instrument in Vietnam. We are interested in how the political context and the different interests of actors influence the degree of participation in national REDD+ policy decision making. We explored participation through the analysis of the mechanisms, e.g., how actors involve and participate in decision making, and dynamics of participation, e.g., highly centralized policy event vs. donor led event. The study aims to answer three research questions: (1) Who is involved in national REDD+ policy making and what are their interests in participating in core political events? (2) What level of participation do the different political actors have in core political events? and (3) To what extent do the outcomes, e.g., regulations and strategies, of REDD+ policy events incorporate different preferences of policy actors? Our findings highlighted the dominant role of government agencies in REDD+ policy making, which leaves limited political space for non-state actors, e.g., NGOs and civil society organizations (CSOs), in Vietnam to exert an influence on the final policy outputs. Even in this highly centralized context, however, we found evidence to suggest that some political space in decision-making is given to non-state actors. Within this space, such actors are able to propose alternative policy options. Ensuring inclusive decision making and accountability in the Vietnam context requires a shift in current governance from traditional top-down approaches to a more participatory form of decision making.

Phelps, J., Guerrero, M. C., Dalabajan, D. A., Young, B., & Webb, E. L. (2010). What makes a "REDD" country? *Global Environmental Change, 20*(2), 322–332. doi:10.1016/j.gloenvcha.2010.01.002

Despite remaining uncertainties, Reducing Emissions from Deforestation and forest Degradation in developing

countries (REDD) projects are being planned and implemented across the tropics, primarily targeting countries with high forest cover and high deforestation rates. However, there is growing recognition that REDD planning requires a broadened approach; a future REDD mechanism should incentivise emissions reduction in all developing forested countries, and should address critical non- carbon dimensions of REDD implementation— quality of forest governance, conservation priorities, local rights and tenure frameworks, and sub-national project potential. When considering this broader suite of factors, different REDD priorities can emerge, including in countries with low forest cover that would be overlooked by conventional site selection criteria. Using the Philippines as a case study, the paper highlights the importance of an enabling environment to REDD implementation, and presents a more comprehensive and inclusive approach for thinking about what comprises a REDD country.

Plumb, S. T., Nielsen, E. A., & Kim, Y.-S. (2012). Challenges of Opportunity Cost Analysis in Planning REDD+: A Honduran Case Study of Social and Cultural Values Associated with Indigenous Forest Uses. *Forests*, *3*(4), 244–264. doi:10.3390/f3020244

The REDD Programme is predicated on the assumption that developed countries will provide sufficient funds to offset opportunity costs associated with avoiding deforestation. The role of non-market values in indigenous land management may challenge the efficacy of compensation schemes targeted at meeting opportunity costs as calculated in traditional opportunity cost analysis (OCA). Furthermore it is unclear how these economic incentives might affect social and cultural values linked to land-use norms, livelihoods, and local governance. This study explores the economic, social and cultural values of forest uses for a Miskito community in the Rio Plátano Biosphere Reserve in Honduras. Data were collected using household surveys, farm visits, and community workshops. OCA indicates potential for successful REDD+ payment schemes; however it is an inadequate method to account for subsistence and cultural opportunity costs associated with avoided deforestation. Compensation to change land-use practices may undermine governance institutions necessary to address deforestation in the region. Our results indicate that small-scale agriculture and other forest-based subsistence activities are important cultural practices for maintaining Miskito identity and forest management institutions. Recommendations are offered for using OCA to develop REDD+ projects that recognize the linkages between social and cultural values and forest management by focusing on approaches that consider a full range of economic, social and cultural opportunity costs.

Pokorny, B., Scholz, I., & de Jong, W. (2013). REDD+ for the poor or the poor for REDD+? About the limitations of environmental policies in the Amazon and the potential of achieving environmental goals through pro-poor policies. *Ecology and Society*, *18*(2), 3. doi:10.5751/ES-05458-180203

Once again, the international community focuses on the preservation of Amazonian forests, in particular through a bundle of initiatives grouped under the term of REDD+. Initially focusing on reducing carbon emissions, the REDD+ process became increasingly linked with developmental goals that represent the primary interest of all Amazon countries. In consequence, REDD+ can be seen as another attempt to achieve the twin goals of environmental protection and rural development, and consequently, relies on the strategies and tools of past efforts. Against this background, we explore past experiences with key strategies for environmental protection and poverty alleviation in the Amazon to critically reflect about the potential of REDD+ to contribute to sustainable local development in the region. The analysis demonstrates that initiatives that pursued environmental goals mostly led to more restrictions and bureaucratic barriers to local forest users, while the prevailing approaches to promote rural dwellers showed ambivalent environmental outcomes. Reasons for these unsatisfactory results include the sectoral alignment of the measures and the poor coordination and lack of coherence with decisive policy areas. Most critically, the environmental and social initiatives themselves rely on the classic development approach widely disregarding smallholders' capacities to contribute to local development. The manifold pilot activities emerging under the new REDD+ framework tend to repeat these shortcomings, thereby further accelerating the replacement of local socio-productive schemes with unsustainable land uses. In view of the growing consensus about the ecological incompatibility, social limitations and economic risks of classic development, an alternative vision of development is needed, which more consciously takes into account the immense social and environmental potential of the region. Considering that REDD+ is still at the start, there might be possibilities to re-adjust the framework and thereby turn it into a real contribution to the sustainable development of rural Amazon.

Poudel, D. P. (2014). REDD+ comes with money, not with development: an analysis of post-pilot project scenarios from the community forestry of Nepal Himalaya. *International Journal of Sustainable Development & World Ecology*, *21*(6), 552–562. doi:10.1080/13504509.2014.970242

Reducing emissions from deforestation and forest degradation (REDD+) attracts poor nations to keep their forest standing only to sequester carbon through monetary incentives. However, in countries like Nepal where

forest is an integral part of social practices, communities need to keep using forests for making a living. Based on household survey, field interview, personal observation, and broad review of forestry legislations, this paper scrutinizes villagers' experiences of changes in forest management after implementation of a REDD+ pilot project in nine Community Forestry Users Groups (CFUGs) of Nepal. Since REDD+ was not initiated by local communities but tacitly implemented by international NGOs, most villagers lacked knowledge about it and the associated benefits from the pilot project, thus fewer villagers were found to be motivated to participate in the pilot project. Consequently, it delinked villagers from their forest by implicitly tightening uses rules, which resulted in constraints to fetch forest products. In addition, REDD+ benefits were distributed to some poor house- holds but not to all, which resulted to an antagonistic sentiment in the villages. Thus, a rigorous assessment of conditions and framework of REDD+ and an involvement of local community from the start without compromising in the uses of forest products is of the utmost importance before considering the REDD+ framework as an alternative or as similar to CFUG in Nepal. Alternatively, REDD+ can be a part or a development project under the CFUG's framework, which could be socially as well as legally acceptable on the present situation.

Pratihast, A., Herold, M., Avitabile, V., de Bruin, S., Bartholomeus, H., Jr., C., & Ribbe, L. (2012). Mobile Devices for Community-Based REDD+ Monitoring: A Case Study for Central Vietnam. *Sensors*, *13*(1), 21–38. doi:10.3390/s130100021

Monitoring tropical deforestation and forest degradation is one of the central elements for the Reduced Emissions from Deforestation and Forest Degradation in developing countries (REDD+) scheme. Current arrangements for monitoring are based on remote sensing and field measurements. Since monitoring is the periodic process of assessing forest stands properties with respect to reference data, adopting the current REDD+ requirements for implementing monitoring at national levels is a challenging task. Recently, the advancement in Information and Communications Technologies (ICT) and mobile devices has enabled local communities to monitor their forest in a basic resource setting such as no or slow internet connection link, limited power supply, etc. Despite the potential, the use of mobile device system for community based monitoring (CBM) is still exceptional and faces implementation challenges. This paper presents an integrated data collection system based on mobile devices that streamlines the community-based forest monitoring data collection, transmission and visualization process. This paper also assesses the accuracy and reliability of CBM data and proposes a way to fit them into national REDD+ Monitoring, Reporting and Verification (MRV) scheme. The system performance is evaluated at Tra Bui commune, Quang Nam province, Central Vietnam, where forest carbon and change activities were tracked. The results show that the local community is able to provide data with accuracy comparable to expert measurements (index of agreement greater than 0.88), but against lower costs. Furthermore, the results confirm that communities are more effective to monitor small scale forest degradation due to subsistence fuel wood collection and selective logging, than high resolution remote sensing SPOT imagery.

Rahlao, S., Mantlana, B., Winkler, H., & Knowles, T. (2012). South Africa's national REDD+ initiative: assessing the potential of the forestry sector on climate change mitigation. *Environmental Science & Policy*, *17*(0), 24–32. doi:http://dx.doi.org/10.1016/j.envsci.2011.11.013

Reducing emissions from deforestation and forest degradation in developing countries (REDD+) is regarded by its proponents as one of the more efficient and cost effective ways to mitigate climate change. There was further progress toward the implementation of this mechanism at the 16th Conference of Parties (COP) in Cancun in December 2010. Many countries in southern African, including South Africa, have not been integrated (do not participate) into the UN-REDD+ programme, probably due to their low forest cover and national rates of deforestation. This paper discusses the potential contribution of REDD+ activities to the South African Government's pledge of reducing national greenhouse gas (GHG) emissions by 34% below business as usual by 2020. A number of issues such as complex land tenure system, limited forest cover and other conflicting environmental issues present challenges for REDD+ in South Africa. Despite these genuine concerns, REDD+ remains a practical strategy to contribute to climate change mitigation for South Africa. The paper raises the need for development of a variety of emission reduction programmes – not only in the energy sector. The paper also assesses several national options and opportunities towards a working REDD+ mechanism. It concludes by identifying key mechanisms for moving forward to prepare for REDD+ actions in South Africa and raises the urgent need for national dialogue between stakeholders and institutions to evaluate the feasibility of making use of the mechanism in South Africa and the Southern African Development Cooperation (SADC) region. The paper further addresses possible synergies and conflicts between the national climate change and forestry policies towards REDD+ development. It suggests that REDD+ should be part of the national dialogue on policy to respond to climate change and should be integrated into the national flagship programmes that the national climate change white paper seeks to implement. A multiple- benefit REDD+ initiative for South Africa can benefit from these international financial initiatives. It is anticipated that this initiative will provide a platform to enhance

policy, institutional and technical stakeholder capacities to access financial incentives that may lead to sound environmental practises.

Rantala, S., Hajjar, R., & Skutsch, M. (2014). Multilevel Governance for Forests and Climate Change: Learning from Southern Mexico. _Forests_, _5_, 3147–3168. doi:10.3390/f5123147

Reducing emissions from deforestation and forest degradation (REDD+) involves global and national policy measures as well as effective action at the landscape scale across productive sectors. Multilevel governance (MLG) characterizes policy processes and regimes of cross-scale and cross-sector participation by multiple public and private actors for improved legitimacy and effectiveness of policy. We examine multilevel, multi-actor engagement in REDD+ planning in Quintana Roo, Mexico, to find out how local perspectives align with the national policy approach to REDD+ as an integrating element of holistic rural development at territorial scale, and how current practices support procedurally legitimate MLG required to implement it. We find that there is wide conceptual agreement on the proposed approach by a variety of involved actors, in rejection of the business-as-usual sectoral interventions. Its implementation, however, is challenged by gaps in horizontal and vertical integration due to strong sectoral identities and hierarchies, and _de facto_ centralization of power at the federal level. Continued participation of multiple government and civil society actors to contribute to social learning for locally appropriate REDD+ actions is likely to require a more balanced distribution of resources and influence across levels. Meaningfully engaging and ensuring the representation of local community interests in the process remains a critical challenge.

Rantala, S., Kontinen, T., Korhonen-Kurki, K., & Mustalahti, I. (2015). Equity in REDD+: Varying logics in Tanzania. _Environmental Policy and Governance_, _25_(3), 201–212. doi:10.1002/eet.1669

Equity is frequently cited as one of the key design aspects of environmental governance regimes. In the context of Reduced Emissions from Deforestation and Forest Degradation (REDD+), a forest-based climate change mitigation instrument, the manner in which 'equity' is understood will be of critical importance for the impacts and acceptance of REDD+ policies and initiatives. Whereas the concept has been extensively studied in the academic literature, references to equity in REDD + policy debates and documents are often vague, leaving room for various interpretations and modes of implementation. In our case study of the Tanzanian national REDD+ policy domain, we provide a conceptual framework based on an institutional logics approach for analysing the various underlying rationalities in the 'equity in REDD+' debate. We apply it to demonstrate how the involved policy actors draw from heterogeneous equity logics in their support for and opposition to different governance models, highlighting the importance of precise contextualization and operationalization of broad international principles in national REDD + initiatives.

Robiglio, V., Armas, A. D., Silva Aguad, C., & White, D. (2014). Beyond REDD+ readiness: land-use governance to reduce deforestation in Peru. _Climate Policy_, _14_(6), 734–747. doi:10.1080/14693062.2014.962467

Peru contains the fourth largest area of tropical forest in the world, yet faces a worsening net deforestation rate. In 2008, to address this threat, the national government announced its ambition to reduce deforestation to zero by 2021. Via literature review and key informant interviews, this study assesses two years of REDD+ readiness preparations according to six readiness functions. A mixed pattern of outcomes emerge. Although significant advances were made by various local-level initiatives, national- level efforts continue to struggle. Three crucial challenges persist: (1) greater involvement and coordination of ministries and government agencies associated with REDD+ planning, (2) better understanding of deforestation agents and drivers, and (3) integration of REDD+ policies into national and regional plans, which includes clarification of safeguard procedures and design of incentive mechanisms. Integrated land use planning is presented as a platform to foster dialogue that helps to reconcile divergent stakeholder perspectives, coordinate changes to land use, and resolve overlapping land rights. Policy relevance: This article presents the outcomes of a multi-dimensional assessment of the REDD+ readiness process in Peru. The six key functions in the analytical framework provide the opportunity to evaluate the process in an integrated and systematic manner and highlights the persistence of complex, transversal governance challenges across diverse economic sectors and government agencies. Research findings also reveal a need for policy change and continued investment to ensure success of the national process in Peru. Strong leadership is needed to generate consensus in cross-sectoral negotiations and to establish coordinated land governance and monitoring mechanisms.

Rutt, R. L., & Lund, J. F. (2014). What role for government? The promotion of civil society through forestry-related climate change interventions in post-conflict Nepal. _Public Administration and Development_, _34_(September), 1–10. doi:10.1002/pad

In introducing the special issue, this essay draws together international experiences by way of examples that have appeared in the Public Administration and Development journal over recent decades. What has worked in

global anti-corruption? What has not? And is there a need for a more holistic approach to global anti-corruption in terms of integrity management, given that the nature of public sector corruption is changing and boundaries between public and private sectors have become politically blurred? Against the background of key concepts, what have been the trends and issues of corruption and integrity in the public/civil services and honest government at national and international levels? The range of approaches and strategies are outlined, followed by selected national cases across the regions. Second, the essay assesses the major institutional approaches and their shortcomings and presents elements of an alternative approach on the basis of civic education and the nurturing of reflexivity. Citizens are central to this thinking in terms of sensitising them to public ethics. (Re)orienting public officials towards becoming reflective public officials, that is, why they are public officials and who is the public, could not be more pertinent to recent revolutionary events in much of the Arab world. The debate continues. Recent developments such as political corruption and corruption at the sectoral (e.g. water and education), decentralised, local government and city levels are discussed. Although we cannot switch entirely to personal values, the technical solutions by themselves have not proved as successful as their proponents had hoped, and other approaches are essential to replace and/or complement them.1 Finally, the focus of the special issue is outlined, with its stress on providing perspectives that not only add to the discourse on global anti-corruption but provide practitioners with policy-relevant guidance.

Shrestha, S., Karky, B., & Karki, S. (2014). Case Study Report: REDD+ Pilot Project in Community Forests in Three Watersheds of Nepal. *Forests*, *5*(10), 2425–2439. doi:10.3390/f5102425
Reducing emissions from deforestation and forest degradation (REDD+) is an international climate policy instrument that is expected to tap into the large mitigation potential for conservation and better management of the world's forests through financial flows from developed to developing countries. This paper describes the results and lessons learned from a pioneering REDD+ pilot project in Nepal, which is based on a community forest management approach and which was implemented from 2009–2013 with support from NORAD's Climate and Forest Initiative. The major focus of the project was to develop and demonstrate an innovative benefit-sharing mechanism for REDD+ incentives, as well as institutionally and socially inclusive approaches to local forest governance. The paper illustrates how community-based monitoring, reporting, and verification (MRV) and performance-based payments for forest management can be implemented. The lessons on REDD+ benefit sharing from this demonstration project could provide insights to other countries which are starting to engage in REDD+, in particular in South Asia.

Somorin, O. a, Brown, H. C. P., Visseren-Hamakers, I. J., Sonwa, D. J., Arts, B., & Nkem, J. (2012). The Congo Basin forests in a changing climate: Policy discourses on adaptation and mitigation (REDD+). *Global Environmental Change*, *22*(1), 288–298. doi:10.1016/j.gloenvcha.2011.08.001
This paper discusses the discourses on climate change adaptation and mitigation that are currently at the forefront in the Congo Basin. On mitigation, the forests have enormous opportunities to contribute to the reducing emissions from deforestation and forest degradation (REDD+) mechanism. But the forest itself and its multiple dependent societies and sectors need to adapt to potential climate risks. Hence, actors are debating the design of climate change policy in the forest sector. Theoretically, we combine the agency-focus of frame analysis and discourse theory to analyse how different agents hold frames on climate change adaptation and mitigation policies in the region. This paper draws upon interviews with 103 different actors from government, international organizations, non-governmental organizations, research institutions and private sector in three countries: Cameroon, Central African Republic (CAR) and Democratic Republic of Congo (DRC). Three discourses were found on policy response to climate change in the forest sector: mitigation policy only, separated policy on adaptation and mitigation, and an integrated policy on adaptation and mitigation. The various frames articulated around each discourse by the coalitions include elements of: costs and benefits, scale of operation, effectiveness, financial resources and implementation mechanisms. Overall, the mitigation discourse, through its mix of actors, resources and interests seems to be stronger than the adaptation discourse. The paper finally outlines a number of implications of the discourses for policy design

Somorin, O. A., Visseren-Hamakers, I. J., Arts, B., Sonwa, D. J., & Tiani, A.-M. (2014). REDD+ policy strategy in Cameroon: Actors, institutions and governance. *Environmental Science & Policy*, *35*, 87–97. doi:10.1016/j.envsci.2013.02.004
Reducing emissions from deforestation and forest degradation (REDD+) is receiving increasing political and scientific attention as a climate change mitigation approach. The government of Cameroon has expressed an interest in participating in REDD+, and national deliberation on a policy strategy has attracted interest from different actors in the forest sector. This paper analyses the challenges of designing a governance structure for a REDD+ strategy in Cameroon. Theoretically, the paper builds on the literature on governance structures for resource management, focusing analytically on the interactions between actor constellations (state and non-state) and institutions (formal and informal) to produce policy outcomes. The paper draws on documentation of REDD+ policy events, policy texts and 23 in-depth interviews with members from government, civil society,

research organizations, development partners and the private sector. It argues that although the actors involved in REDD+ are, to an extent, polarized around different issues and priorities, they are nonetheless increasingly distributing roles and responsibilities among themselves. The institutional arrangements within the policy process include: (1) rule-making systems for engagement; (2) expanding existing coordination mechanisms; (3) national safeguard standards; and (4) building on existing forest governance initiatives. The paper concludes that the multiple benefits promised by REDD+, such as poverty alleviation, biodiversity conservation and economic development, are critical for the legitimacy of the mechanism.

Sunderlin, W. D., Larson, A. M., Duchelle, A. E., Resosudarmo, I. A. P., Huynh, T. B., Awono, A., & Dokken, T. (2014). How are REDD+ Proponents Addressing Tenure Problems? Evidence from Brazil, Cameroon, Tanzania, Indonesia, and Vietnam. *World Development, 55*(October 2011), 37–52. doi:10.1016/j.worlddev.2013.01.013

This paper assesses proponent activities to address tenure insecurity in light of actions required for effective and equitable implementation of REDD+. Field research was carried out at 19 REDD+ project sites and 71 villages in Brazil, Cameroon, Tanzania, Indonesia, and Vietnam. Results show proponents addressed tenure insecurity by demarcating village and forest boundaries and identifying legal right holders, but were limited in their ability to resolve local tenure challenges that were national in origin and scope. Still needed are national tenure actions, integration of national and local tenure efforts, clarification of international and national REDD+ policies, and conflict resolution mechanisms.

van Noordwijk, M., Agus, F., Dewi, S., & Purnomo, H. (2013). Reducing emissions from land use in Indonesia: motivation, policy instruments and expected funding streams. *Mitigation and Adaptation Strategies for Global Change, 19*, 677–692. doi:10.1007/s11027-013-9502-y

Land-based emissions of carbon dioxide derive from the interface of forest and agriculture. Emission estimates require harmonization across forest and non-forest data sources. Furthermore, emission reduction requires understanding of the linked causes and policy levers between agriculture and forestry. The institutional forestry traditions dominated the emergence of the discourse on Reducing Emissions from Deforestation and forest Degradation (REDD+) while more holistic perspectives on land-based emissions, including agriculture, found a home in international recognition for Nationally Appropriate Mitigation Actions (NAMAs). We tested the hypothesis that, at least for Indonesia, the NAMA framework provides opportunities to resolve issues that REDD+ alone cannot address. We reviewed progress on five major challenges identified in 2007 by the Indonesian Forest Climate Alliance: 1) scope and 'forest' definition; 2) ownership and tenurial rights; 3) multiplicity and interconnectedness of drivers; 4) peatland issues across forest and non-forest land categories; and 5) fairness and efficiency of benefit- distribution mechanisms across conservation, degradation and restoration phases of tree-cover transition. Results indicate that the two policy instruments developed in parallel with competition rather than synergy. Three of the REDD+ challenges can be resolved by treating REDD+ as a subset of the NAMA and national emission reduction plans for Indonesia. We conclude that two issues, rights and benefit distribution, remain a major challenge, and require progress on a motivational pyramid of policy and polycentric governance. National interest in retaining global palm oil exports gained priority over expectations of REDD forest rents. Genuine concerns over climate change motivate a small but influential part of the ongoing debate.

Vijge, M. J. (2015). Competing discourses on REDD+: Global debates versus the first Indian REDD+ project. *Forest Policy and Economics, 56*, 38–47. doi:10.1016/j.forpol.2015.03.009

This article analyses three of the most contentious scholarly and political debates regarding REDD+, focusing on 1) what REDD+ should achieve; 2) who should monitor REDD+ outcomes; and 3) how REDD+ should be financed. In analysing these, the article conceptualizes three sets of storylines and assesses which of the identified storylines resonate in the first Indian REDD+ project, focusing on both stakeholders' views and project design. The three identified questions do not give rise to contentious debates among stakeholders of the REDD+ project. Contrasting views on REDD+ found in scholarly and political debates – such as carbon versus non-carbon objectives, authority of technical experts versus local communities, and market versus fund-based approaches – are not prevalent among project stakeholders, who believe that different approaches to REDD+ can be combined and can even reinforce each other. Project stakeholders prefer non-carbon benefits as the project's main objective to be monitored jointly by experts and local communities, and favour a mix of fund- and market-based approaches. This is also reflected in the project design. The conclusion reflects on the insights that the multi-level discourse analysis in this article generated, including for REDD+ in general.

Vijge, M. J., & Gupta, A. (2014). Framing REDD+ in India: Carbonizing and centralizing Indian forest governance? *Environmental Science and Policy, 38*, 17–27. doi:10.1016/j.envsci.2013.10.012

This article analyses the interaction of newly articulated climate governance goals with long-standing forest

policies and practices in India. We focus on India's REDD+ (reducing emissions from deforestation and forest degradation and related forest activities) strategy, with a particular focus on the Green India Mission (GIM). The GIM calls for a doubling of the area for afforestation and reforestation in India in the next decade as a dominant climate mitigation strategy. We analyse how the GIM policy document frames carbon versus non- carbon benefits to be derived from forest-related activities; and how the GIM envisages division of authority (between national, regional and local levels) in its implementation. We are interested in assessing (a) whether the GIM promotes a "carbonization" of Indian forest governance, i.e. an increased focus on forest carbon at the expense of other ecosystem services; and (b) whether it promotes an increased centralization of forest governance in India through retaining or transferring authority and control over forest resources to national and state-level authorities, at the expense of local communities. We argue that the GIM frames the climate-forest interaction as an opportunity to synergistically enhance both carbon and non-carbon benefits to be derived from forests; while simultaneously promoting further decentralization of Indian forest governance. However, based on past experiences and developments to date, we conclude that without significant investments in community-based carbon and biodiversity monitoring, as well as institutionalized benefit- sharing mechanisms that reach down to the local level, the posited REDD+-induced move toward more holistic and decentralized Indian forest governance is unlikely to take place

Wehkamp, J., Aquino, A., Fuss, S., & Reed, E. W. (2015). Analyzing the perception of deforestation drivers by African policy makers in light of possible REDD+ policy responses. *Forest Policy and Economics***, *59*, 7–18. doi:10.1016/j.forpol.2015.05.005**
As REDD+ countries are moving towards the implementation phase of their national REDD+ programs, it becomes crucial to better understand what drives deforestation in order to identify policy responses. This how-ever, remains challenging because, while the number of scientific assessments of deforestation drivers is increasing, they often reach diverging conclusions. Deforestation drivers can have long underlying causal chains and take different shapes depending on the perspective that is chosen. As states are the official owners of forests in most African countries, analysing the perspective of policy makers on deforestation in this context, helps revealing deforestation drivers that are harder to quantify, define and measure with usual proxies. It also potentially allows identifying politically and institutionally feasible deforestation reduction measures. In this paper content analysis is used to assess how African policy makers perceive deforestation drivers. We find that they strongly emphasize the role of institutional and policy drivers. Furthermore, we find that some of the complex issues related to forest governance in general, can be narrowed down to very specific problems. In light of these findings, we will argue that mechanisms and standards have to be found to allow institutional and policy drivers of deforestation to be addressed in the result-based payments phase of REDD+.

Westholm, L., & Arora-Jonsson, S. (2015). Defining Solutions, Finding Problems: Deforestation, Gender, and REDD+ in Burkina Faso. *Conservation and Society***, *13*(2), 189. doi:10.4103/0972-4923.164203**
Reducing Emissions from Deforestation and Degradation (REDD+) is a policy instrument meant to mitigate climate change while also achieving poverty reduction in tropical countries. It has garnered critics for homogenising environmental and development governance and for ignoring how similar efforts have tended to exacerbate gender inequalities. Nonetheless, regarding such schemes as inevitable, some feminists argue for requirements that include women's empowerment and participation. In this paper we move beyond discussions about safeguards and examine whether the very framing of REDD+ programs can provide openings for a transformation as argued for by its proponents. Following the REDD+ policy process in Burkina Faso, we come to two important insights: REDD+ is a solution in need of a problem. Assumptions about gender are at the heart of creating 'actionable knowledge' that enabled REDD+ to be presented as a policy solution to the problems of deforestation, poverty and gender inequality. Second, despite its 'safeguards', REDD+ appears to be perpetuating gendered divisions of labour, as formal environmental decision-making moves upwards; and responsibility and the burden of actual environmental labour shifts further down in particularly gendered ways. We explore how this is enabled by the development of policies whose stated aims are to tackle inequalities.

White, D. (2014). A perfect storm? Indigenous rights within a national REDD+ readiness process in Peru. *Mitigation and Adaptation Strategies for Global Change***, *19*, 657–676. doi:10.1007/s11027-013-9523-6**
Recurring disagreements during national preparations to reduce emissions from deforestation and forest degradation (REDD+) are contributing to policy reform at multiple scales. The objectives of this study are to (i) develop a general framework to characterize diverse stakeholder perspectives on REDD+ programme objectives and governance arrangements, and (ii) apply this framework to analyse key stakeholders involved in REDD+ readiness process of Peru: the Inter-ethnic Association for the Development of the Peruvian Rainforest (Asociación Interétnica de Desarrollo de la Selva Peruana, AIDESEP), the Peruvian government and the World Bank. As indigenous peoples strive to maintain their own traditions and priorities, a turbulent readiness process

is helping to resolve long-ignored issues of indigenous rights and to make REDD+ programme governance structures more inclusive. The Peruvian government/World Bank approach to REDD+ is incompatible with that of AIDESEP, therefore parallel implementation will be required for them to co-exist. Although a diversity of participants has helped to check and balance the centralization of decision-making power over REDD+ programme development, a history of failed assurances and agreements point to a need to maintain vigilance as new laws, regulations and safeguards are implemented.

REDD+ theory and policy papers

Barron, D. P., & McDermott, C. L. (2014). Private Funder Perspectives on Local Social and Environmental Impacts in "Reducing Emissions from Deforestation and Degradation+." *Journal of Environmental Policy & Planning*, *7200*(October), 1–17. doi:10.1080/1523908X.2014.941461

Reducing emissions from deforestation and degradation' (REDD+) is a mechanism for developed countries to compensate developing countries for reducing forest loss. At present, REDD+ is underfunded, due in part to a lack of private funding caused by the absence of a compliance market for REDD+ credits. One of the obstacles in creating a compliance market is a concern that private funders will capture profits for themselves at the expense of local welfare. To date, however, little research has been done to assess this risk. This study helps to fill this gap by investigating the motives of current and potential future private REDD+ funders. Interview results indicate that most current funders have sought positive local social impacts, both to mitigate the risk of deforestation and to demonstrate social benefits for marketing purposes. The risk mitigation motive could exist in a compliance market, depending on how contractual arrangements distribute risk along the supply chain. However, respondents suggested that the social marketing motive would be diminished in a compliance market, because compliance buyers would prioritize credit price and volume over reputational benefits. There is a need for further research that examines whether these reported motives correlate with actual firm behaviour and how this might inform future REDD+ governance.

Boissière, M., Beaudoin, G., Hofstee, C., & Rafanoharana, S. (2014). Participating in REDD+ Measurement, Reporting, and Verification (PMRV): Opportunities for Local People? *Forests*, *5*(8), 1855–1878. doi:10.3390/f5081855

Assessing forest changes is the baseline requirement for successful forest management. Measurement, Reporting, and Verification (MRV) are three essential components for achieving such assessments. Community participation in resource monitoring and management is increasingly seen as a scientifically efficient, cost-effective, and equitable way to employ such practices, particularly in the context of REDD+. We developed a multidisciplinary approach to study the feasibility of Participatory MRV (PMRV) across three sites along a forest degradation gradient in Indonesia. We looked at both the local and national level needs of MRV. Our approach combines: (1) social research focusing on the enabling conditions for local participation in MRV; (2) governance analyses of existing MRV systems in forestry and health; and (3) remote sensing work comparing overlaps and gaps between satellite imagery and local assessments of forest changes. We considered in our approach the possible multiple benefits of PMRV (carbon mitigation, biodiversity conservation, livelihood security). Our study helped to identify the multiple stakeholders (communities, NGOs and governments) and what the levels of governance should be to make PMRV design and implementation feasible and sustainable.

Buizer, M., Humphreys, D., & de Jong, W. (2014). Climate change and deforestation: The evolution of an intersecting policy domain. *Environmental Science & Policy*, *35*, 1–11. doi:10.1016/j.envsci.2013.06.001

Forests and climate change are increasingly dealt with as interconnected policy issues. Both the potential synergies and policy conflicts between forest conservation and restoration and climate change mitigation now receive sustained and high level attention from academic, policy analysis and practitioner communities across the globe. Arguably the most pronounced contemporary policy manifestation of this is the debate on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (or REDD+) by which governments and private investors from developed countries may compensate actors in tropical forest countries for reducing forest loss beneath an agreed baseline. Problems of climate–forest policies implementation and governance, however, can also be found in countries such as Canada, the USA, the UK and Australia. The future of instruments like REDD+ is uncertain with growing critiques on payment and performance-based mechanisms and unresolved issues of governance, government and accountability. This paper, and the special issue it introduces, illustrates that in the REDD+ debate many contentious issues have resurfaced from past debates. These issues include the participation and rights of local communities in forest policy and management; the relationship between internationally agreed payment and performance-based programmes and formal democratic decision-making processes and structures; the complexities of rights to carbon versus tenure rights; and the ways in which – in spite of the high expectations of both developing and developed

countries to combat carbon emissions from deforestation and forest degradation through the REDD+ mechanism – effective climate-focused forestry policies are seldom found in most tropical forest-rich countries. REDD+ is now very much the dominant discourse at the forest–climate interface, and one with a primary focus on measurability to communicate carbon mitigation results across various levels. However, this serves to disperse and displace, rather than resolve, policy-making on non-carbon values.

Combes Motel, P., Pirard, R., & Combes, J.-L. (2009). A methodology to estimate impacts of domestic policies on deforestation: Compensated Successful Efforts for "avoided deforestation" (REDD). *Ecological Economics*, 68(3), 680–691. doi:10.1016/j.ecolecon.2008.06.001

Climate change mitigation would benefit from Reduced Emissions from Deforestation and Degradation (REDD) in developing countries. The REDD mechanism, still in discussion, would be in charge of distilling the right incentives and promoting the right policies for fostering forest conservation. The estimation of reduced emissions induced by the mechanism has been raised as an issue, either for issuing the proper amount of carbon credits or for providing appropriate compensations of foregone revenues and other costs to host countries. This estimation would be based on the gap between observed deforestation and a counterfactual value. Although any prediction of deforestation rates (i.e. business-as- usual scenarios) is challenging, and any negotiated target is subject to obvious political influence, these two ways have been prioritized so far to determine the counterfactual value. In other words proposals focused on a results-based approach, the relevance of which is questionable because estimations of avoided deforestation are hardly reliable. With this approach, issuance of carbon credits and distribution of financial compensations could threaten respectively environmental integrity of the scheme and equity outcomes. Rather than considering overall deforestation (predicted and observed), we argue that a REDD mechanism would gain from linking distribution of carbon finance to real efforts (opposed to "results") that developing countries implement for slowing deforestation rates. This would provide strong incentives to design and enforce suitable policies and measures. The methodology we present to measure these efforts (labelled Compensated Successful Efforts) is based on the rationale that overall deforestation is partly due to structural factors, and to domestic policies and measures. This typology differs from others presented in the literature such as proximate/underlying causes, or economic/institutional factors. Using an econometric model, our approach estimates efforts that are (i) independent of structural factors (economic development, population, initial forest area, agricultural export prices), (ii) estimated ex post at the end of the crediting period, and (iii) relative to other countries. In order to illustrate the methodology we apply the model to a panel of 48 countries (Asia, Latin America, Africa) and four periods between 1970 and 2005. We conclude on the feasibility to estimate avoided deforestation using the Compensated Successful Efforts approach. In addition to being conservative from an environmental perspective, this approach tends to guarantee fairness by accounting for dramatic changes during the commitment period. Last, such estimations of avoided deforestation could provide guidance for decisions on further financing of national programs to curb deforestation, as it would help to distinguish between successful and unsuccessful policies.

Corbera, E., & Schroeder, H. (2011). Governing and implementing REDD+. *Environmental Science & Policy*, 14(2), 89–99. doi:10.1016/j.envsci.2010.11.002

Reducing emissions from deforestation and forest degradation, conserving and enhancing forest carbon stocks, and sustainably managing forests (REDD+) are emerging as a central policy instrument to halt land-use related emissions from developing countries. In this article we introduce a special issue dedicated to understanding the governance and implementation dimensions of REDD+ at international, national and local levels. We use the earth system governance framework developed by Biermann et al. (2009) to illustrate the key governance issues underlying REDD+ and we highlight three main pillars for a future research agenda, namely (1) the politics of REDD+ in international and national negotiations; (2) the interplay between REDD+ policies and measures and other developments in land-use related processes; and (3) the examination of the environmental and socio- economic outcomes of REDD+ activities, integrating locally informed monitoring, reporting and verification (MRV) techniques and using robust counterfactual assessment methods.

Danielsen, F., Adrian, T., Brofeldt, S., van Noordwijk, M., Poulsen, M. K., Rahayu, S., … Burgess, N. (2013). Community Monitoring for REDD+: International Promises and Field Realities. *Ecology and Society*, 18(3), art41. doi:10.5751/ES-05464-180341

Will community monitoring assist in delivering just and equitable REDD+? We assessed whether local communities can effectively estimate carbon stocks in some of the world's most carbon rich forests, using simple field protocols, and we reviewed whether community monitoring exists in current REDD+ pilots. We obtained similar results for forest carbon when measured by communities and professional foresters in 289 vegetation plots in Southeast Asia. Most REDD+ monitoring schemes, however, contain no community involvement. To close the gulf between United Nations Framework Convention on Climate Change texts on involving communities and field implementation realities, we propose greater embedding of community monitoring within

national REDD+ pilot schemes, which we argue will lead to a more just REDD+.

Dulal, H. B., Shah, K. U., & Sapkota, C. (2012). Reducing emissions from deforestation and forest degradation (REDD) projects: lessons for future policy design and implementation. *International Journal of Sustainable Development & World Ecology*, *19*(2), 116–129. doi:10.1080/13504509.2012.654410**
In response to the pressing global challenges of climate change, initiatives under the auspices of 'reducing emissions from deforestation and forest degradation' (REDD) have been implemented in over 30 developing and least-developed countries since 2005. The initiatives cover nearly every significant and vulnerable forest ecosystem worldwide. In this study we review six representative initiatives, two each from Africa, Asia and Latin America. Strength, weakness, opportunity and threat analysis is done to evaluate each initiative's policy framework, design, implementation and results thus far. The main policy and project implementation factors that appear to lead to effective and successful REDD project outcomes include having clearly formulated project design; governance, land tenure rights and capacity; equity and transparency; indigenous peoples' rights and knowledge; local–international coordination; and enhancing local and institutional capacities. Based on these findings, we provide recommendations for future REDD policy action and project implementation to make it work for the poor and achieve its intended goals.

Farrell, K. N. (2014). Intellectual mercantilism and franchise equity: A critical study of the ecological political economy of international payments for ecosystem services. *Ecological Economics*, *102*(July), 137–146. doi:10.1016/j.ecolecon.2014.03.014
This text addresses the ecological political economy of international payment for ecosystem services (IPES). Taking the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD) as a case in point, it asks: in what ways may IPES schemes impinge upon the political and economic autonomy of local and indigenous peoples in tropical countries? It is argued that PES schemes like REDD should be assessed not only with respect to questions of distributional equity (does everyone have enough pie?) but also with respect to franchise equity (does everyone want pie?) and that failure to take questions of franchise equity into account in IPES schemes reflects a form or intellectual mercantilism, where wealth transfers from new economies to old ones are achieved by redefining existing locally available resources as internationally tradable speculative commodities. This proposition is considered through exploration of two illustrative cases – the REDD+ Social and Environmental Standards (REDD+ SES) and the Yasuní-ITT initiative – and through normative political theory recommendations building on Dryzek and Stevenson's discussion of deliberative systems, regarding how it might be possible to ensure franchise equity within REDD+ in particular and within global environmental governance, more generally.

Fosci, M. (2013). The economic case for prioritizing governance over financial incentives in REDD+. *Climate Policy*, *13*(2), 170–190. doi:10.1080/14693062.2013.745112
It is argued that the subordination of policies to results-based payments for emissions reductions causes severe economic inefficiencies, which affect the opportunity cost, transaction cost, and economic rent of the programme. Such problems can be addressed by establishing sound procedural, land, and financial governance at the national level, before Reducing Emissions from Deforestation and Forest Degradation (REDD+) economic incentives are delivered at scale. Consideration is given to each governance dimension, the entry points for policy intervention, and the impact on costs. International support must consider the financial and political cost of governance reforms, and use a pay-for-results ethos based on output and outcome indicators. This can be done in the readiness phase but only if the latter's legal force, scope, magnitude, and time horizon are adequately reconsidered. This article provides ammunition for the institutionalists' argument that United Nations Framework Convention on Climate Change (UNFCCC) Parties must prioritize governance reforms between now and the entry into force of the new climate agreement in 2020. Finally, specific recommendations about how such governance reforms can be achieved, which will create the basis for the programme's financial sustainability, are offered. Policy relevance: UNFCCC Parties could make the most cost-effective use of REDD+ resources if they were to prioritize investments in governance over the interim period 2012 – 2020. REDD+'s financial, technical and political capital should be used to establish sound procedural, sectoral (land), and financial governance systems in relevant countries. This will generate long-term economic savings, compared to an approach that privileges the implementation of results-based payments for emissions reductions. In particular, it will reduce economic inefficiencies, which affect the opportunity and transaction costs, and the private rents embedded in the current programme design. In order to promote the necessary policy reforms, stakeholders should work together to address technical, financial, and political economy issues at the domestic level. In particular, UNFCCC Parties should re-conceptualize the readiness phase by strengthening its legal force, expanding its scope, increasing its financial firepower, and extending its time horizon.

Gallemore, C., & Munroe, D. K. (2013). Centralization in the global avoided deforestation collaboration network. *Global Environmental Change*, *23*(June 2012), 1199–1210. doi:10.1016/j.gloenvcha.2013.04.004
Reducing Emissions from Deforestation and Forest Degradation projects currently cover an area approximately twice the size of Germany and challenge traditional concepts of centralization and decentralization in studies of environmental governance. Emerging from the interactions of a complex network of actors, Reducing Emissions from Deforestation and Forest Degradation demonstrates that transnational governance networks of organizations can become spatially centralized. Using a historical analysis of the development of Reducing Emissions from Deforestation and Forest Degradation, we argue that the evolution of Reducing Emissions from Deforestation and Forest Degradation policy has been directed primarily from donor countries, especially in North America and Europe. Adopting a social network analysis approach, we present findings from a new dataset of collaboration on 276 Reducing Emissions from Deforestation and Degradation, avoided deforestation, and sustainable forest management projects that began some on-the-ground operations between 1989 and June 2012, finding that organizations in donor countries have from the beginning been the central actors in the Reducing Emissions from Deforestation and Forest Degradation network. We conclude that Reducing Emissions from Deforestation and Forest Degradation exhibits spatial centralization within transnational governance architectures despite institutional fragmentation, raising important normative questions about participation in transnational forest governance.

Gupta, A., Lövbrand, E., Turnhout, E., & Vijge, M. J. (2012). In pursuit of carbon accountability: the politics of REDD+ measuring, reporting and verification systems. *Current Opinion in Environmental Sustainability*, *4*(6), 726–731. doi:10.1016/j.cosust.2012.10.004

This article reviews critical social science analyses of carbon accounting and monitoring, reporting and verification (MRV) systems associated with reducing emissions from deforestation, forest degradation and conservation, sustainable use and enhancement of forest carbon stocks (REDD+). REDD+ MRV systems are often portrayed as technical. In questioning such a framing, we draw on perspectives from science and technology and governmentality studies to assess how MRV systems may exercise disciplinary power (through standardization, simplification and erasing the local) but also mobilize counter- expertise, produce resistance and thus have necessarily contingent effects. In doing so, we advance the concept of 'carbon accountability' to denote both how forest carbon is accounted for in REDD+ and the need to hold to account those who are doing so.

Hirsch, P. D., Adams, W. M., Brosius, J. P., Zia, A., Bariola, N., & Dammert, J. L. (2010). Acknowledging Conservation Trade-Offs and Embracing Complexity. *Conservation Biology*, *25*(2), no–no. doi:10.1111/j.1523-1739.2010.01608.x

There is a growing recognition that conservation often entails trade-offs. A focus on trade-offs can open the way to more complete consideration of the variety of positive and negative effects associated with conservation initiatives. In analysing and working through conservation trade-offs, however, it is important to embrace the complexities inherent in the social context of conservation. In particular, it is important to recognize that the consequences of conservation activities are experienced, perceived, and understood differently from different perspectives, and that these perspectives are embedded in social systems and pre-existing power relations. We illustrate the role of trade-offs in conservation and the complexities involved in understanding them with recent debates surrounding REDD (Reducing Emissions from Deforestation and Degradation), a global conservation policy designed to create incentives to reduce tropical deforestation. Often portrayed in terms of the multiple benefits it may provide: poverty alleviation, biodiversity conservation, and climate- change mitigation; REDD may involve substantial trade-offs. The gains of REDD may be associated with a reduction in incentives for industrialized countries to decrease carbon emissions; relocation of deforestation to places unaffected by REDD; increased inequality in places where people who make their livelihood from forests have insecure land tenure; loss of biological and cultural diversity that does not directly align with REDD measurement schemes; and erosion of community-based means of protecting forests. We believe it is important to acknowledge the potential trade-offs involved in conservation initiatives such as REDD and to examine these trade-offs in an open and integrative way that includes a variety of tools, methods, and points of view.

Huettner, M. (2012). Risks and opportunities of REDD+ implementation for environmental integrity and socio-economic compatibility. *Environmental Science & Policy*, *15*(1), 4–12. doi:10.1016/j.envsci.2011.10.002

REDD+ (reducing emissions from deforestation and forest degradation and the enhancement of carbon stocks) emerges as promising incentive mechanism for tropical forest protection. While REDD+ is expected to yield poverty reduction and biodiversity co-benefits, its mechanism design options pose several risks to socio-economic compatibility and environmental integrity. We conduct a REDD+ expert survey to rate the perceived importance and likelihood of these risks to national REDD+ implementation. The dependency of the risk perception on stakeholder characteristics is analysed using seemingly unrelated regression analysis and ANOVA. Additionally, the survey investigates the perceived effectiveness of different policy options to minimize these risks. The majority of stakeholders viewed governance challenges as the largest risks to REDD+ implementation and preferred mandatory incentive and regulatory policy measures to mitigate them. Understanding these stakeholder perceptions will not only help improving national REDD+ implementation, but also provide insights for the international policy process.

Kanowski, P. J., McDermott, C. L., & Cashore, B. W. (2011). Implementing REDD+: lessons from analysis of forest governance. *Environmental Science & Policy*, *14*(2), 111–117. doi:10.1016/j.envsci.2010.11.007

The anticipated benefits and co-benefits of REDD+ generated considerable enthusiasm and momentum prior to the Copenhagen Climate Change Conference, and the lack of agreement of a global mechanism for REDD+ at that Conference generated corresponding disappointment. However, experience from earlier forest-related initiatives, and from recent research in environmental and forest governance, suggest ways forward for REDD+ even in the absence of a post-2012 climate agreement. Comparative studies reveal that forest-rich developing countries already have formal forest management requirements that are at least as demanding as those of industrialised countries, and that poor implementation of these requirements is the key constraint to achieving

forest conservation and sustainable forest management goals. Experience suggests that mechanisms that focus on enabling the implementation of these already-agreed requirements, and that draw from the lessons of forest certification as well as from PES schemes, are most likely to deliver positive outcomes for both forests and local stakeholders. Together, these lessons suggests that progress can be made towards the REDD+ outcomes envisaged by the Copenhagen Accord by supporting implementation of existing national and sub-national forest policies in ways that are consistent with the principles of good forest governance.

Law, E. A., Thomas, S., Meijaard, E., Dargusch, P. J., & Wilson, K. A. (2012). A modular framework for management of complexity in international forest-carbon policy. *Nature Climate Change*, 2(3), 155–160. doi:10.1038/nclimate1376
Complex and variable ecological and social settings make the programme on reducing emissions through avoided deforestation, forest degradation and other forestry activities in developing countries (REDD+) a challenging policy to design. The total value to society of each type of REDD+ outcome is dependent on the fundamentally different risk pro les of alternative forest-management approaches and their scope and potential for co-benefits. We suggest a modular policy framework for REDD+ that distinguishes and differentially compensates the distinct outcomes. This could represent an improved framework to promote and manage incentives for effective forest-carbon initiatives, over better scope to and common ground in policy negotiations and allow faster adaptation of policy to an uncertain future.

Lederer, M. (2011). From CDM to REDD+ — What do we know for setting up effective and legitimate carbon governance? *Ecological Economics*, 70(11), 1900–1907. doi:10.1016/j.ecolecon.2011.02.003
This article compares two carbon governance instruments – the Clean Development Mechanism (CDM) and Reducing Emissions from Deforestation and Degradation (REDD+) – to assess lessons from the former for the latter regarding effectiveness and legitimacy of such instruments. The article argues that the CDM has a relatively high degree of output-oriented legitimacy resulting in effectiveness and some input-oriented legitimacy, with few discernible trade-offs between them. In contrasting this to REDD+, the hypotheses are advanced that (i) output-oriented legitimacy/effectiveness can again be achieved but that (ii) a higher degree of input-oriented legitimacy is necessary for REDD+ and thus also a certain trade-off between the two forms of legitimacy can be expected. This is shown through comparing the technologies and methodologies, economic rationales, political support, regulatory structures, and environmental impacts of both instruments.

Lederer, M. (2012a). Market making via regulation: The role of the state in carbon markets. *Regulation and Governance*, 6, 524–544. doi:10.1111/j.1748-5991.2012.01145.x
Proponents as well as critics of carbon trading underestimate the institutional and political underpinnings of evolving carbon markets. Based on institutionalist approaches, this paper argues that the strong embeddedness of carbon markets explains why certain characteristics (positive and negative) materialize. Focusing on the actors who initiate and who influence carbon markets, this article also shows that currently only states and intergovernmental agreements provide the necessary regulation for carbon markets to exist and to work. Today, neither market actors nor NGOs nor public private partnerships have the political power to set up, regulate or capture evolving market structures. Thus, whether or not market-based instruments bring about the desired results depends on good public regulation, which is – at least up to now – represented by the state. Four instances of the commodification of carbon serve as illustrations: the European Union Emission Trading System (EU ETS); the Clean Development Mechanism (CDM); the voluntary market; and new sectoral approaches, particularly Reducing Emissions from Deforestation and Degradation (REDD+).

Lederer, M. (2012b). REDD+ governance. *Wiley Interdisciplinary Reviews: Climate Change*, 3(1), 107–113. doi:10.1002/wcc.155
Reducing emissions from deforestation and degradation (REDD+) has developed into one of the most important carbon governance mechanisms that the international community has at its disposal in the fight against climate change. Deforestation and degradation, particularly in the tropics, constitute one of the major drivers of climate change, the avoidance of which is often portrayed as one of the most effective and efficient options for mitigation. Whether the potential of REDD+ can really be used depends, however, not only on technical issues but even more on how the evolving mechanism is governed on various levels, ranging from the local to the international. The following article analyses some key aspects of REDD+ governance focusing on finance, legal issues, institutional considerations, and potential additional benefits

Louman, B., Cifuentes, M., & Chacón, M. (2011). REDD+, RFM, Development, and Carbon Markets. *Forests*, 2(4), 357–372. doi:10.3390/f2010357
Combining responsible forest management (RFM) experiences with literature reviews and stakeholder discussions allows an assessment of the potential role of RFM in reduced emissions from deforestation and forest degradation and conservation, sustainable forest management and enhancement of carbon stocks

(REDD+). RFM contributes to greater carbon storage and biodiversity in forest biomass in comparison to conventional logging and deforestation. Using an adjusted von Thünen model to explain land user behaviour in relation to different variables, considering a general forest transition curve and looking at a potential relation between governance and deforestation rates, the authors conclude that reduction of deforestation and forest degradation can only be achieved by a combined approach of increasing forest rent relative to other land uses and reducing transaction costs for forest management and conservation. More than providing an additional income for a privileged few, REDD+ will need to address the barriers that have been identified in RFM over the past 30 years of investment in forest management and conservation. Most of these are of an institutional nature, but also culture and social organization as well as locally specific development trends play a significant role in increasing the potential for application of RFM and REDD+.

Martinez de Anguita, P., Martín, M. Á., & Clare, A. (2014). Environmental Subsidiarity as a Guiding Principle for Forestry Governance: Application to Payment for Ecosystem Services and REDD+ Architecture. *Journal of Agricultural and Environmental Ethics*, 27, 617–631. doi:10.1007/s10806-013-9481-8

This article describes and proposes the ''environmental subsidiarity principle'' as a guiding ethical value in forestry governance. Different trends in environmental management such as local participation, decentralization or global governance have emerged in the last two decades at the global, national and local level. This article suggests that the conscious or unconscious application of subsidiarity has been the ruling principle that has allocated the level at which tasks have been assigned to different agents. Based on this hypothesis this paper describes the principle of subsidiarity and its application to environmental policies within forest governance and proposes the ''environmental subsidiarity'' principle as a critical conceptual tool for sustainable resource management. The paper explains as an example how ''environmental subsidiarity'' is the key principle that can link payment for ecosystem services (PES) with environmental public policies and applies this principle with all its political consequences to reducing emissions from deforestation and forest degradation, and enhancing forest carbon stocks in developing countries (REDD?) architecture. It concludes by showing how the adoption of ''environmental subsidiarity'' as an ethical principle could help to maximize benefits to all stakeholders involved in PES schemes such as REDD?

McDermott, C. L., Levin, K., & Cashore, B. (2011). Building the Forest-Climate Bandwagon: REDD+ and the Logic of Problem Amelioration. *Global Environmental Politics*, 11(3), 85–103. doi:10.1162/GLEP_a_00070

For those championing an international institutional solution to climate change, the forest-climate linkage through reduced emissions from deforestation and forest degradation and forest enhancement (REDD+) may be one of the most promising strategic linkages to date. Following a series of forest-focused interventions that did not live up to their promise, global forest politics have now, through REDD+ deliberations, been institutionally subsumed into the climate regime. We argue that to realize its potential, REDD+ policy mechanisms must be careful to move away from the commodification of forest stewardship that reinforces short-term strategic positions of powerful producing and consuming interests whose current activities are the culprits of global forest decline. To achieve such an outcome, we argue that institutions must develop on the basis of a logic of problem amelioration in which the rationale for achieving clearly defined environmental and social goals is rendered transparent. This could be achieved through the formalization of a dual effectiveness test in which interventions are evaluated for their potential to simultaneously ameliorate both global climate change and forest degradation.

Mertz, O., Müller, D., Sikor, T., Hett, C., Heinimann, A., Castella, J.-C., … Sun, Z. (2012). The forgotten D: challenges of addressing forest degradation in complex mosaic landscapes under REDD+. *Geografisk Tidsskrift-Danish Journal of Geography*, 112(January 2015), 63–76. doi:10.1080/00167223.2012.709678

International climate negotiations have stressed the importance of considering emissions from forest degradation under the planned REDD+ (Reducing Emissions from Deforestation and forest Degradation + enhancing forest carbon stocks) mechanism. However, most research, pilot-REDD+ projects and carbon certification agencies have focused on deforestation and there appears to be a gap in knowledge on complex mosaic landscapes containing degraded forests, smallholder agriculture, agroforestry and plantations. In this paper we therefore review current research on how avoided forest degradation may affect emissions of greenhouse gases (GHG) and expected co-benefits in terms of biodiversity and livelihoods. There are still high uncertainties in measuring and monitoring emissions of carbon and other GHG from mosaic landscapes with forest degradation since most research has focused on binary analyses of forest vs. deforested land. Studies on the impacts of forest degradation on biodiversity contain mixed results and there is little empirical evidence on the influence of REDD+ on local livelihoods and tenure security, partly due to the lack of actual payment schemes. Governance structures are also more complex in landscapes with degraded forests as there are often

multiple owners and types of rights to land and trees. Recent technological advances in remote sensing have improved estimation of carbon stock changes but establishment of historic reference levels is still challenged by the availability of sensor systems and ground measurements during the reference period. The inclusion of forest degradation in REDD+ calls for a range of new research efforts to enhance our knowledge of how to assess the impacts of avoided forest degradation. A first step will be to ensure that complex mosaic landscapes can be recognised under REDD+ on their own merits.

Purnomo, H., Suyamto, D., & Irawati, R. H. (2013). Harnessing the climate commons: an agent-based modelling approach to making reducing emission from deforestation and degradation (REDD)+work. *Mitigation and Adaptation Strategies for Global Change***, *18*(4), 471–489. doi:10.1007/s11027-012-9370-x**

Humans have created a worldwide tragedy through free access to the global common atmosphere. The Conference of the Parties (COP) on climate change increased political commitment to reduce emission from deforestation and degradation and to enhance carbon stocks (REDD+). However, government sectors, political actors, business groups, civil societies, tree growers and other interest groups at different levels may support or reject REDD+. The paper used Arena-Actor-Institution concept to understand REDD+ and provides agent-based modelling approach to harnessing its processes. The model explores: (a) how providers are likely to decrease or increase carbon stocks on their landscapes under 'business as usual' institutions; (b) how they are likely to negotiate with potential buyers with regards to the involvement of brokers (governments or nongovernmental organizations); and (c) how altruism and collaboration can affect the affectivity of REDD+. The model was developed as a spatially explicit model to consider the complexity of REDD+ target landscapes. The simulation results are examined against the 3E+criteria, i.e. effectiveness in carbon emission reduction, cost efficiency and equity among involved stakeholders and co-benefit of other activities. This study took the Jambi landscape in Indonesia as a case. The results explain how REDD+ agreement areas increase with higher carbon prices, e.g. US$25 or US$35. However, the simulation also shows that even with low carbon prices GHG emissions will decrease if the altruism degree and collective actions of the actors increases. The paper describes institutional arrangements which would help to harness the global commons of climate change.

Rosendal, G. K., & Andresen, S. (2011). Institutional design for improved forest governance through REDD: Lessons from the global environment facility. *Ecological Economics***, *70*(11), 1908–1915. doi:10.1016/j.ecolecon.2011.04.001**

This contribution focuses on carbon mitigation and biodiversity conservation in the context of the UN initiative for Reduced Emissions from Deforestation and forest Degradation in Developing countries (REDD). The design of REDD is important as it may channel much of the international funding that will potentially be made available for future environmental problem-solving in developing countries. The most important multilateral environmental funding mechanism is the Global Environment Facility (GEF). With its basic structural similarity to the emerging REDD, it provides a good starting point for drawing lessons relevant to the design of REDD. In explaining GEF priorities and performance we discuss the role of key actors as well as the organizational and institutional structure of GEF. These factors do not encourage coalitions for addressing environmental problems in the poorest countries. The institutional setting of REDD in the Convention on Climate Change may further exacerbate this trend, as neither conservation nor socioeconomic concerns like the rights and well-being of indigenous peoples and local communities are addressed. Factors that favour utilizing a similar organization structure include scope for donor trust, for bringing in established competence and a comprehensive approach. REDD must be wary of catering solely to a Northern environmental agenda.

Sandbrook, C., Nelson, F., Adams, W. M., & Agrawal, A. (2010). Carbon, forests and the REDD paradox. *Oryx***, *44*(03), 330–334. doi:10.1017/S0030605310000475**

The institutional arrangements governing forests will be a critical factor in reducing emissions from de-forestation and forest degradation (REDD) as part of the global effort to mitigate climate change. A growing body of empirical research demonstrates how local forest governance can be as, if not more, effective than centralized state-based regimes. Local forest governance can secure improvements in multiple forest outcomes such as biomass and carbon storage and livelihoods contributions for the poor, and it can do so at lower cost than is possible through centralized governance. Many national governments have implicitly recognized these findings in their pursuit of decentralized forest governance and in strengthening local rights and capacities to use and manage forests. However, such reforms are often politically resisted, particularly where the value of forest resources is high and central government bodies are able to capture the majority of benefits. Ongoing negotiations related to the design and delivery of REDD policy and practice must take into account both the importance of local forest governance arrangements and the political–economic barriers to devolving secure rights over forests to local communities. These political dimensions of forest tenure and policy create a paradox for REDD: increasing the value of forest resources through global carbon markets without attending to local

governance and rights will create political incentives towards centralized governance, which could lead to greater forest loss and lower forest-related benefits for the poor.

Seymour, F., & Forwand, E. (2010). Governing sustainable forest management in the new climate regime. *Wiley Interdisciplinary Reviews: Climate Change*, *1*(December), 803–810. **doi:10.1002/wcc.70**

The newly appreciated role of deforestation and forest degradation as globally significant sources of carbon emissions has focused fresh political attention and large prospective financial flows on tropical forest management. Negotiations at the Thirteenth Conference of the Parties of the United Nations Framework Convention on Climate Change produced a 'road map' toward including compensation to tropical countries for reducing emissions from deforestation and forest degradation (REDD) in a future global climate agreement. The prospect of a global REDD mechanism has spurred the development of REDD initiatives by national governments, international organizations, and private actors. These new initiatives are facing many of the same forest governance challenges that have stymied past efforts to improve the conservation and management of tropical forests. To be effective, efficient, and equitable, REDD efforts will not only have to reverse the economic incentives that drive forest loss, but will also need to clarify land tenure, link to international efforts to curb illegal logging and trade, and manage trade-offs among competing objectives. They will also need to strengthen the institutional capacity for inclusive REDD design processes, transparent monitoring of carbon emissions and financial flows, and cross-sectoral and cross-scale coordination. At the same time, REDD initiatives could provide opportunities to accelerate the required forest governance reforms

Vatn, A., & Vedeld, P. O. (2013). National governance structures for REDD+. *Global Environmental Change*, *23*(2), 422–432. **doi:10.1016/j.gloenvcha.2012.11.005**

This paper analyses a set of generic options for national REDD+ governance structures – i.e., (a) a market/ project based architecture; (b) a system with national REDD+ funds outside existing national administrations; (c) a national REDD+ fund organized under the present administration; and (d) conditional budget support. The analysis is based on experiences from different, but similar governance structures – e.g., the Clean Development Mechanism, payments for ecosystem services, environmental trust funds and various forms of budget support. While a solution with a market/project-based structure has been favoured by many, we conclude that this is the most problematic alternative. Concerning the other three, the national/local conditions will be of importance for their functioning. If REDD+ policies

Visseren-hamakers, I. J., Arts, B., & Glasbergen, P. (2011). Interaction Management by Partnerships: The Case of Biodiversity and Climate Change. *Global Environmental Politics*, *11*(4), 89–107. **doi:10.1162/GLEP_a_00085**

This article examines the contributions that partnerships make to interaction management. Our conceptualization of interaction management builds on earlier contributions to the literature on regimes and governance. The article focuses on the interactions among the biodiversity and climate change governance systems, since these systems interact intensively on the issues of biofuels and forests (Reducing Emissions from Deforestation and Forest Degradation—REDD+). The article shows that seven partnerships actively manage the interactions by fulfilling several critical interaction management functions. Their main contributions include creating markets for sustainable biofuels through the development of certification standards and creating markets for "multiple benefits" REDD+. Although the partnerships improve interactions on case-by-case bases, they fail to fundamentally improve existing interactions between the biodiversity and climate change governance systems. Improved meta-governance and public-private interplay are necessary for more effective interaction management and, more generally, the effective governance of sustainable development.

Visseren-Hamakers, I. J., Gupta, A., Herold, M., Peña-Claros, M., & Vijge, M. J. (2012). Will REDD+ work? The need for interdisciplinary research to address key challenges. *Current Opinion in Environmental Sustainability*, *4*(6), 590–596. **doi:10.1016/j.cosust.2012.10.006**

In this article, we draw on the contributions to this issue to address the question 'Will REDD+ work?'. We do so by differentiating between how, where and when REDD+ might work. The article shows how issues of scope, scale and pace of REDD+ are related, and how interdisciplinary research can help to distil the lessons learned from REDD+ efforts currently underway. Important research areas include the drivers of deforestation and forest degradation, monitoring, reporting and verification, co-benefits, governance capacity, linkages with related policies, and the environmental and social impacts of REDD+. In concluding, we highlight the role of interdisciplinary research in supporting the different actors involved in REDD+ to cope with the inherent heterogeneity and complexity of REDD+

Grey literature

Pilot project reviews

Anshari, G.Z. 2010: Carbon content of the freshwater peatland forests of Danau Sentarum. Borneo Research Council, Inc., Indonesia.

An essay on the carbon stores of the freshwater peatland the peats has reportedly started in the Late Quaternary. It details how the author examined the carbon content of the freshwater peatland forest, and the potential contribution of the peat soils to lessen climate change. It discusses the results of the study which revealed that the park's peats plays a crucial role in global carbon cycles.

Comeau, L; Hergoualc'h, K.; Smith, J.U.; Verchot, L. 2013. Conversion of intact peat swamp forest to oil palm plantation: Effects on soil CO2 fluxes in Jambi, Sumatra. CIFOR Working Paper no. 110. Center for International Forestry Research (CIFOR), Bogor, Indonesia.

Tropical peatlands are among the largest pedologic pools of organic carbon. This study compared soil CO2 fluxes in an intact peat swamp forest, a transitional logged drained forest and an oil palm plantation located on the same alluvial peat plain (peat dome) in Jambi, Sumatra, Indonesia. Dynamic closed chambers were used to measure soil CO2 efflux from January to September 2012. Chambers were placed in pairs, with one close to a tree/palm and the other at mid-distance to the next tree/palm. In the oil palm plantation additional chambers were placed in frond decomposing lines and tertiary drainage canals. During the experiment, air and soil temperatures, water table level and rainfall were recorded. The fluxes were significantly larger in the oil palm plantation (28.4 ± 1.2 Mg C-CO2 ha–1 y–1) than in the transitional logged drained forest (18.5 ± 0.7 Mg C-CO2 ha–1 y–1) and in the intact peat swamp forest (16.0 ± 1.2 Mg C-CO2 ha–1 y–1). The CO2 fluxes were spatially variable according to distance to tree/ palm or when emitted from tertiary drainage canals but no clear trend was detected. A significant but weak relationship was found between CO2 fluxes and water table level in the peat swamp forest. Soil CO2 emissions in oil palm plantations were higher than those reported from Borneo by other authors. The soil CO2 flux should be separated into its auto- and heterotrophic components and balanced with C inputs and other C outputs in further studies to determine soil net atmospheric impacts on the climate system of this land-use change.

Harris, N. 2015. "How Much Rainforest is in that Chocolate Bar?" Technical Note. Washington, D.C.: World Resources Institute. Available online at: www.wri.org/publication/how-much-rainforest-is-in-that-chocolate-bar.

This technical note looks at the carbon emissions resulting from deforestation for a specific cacao plantation in Peru and the potential carbon footprint of chocolate sourced from that area.

Myers, R.; Ravikumar, A.; Larson, A.M. 2015: Benefit sharing in context: A comparative analysis of 10 land-use change case studies in Indonesia. CIFOR Infobrief no. 118. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: 10.17528/cifor/005585

Key points

- In the absence of robust national or subnational policies for benefit sharing, land-use change initiatives in Indonesia have developed their own approaches to distributing benefits. At the local level, support and capacity building are needed to strengthen intermediary institutions in order to improve governance and increase legitimacy when deciding how to share benefits.
- Nonmonetary benefits such as land tenure, capacity building, infrastructure and access to natural resources have been especially important. However, in some cases there are nonmonetary burdens associated with intended benefits.
- The legitimacy of benefit-sharing arrangements is determined more by the actors involved than the type of land-use change associated with them. Conservation initiatives, REDD+ projects and oil palm initiatives all exhibited both high and low levels of legitimacy in their benefit-sharing arrangements.
- The legitimacy of benefit-sharing arrangements can be compromised by the lack of broad consultation with local actors including customary authorities, lack of community control over access to land and limited livelihoods options for communities.

Obiang-Mbomio, D.O.; Perez-Terán, A.S. 2014: Community forest and agroforestry for climate change adaptation and mitigation in the Monte Alén landscape. COBAM Brief. Center for International Forestry Research (CIFOR), Bogor, Indonesia.

No abstract available.

Pramova, E.; Locatelli, B.; Mench, A.; Marbyanto, E.; Kartika, K.; Prihatmaja, H. 2013: Integrating adaptation into REDD+: potential impacts and social return on investment in Setulang, Malinau District, Indonesia. CIFOR Working Paper no. 112. Center for International Forestry Research (CIFOR), Bogor, Indonesia.

REDD+ interventions can help both people and forests adapt to climate change by conserving or enhancing biodiversity and forest ecosystem services. However, additional adaptation measures might be needed, such as the protection of agriculture and livelihoods and the development of fire management strategies. Such measures could support the sustainability of REDD+ interventions and the permanence of carbon stocks by preventing activity displacement and induced deforestation and by limiting or avoiding damage to the ecosystem from extreme weather events. To design community-based adaptation interventions and assess their potential outcomes within the Community Forest (Hutan Desa) REDD+ project area in Setulang Village, Malinau District, Kalimantan,village representatives were involved in a bottom-up, stakeholder-focused process. A social return on investment framework was applied. Community members discussed climate and non-climate challenges and the effectiveness of their current coping strategies. Adaptation interventions were then conceived and planned, using future visioning exercises. Two interventions were prioritized: development of rattan handicraft enterprises and rubber agroforestry. Challenges and adaptation interventions were also discussed with stakeholders from relevant district organizations (e.g. local government agencies) through individual semi-structured interviews. Projected future climate scenarios, the sensitivity of key resources and adaptive capacity were also discussed. This resulted in a holistic understanding of the costs, benefits, opportunities and challenges associated with implementing the selected adaptation strategies not only in the target area, but also in the district more broadly. The Community Forest (Hutan Desa) project in Setulang, Malinau, is facilitated by the FORCLIME programme of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. This study was conducted by CIFOR in collaboration with the GIZ, with a grant from the Federal Ministry for Economic Cooperation and Development (BMZ) Germany.

Pramova, E.; Locatelli, B.; Liss, B.; Ignacio, G.B.; Villamor, M.; Sumaylo, V.E. 2013: Integrating adaptation into REDD+: potential impacts and social return on investment in Sogod, Southern Leyte, Philippines. CIFOR Working Paper no. 113. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
REDD+ interventions can help both people and forests adapt to climate change by conserving or enhancing biodiversity and forest ecosystem services. However, additional adaptation measures might be needed, such as the protection of agriculture and livelihoods and the development of fire management strategies. Such measures could support the sustainability of REDD+ interventions and the permanence of carbon stocks by preventing activity displacement and induced deforestation and by limiting or avoiding damage to the ecosystem from extreme weather events. To design community-based adaptation interventions and assess their potential outcomes within the Southern Leyte Province REDD+ project area in the Philippines, representatives from seven upland Barangays (villages) of Sogod Municipality were involved in a bottom-up, stakeholder-focused process. A social return on investment framework was applied. Community members discussed climate and non-climate challenges and the effectiveness of their current coping strategies. Adaptation interventions were then conceived and planned, using future visioning exercises. Two interventions were prioritized: securing land tenure and developing abaca agroforestry (Musa textilis inter-planted with different fruit trees). Challenges and adaptation interventions were also discussed with stakeholders from relevant local- and regional level organizations (e.g. provincial and municipal government agencies) during a participatory workshop. Projected future climate scenarios, the sensitivity of key resources and adaptive capacity were also discussed. This resulted in a holistic understanding of the costs, benefits, opportunities and challenges associated with implementing the selected adaptation strategies not only in the target area, but also in the province more broadly. The Southern Leyte Province REDD+ project is implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and the Philippine Department of Environment and Natural Resources (DENR) in collaboration with local government units and local communities under the Project 'Climate-relevant Modernization of Forest Policy and Piloting of Reducing Emissions from Deforestation and Forest Degradation (REDD) in the Philippines', funded by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) under its International Climate Initiative. This study was conducted by CIFOR in collaboration with GIZ with a grant from the German Federal Ministry for Economic Cooperation and Development (BMZ).

Reimer, F.; Börner, J.; Wunder, S. 2012: Monitoring deforestation for REDD: An overview of options for the Juma Sustainable Development Reserve Project. Technical Bref no. June 2012. Amazonas Sustainable Foundation, Manaus, Brazil.
No abstract available.

Stas, S.M. 2014: Above-ground biomass and carbon stocks in a secondary forest in comparison with adjacent primary forest on limestone in Seram, the Moluccas, Indonesia. *CIFOR Working Paper no. 145.* Center for International Forestry Research (CIFOR), Bogor, Indonesia.
The loss of ecosystem services due to deforestation is of global concern. Financial mechanisms such as REDD+

(reducing emissions from deforestation and forest degradation) have been proposed as ways to support the conservation of tropical forests. Crucial steps in the implementation of REDD+ are to estimate national-level carbon emissions from deforestation and forest degradation and to collect data on local biomass and carbon stocks. In this research, above-ground biomass (AGB) values and associated carbon stocks in a lowland secondary forest are estimated and compared with those in an adjacent primary forest, both growing on limestone in Seram, the Moluccas, Indonesia. Suitable allometric equations for secondary forests in this region and on limestone were not available, so destructive sampling was necessary to determine the AGB in the secondary forest. An allometric equation was developed that makes it possible to estimate the AGB when tree diameter, height and wood density data are available. This biomass estimate was compared with AGB values that were calculated using existing allometric equations for secondary forests. To calculate the biomass and carbon values for the primary forest, an allometric equation from the literature was used. The AGB for trees =10 cm dbh in the secondary forest (140.7 Mg ha–1) was 2.5 times lower than that in the primary forest (349.9 Mg ha–1). Converting these biomass estimates into carbon stocks gave a value of 70.3 Mg ha–1 for the secondary forest and 175.0 Mg ha–1 for the primary forest. The AGB estimate for the secondary forest differs from published values for other areas within the region, because age, type of disturbance and original forest type are non-uniform. The AGB value for the primary forest is comparable to that found in a biomass study conducted in a Malaysian primary limestone forest, but lower than those found in primary forests in Borneo that are dominated by dipterocarps. Ecological limestone studies in the tropics are very rare and more studies of this forest type, and comparisons with adjacent forests on different soil types, are recommended. When the biomass of understory vegetation and other life forms was included, the total AGB in the secondary forest was equal to 176.5 Mg ha–1. As much as 20% of the total AGB was found in life forms other than trees =10 cm dbh. Because secondary forests generally contain many small stems, it is recommended that understory vegetation be included in total AGB estimates for secondary forests. The AGB estimate in the secondary forest varied greatly depending on which of the existing allometric equations was used. Therefore, this study confirms the importance of choosing suitable allometric equations for each forest type and the need to consider destructive sampling when suitable equations are not available. We stress that the allometric equation developed in this study should be used only for old secondary lowland limestone forests in the Moluccas. The fieldwork for this research was carried out in Seram, the Moluccas, Indonesia, from April to June 2011. This research project received financial support from the CoLUPSIA project, Hendrik Muller Fonds and Het Miquel Fonds.

National and regional reviews

Alvarez, J.P.; Montero, D.F.; Barrantes, E.B.; Takahashi, T.P.; Menton, M. 2014: REDD+ politics in the media: A case study from Peru. CIFOR Working Paper no. 159. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: **10.17528/cifor/005136**

In this study, we assessed the media coverage of the REDD+ mechanism in Peru's national and subnational newspapers to better understand the messages reaching Peruvian readers. At the national level, we found only 33 articles on REDD+ in eight national newspapers: El Comercio, Perú 21, Gestión, Expreso, La República, La Razón, El Peruano and Trome. Expanding the search to include climate change and forests, we found 203 articles. Upon finding this low coverage in the national press, we chose two of the country's departments where most of the REDD+ projects are located and which have shown the greatest progress in the readiness stages: San Martín (Voces and Ahora) and Madre de Dios (Don Jaque and El Observador). But again we only found 10 articles on REDD+ and 10 more when we expanded the search to include climate change and forests. In regional newspapers, all the articles mentioned REDD+ but did not discuss the topic deeply enough for an assessment of media frames and approaches. In the national newspapers, 26 articles discussed REDD+ more deeply. Most of them were optimistic about REDD+ (58%). While it is estimated that there are 41 REDD+ projects in the country, 74% of the articles were about international issues. The central themes of the articles were mostly related to politics or ecology and the main actors were environmental non governmental organizations. Approaches were almost equally distributed among co-benefits (26%), equity (26%), efficiency (21%) and effectiveness (16%) of REDD+. Although REDD+ was created with a view to climate change mitigation — where efficiency and effectiveness are the most relevant concerns — equity and co-benefits are the central themes in Peru. The rights of indigenous peoples, poverty reduction and biodiversity conservation appear as the most relevant topics in REDD coverage and as national priorities.

Anderson, Emily, Zerriffi, Hisham 2012: The effects of REDD+ on forest people in Africa. RFGI Working Paper (1). CODESRIA.

The Responsive Forest Governance Initiative (RFGI) is an Africa-wide environmental-governance research and training program focusing on enabling responsive and accountable decentralization to strengthen the representation of forest-based rural people in local-government decision making. This Working Paper series will publish the RFGI case studies as well as other comparative studies of decentralized natural resources governance in Africa and elsewhere that focus on the intersection between local democracy and natural

resource management schemes.

Ardiansyah, F.; Marthen, A.A.; Amalia, N. 2015: Forest and land-use governance in a decentralized Indonesia: A legal and policy review. *CIFOR Occasional Paper no. 132.* **Center for International Forestry Research (CIFOR), Bogor, Indonesia.** DOI: **10.17528/cifor/005695**

Which levels of government hold powers over forests and land use in Indonesia? Which powers and responsibilities are centralized, and which are decentralized? What role can citizens play? This report reviews the statutory distribution of powers and responsibilities across levels and sectors. It outlines the legal mandates held by national, regional and local governments with regard to land and forests, including titling, forest concessions, oil and minerals investments, oil palm plantations, conservation, land use planning, and more. The review considers national legislation as of 2014 and incorporates important reforms in early 2015. After a short introduction, the second section describes the decentralization process, including mechanisms for public participation. The third section outlines sources of revenue available to different government levels from forest fees and payments for environmental services. The fourth section details the specific distribution of powers and arenas of responsibility related to multiple land use sectors across levels and among offices within levels, and the fifth and final section refers specifically to adapt law. Summary tables are included for each different policy arena to facilitate analysis across government levels and functions: policy making, administration, control and monitoring, auditing and sanction. The study was commissioned under CIFOR's Global Comparative Study on REDD+, as part of a research project on multilevel governance and carbon management at the landscape scale. It is intended as a reference for researchers and policy makers working on land use issues in Indonesia.

Austin, Kemen, Ariana Alisjahbana, Taryono Darusman, Rachmat Boediono, Bambang Eko Budianto, Christian Purba, Giorgio Budi Indrarto, Erica Pohnan, Andika Putraditama, Fred Stolle. 2014. "Indonesia's Forest Moratorium: Impacts and Next Steps." Washington, DC: World Resources Institute. Available at <u>www.wri.org</u>.

Indonesia has taken a significant step toward improving management of forest resources through its moratorium on new licenses to convert primary natural forests and peat lands. By extending the initial moratorium for two more years until 2015, Indonesia has reaffirmed its commitment to sustainable development. The new moratorium creates a much-needed window of opportunity to undertake critical forest governance reforms. If implemented, these reforms could lead to long-term improvements in the way land-use decisions are made in the country for the benefit of global climate stability and the Indonesian people. In this paper, WRI presents research on challenges to the implementation of the moratorium at the local level, and the state of ongoing governance reforms. The intended audiences are national and subnational government policymakers involved in the design and implementation of the moratorium and associated governance reforms.

Austin, K., S. Minnemeyer, F. Stolle 2009: Voices from the Congo Basin. Incorporating the Perspectives of Local Stakeholders for Improved REDD+ Design. WRI Working Paper. Washington, DC: World Resources Institute.

This working paper summarizes the feedback and conclusions from a series of workshops for local and indigenous communities in Cameroon and the DRC held in 2008 and 2009, discussing REDD design and implementation.

Babon, A.; Gowae, G.Y. 2013: The Context of REDD+ in Papua New Guinea: Drivers, agents, and institutions. CIFOR Occasional Paper no. 89. Center for International Forestry Research (CIFOR), Bogor, Indonesia

This report provides an overview of the context for REDD+ in Papua New Guinea. It describes the main drivers of deforestation and degradation, the institutional and political economic context within which REDD+ is being developed, and maps the evolution of a national REDD+ strategy and associated policy and legislation during 2008–2012. It highlights the opportunities and challenges of developing policies that can provide climate-effective, cost-efficient and equitable REDD+ outcomes for Papua New Guinea. Papua New Guinea's system of customary land tenure provides both enormous opportunities and challenges for REDD+. Gaining the free, prior and informed consent of customary landowners who own the forests that REDD+ initiatives are designed to protect and developing equitable benefit-sharing mechanisms will be a key challenge. Corruption and a lack of transparency and accountability within the government are significant problems for the country to overcome. Political instability and capacity constraints within the public service also pose challenges to the smooth and steady development and implementation of REDD+ policies. While there appears to be a growing national discourse around good governance and anti-corruption, a complex political economy has thwarted many previous attempts at forest policy reform in the country and REDD+ is likely to face significant opposition from those who currently benefit from the unsustainable exploitation of the country's forests. But the outlook for REDD+ in Papua New Guinea need not be pessimistic. Many different stakeholder

groups including government agencies, civil society organisations, donors, private sector actors and research institutes support the concept of REDD+ in Papua New Guinea. Despite some early missteps in terms of broad stakeholder engagement and national ownership over the policy process, the government has shown genuine progress in developing a transparent and accountable governance structure that can, and is, incorporating the perspectives of multiple stakeholders. Occasional Papers contain research results that are significant to tropical forest issues. This content has been peer reviewed internally and externally. Center for International Forestry Research (CIFOR) CIFOR advances human well-being, environmental conservation and equity by conducting research to help shape policies and practices that affect forests in developing countries. CIFOR is a member of the CGIAR Consortium. Our headquarters are in Bogor, Indonesia, with offices in Asia, Africa and South America.

Barr, C.; Dermawan, A.; Purnomo, H.; Komarudin, H. 2010: Financial governance and Indonesia's Reforestation Fund during the Soeharto and post-Soeharto periods, 1989-2009: a political economic analysis of lessons for REDD+. *CIFOR Occasional Paper no. 52*. **Center for International Forestry Research (CIFOR), Bogor, Indonesia.** DOI: **10.17528/cifor/002886**

This study analyses Indonesia's experience with its Reforestation Fund, and examines implications for REDD+. The Reforestation Fund (Dana Reboisasi, DR) is a national forest fund financed by a volume-based timber levy to support reforestation and forest rehabilitation. Since 1989, the fund has had receipts of US $5.8 billion. During the Soeharto era, the Ministry of Forestry allocated more than US $1.0 billion in cash grants and loans from the Reforestation Fund to promote commercial plantation development. Many recipients fraudulently marked up their costs and overstated areas planted, causing the programme to fall well short of targets. The Ministry also disbursed US $600 million to finance politically favoured projects outside the Fund's mandate of promoting reforestation and forest rehabilitation. A 1999 external audit by Ernst & Young documented billions of dollars in losses, citing systematic financial mismanagement. Since 1998, successive post-Soeharto governments have taken steps to improve financial governance by: transferring authority over the Reforestation Fund to the Ministry of Finance; strengthening the Supreme Audit Board's authority to monitor public financial assets; and creating a Corruption Eradication Commission which has prosecuted dozens of senior officials. However, continuing problems with the Reforestation Fund hold significant implications for future REDD+ payment schemes. The study highlights how national strategies to manage both the Reforestation Fund and REDD+ funding streams must: strengthen financial management and revenue administration; deal with corruption, fraud, and loss of state assets; monitor, report, and verify financial transactions; remove misaligned and perverse incentives; ensure accountability and mitigating moral hazard; and distribute benefits equitably.

Barr, C.; Dermawan, A.; Purnomo, H.; Komarudin, H. 2009: Readiness for REDD: financial governance and lessons from Indonesia's Reforestation Fund (RF). *CIFOR Infobrief no. 20*. **Center for International Forestry Research (CIFOR), Bogor, Indonesia.** DOI: **10.17528/cifor/002876**

- Key points:

- Tropical forest countries can generate substantial new revenue flows with REDD: reducing carbon emissions by curbing deforestation and forest degradation.

- Successful implementation of REDD requires good governance and sound financial management by participating governments and institutions.

- Indonesia's 20-year experience with its Reforestation Fund (RF) offers important lessons on financial governance, lessons shared by other countries participating in REDD.

- The use of the RF by the Soeharto regime to subsidise industrial plantation development, coupled with weak mechanisms for accountability, created perverse incentives, opportunities for corruption and fraud, and inequitable distribution of benefits.

- New institutions and practices since 1999, independent audit of the RF by the Supreme Audit Board and prosecution of RF-related corruption by the Corruption Eradication Commission, show promise as tools that can be applied to ensure the sound management of REDD funds.

- Financial monitoring, reporting and verification (F-MRV) of REDD financial flows to tropical forest-rich countries are as important as monitoring, reporting and verification of carbon emissions.

- The international community should be prepared to finance needed F-MRV capacity building as part of REDD readiness. Countries participating in REDD need to strengthen capacities in budgeting, accounting, fiscal management and other aspects of financial governance.

Bélanger, L. and B. Mertens 2011: Atlas Forestier Interactif de la République Démocratique du Congo (Version 1.0). RAPPORT DU WORLD RESOURCES INSTITUTE, PRODUIT EN COLLABORATION AVEC LE MINISTÈRE DE L'ENVIRONNEMENT, CONSERVATION DE LA NATURE ET TOURISME DE LA RÉPUBLIQUE DÉMOCRATIQUE DU CONGO

The Interactive Forest Atlas is both an information management tool and an aid to decision makers working to support the sustainable use of forest resources in the Democratic Republic of Congo.

Borner, J.; Simoes, J.; Hyman, G.; Wertz-Kanounnikoff, S.; Barona, Elizabeth; Wunder, S.; Guevara, E. D.; Nascimento, J.R. 2009: Mixing the REDD policy cocktail in the Brazilian Amazon. Policy Brief no. 1. Iniciativa Amazonica.

Policy messages: 1. Payments for environmental services can boost both cost-effectiveness and equity of REDD in the Brazilian Amazon. 2. The cost-effectiveness of alternative REDD instruments hinges on the scale of deforestation patches and the spatial distribution of minimum REDDiness conditions, such as exclusive rights to land and forest use. 3. Conditions in the Brazilian Amazon suggest targeting PES especially to small-scale farmers, as one ingredient for a REDD policy that is both cost-effective and fair.

Börner, J.; Wunder, S.; Wertz-Kanounnikoff, S.; Hyman, G.; Nascimento, N. 2011: REDD sticks and carrots in the Brazilian Amazon: assessing costs and livelihood implications. CCAFS Working Paper no. 8. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).

Despite recent reductions, Brazil remains among the top deforesting countries in the world, and is thus one of the countries where 'Reducing Emissions from Deforestation and Forest Degradation' (REDD) initiatives could potentially have the most tangible returns for climate change mitigation. Economic incentives, such as payments for environmental services (PES) represent one option to induce forestland stewards under appropriate property right regimes to conserve more forests. Yet, for the large part of Amazon deforestation that occurs on non-designated public lands (terra devoluta) as well as on poorly delimited private land, PES will not be viable in the short and medium term. REDD will thus also require other tools, notably improved command-and-control disincentives that enforce existing forest laws more rigorously. While quite a number of studies have addressed the potential costs of using PES as a REDD vehicle, cost estimates of control-based REDD strategies are speculative at best. In this study, we develop a conceptual framework and a spatially explicit model to analyse regulatory enforcement in the context of the Brazilian Amazon. We validate the model's performance based on historical deforestation and enforcement mission data covering the years 2002-9. Based on an optimal enforcement scenario we analyse the costs of liability establishment and legal coercion for alternative REDD targets and evaluate local welfare impacts in terms of land users' opportunity costs or fine obligations depending on local compliance.

Brady, M., C. de Wasseige, A. Altstatt, D. Davies, P. Mayaux (eds.) 2010. Monitoring Forest Carbon Stocks and Fluxes in the Congo Basin. Conference Report, 2-4 February 2010, Brazaville. *GOFC-GOLD Report no. 44*.

The Central African Forests Commission (COMIFAC) and its partners (OFAC, USAID, EC-JRC, OSFAC, WWF, WRI, WCS, GOFC-GOLD, START, UN-FAO) organized an international conference on "Monitoring of Carbon stocks and fluxes in the Congo Basin" in Brazzaville, Republic of Congo, 2-4 February 2010. The conference brought together leading international specialists to discuss approaches for quantifying stocks and flows of carbon in tropical forests of the Congo Basin. The conference provided a unique opportunity to assess the status and capacity to monitor forests in the Congo Basin and to identify key technical issues related to carbon monitoring in the region. The specific objectives of the conference were to: (a) provide an overview of current land cover, land use and carbon monitoring activities in the Congo Basin, including both field based and remote sensing projects; (b) assess current capacities for land cover, land use and carbon monitoring at the regional and national levels; (c) establish scientific and technical guidelines for successful carbon monitoring in the Congo Basin; (d) identify current satellite data needs for Congo Basin land cover and carbon monitoring, including data acquisition, data access and data dissemination, and develop a strategy to meet these needs; and (e) identify a mechanism to inform COMIFAC and national governments on the technical issues associated with carbon monitoring, particularly in the context of Reducing Emissions from Deforestation and Forest Degradation (REDD). The report summarizes key points from the plenary sessions and working groups, and presents recommendations for near and medium term actions. In addition to supporting the REDD process, the findings presented here apply as well for advancing regional capacity for land cover and land use monitoring in general (e.g., for land use planning, agricultural monitoring, conservation of biodiversity).

Julian Caldecott, Dewi Rizki, Pasi Rinne and Mikko Halonen 2013: Indonesia-Norway REDD+ Partnership - Second Verification of Deliverables. Gaia Consulting Ltd in association with Creatura Ltd. Available: http://www.reddplus.go.id/pustaka/dokumen/strategi-pendukung/laporan-satgas-redd

Report reviewing achievement on agreed deliverables in the bilateral agreement between Indonesia and Norway.

Julian Caldecott, Mochamad Indrawan, Pasi Rinne and Mikko Halonen 2011: Indonesia-Norway REDD+ Partnership - First Verification of Deliverables. Gaia Consulting Ltd in association with Creatura Ltd. Available: http://www.reddplus.go.id/pustaka/dokumen/strategi-pendukung/laporan-satgas-redd

Report reviewing achievement on agreed deliverables in the bilateral agreement between Indonesia and Norway.

CIFOR 2014: Helping Zambia benefit from REDD+. Center for International Forestry Research (CIFOR), Bogor, Indonesia

No abstract available.

CIFOR 2010: REDD+ in indigenous territories in Latin America: opportunity or threat? *CIFOR Infobrief no. 24.* Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: **10.17528/cifor/003316**

An important proportion of Latin America's forests are in indigenous territories. Many of these are subject to threats from colonists, illegal loggers, extractive companies and others, whose practices endanger not only the forests but also indigenous people's territory as a whole - hence the importance, a priori, of indigenous territories for REDD+ and REDD+ for indigenous peoples. Indigenous territories constitute a new spatial reality that is quantitatively and qualitatively different from the community emphasis of the past. To what extent will REDD+ interventions take into account this new territorial configuration? What challenges does REDD+ face? How can REDD+ address both this new spatial scale and the great heterogeneity amongst indigenous territories?

Cordero, Doris, Gustavo Suarez de Freitas, Claudio Schneider y Hugo Che-Piu 2014: REDD+ benefit sharing in Peru: Document prepared with input generated by the multi-stakeholder dialogue conducted in Peru. The Forest Dialogue, IUCN.

The document presents a summary of the legal and institutional framework necessary for the development of REDD+ benefit-sharing mechanisms. Furthermore, it introduces lessons learned, challenges, and recommendations for the design of such mechanisms in a Peruvian context. These lessons, challenges and recommendations were compiled during the multi-stakeholder REDD+ Benefit Sharing Dialogue, coordinated by The Forests Dialogue (TFD) and the International Union for Conservation of Nature (IUCN), in Peru in March 2014.

Cronin, T. 2012: Science, Policy and the Media: Reporting on REDD in Indonesia. School of International and Political Studies, Faculty of Arts and Education, Deakin University, Melbourne, Australia.
The research for this thesis was carried out as part of a global comparative study (GCS) of reducing emissions from deforestation and forest degradation (REDD+), led by the Center for International Forestry Research (CIFOR). It used methodology developed in the Component 1 of the GCS analysing national REDD+ policies and processes. The author of the thesis looks closely at the media as a 'driver' of the policy process. The study contributes to a growing body of research into climate change, policy and the media. It is one of few such studies carried out in a developing country and one of even fewer which specifically looks at REDD. It captures a number of correlations with prevailing trends in media coverage of climate change around the world, especially in its focus on politics and policy making, and its reliance on political actors as primary definers of key issues. The paper raises familiar questions about power and cultural deference to authority; about the ability of the media to question the status quo and to distil complex, often politically driven, accounts; and about the ability of scientists to communicate their findings in a way that can encourage public participation in political discourse. Ultimately, the study indicates that trust and engagement between scientists and the media should be strengthened to avoid REDD policy discourse being controlled by a small number of powerful actors.

Cronin, T.; Santoso, L. 2010: REDD+ politics in the media: a case study from Indonesia. CIFOR Working Paper no. 49. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: **10.17528/cifor/003275**
By examining the content of national media reports since the concept of REDD+ was first proposed, and adding depth and perspective to these coded data through interviews with journalists who have covered REDD+, this study has captured a snapshot of the events, frames, actors and perspectives that are driving REDD+ at the national level in Indonesia.¨

Daviet, F. 2014: Using Accountability: *Why REDD+ needs to be more than an economic incentive.* **Issue Brief. World Resources Institute. Washington DC. Available online at http://www.wri.org/**
This issue brief explores the complicated realities of how accountability tools functioned in land-use planning, zoning, and permitting processes in a pair of case studies from Brazil and Indonesia and draws lessons for government or civil society designers of REDD+ programs. One case study focuses on how presidential decrees on land zoning are helping oversight actors achieve political accountability in Mato Grosso, Brazil. The other examines the role of the Indonesian primary forest and peat land conversion moratorium on the oil palm permitting process. The global effort to save forests in developing countries, known as "REDD+," would benefit from a set of tools that hold governments to account for their commitments. These accountability tools need to be integrated into national REDD+ programs.
Summary of findings and recommendations: A set of accountability tools affecting the reputational, financial, and legal interests of the government at the national and subnational levels would enable oversight institutions, individuals, and civil society to hold governments to account for the objectives that REDD+ programs hope to achieve. In particular, oversight actors need accountability tools to uphold social and environmental objectives beyond emission reductions in order to change the status quo required to achieve REDD+.

Daviet, Florence et al. 2010. "Tracking Transformative Forest Actions to Reduce Emissions: An illegal logging case study". WRI Working Paper. World Resources Institute, Washington DC. Available online at http://www.wri.org/
This working paper explores the types of information and supporting data necessary to ensure that national strategies to reduce emissions are developed and implemented effectively. It does so by focusing on measures to address illegal logging, drawing on specific strategies and recommendations from Peru and Indonesia.

Daviet, F, et al. 2009. Forests in the Balance Sheet: Lessons from Developed Country Land Use Change and Forestry Greenhouse Gas Accounting and Reporting Practices . WRI Working Paper. Washington DC
The world's forests, both their use and loss have a critical role for international efforts to counter climate change. Recognizing this, Parties to the United Nations Framework Convention on Climate Change (UNFCCC) included in the 2007 Bali road map a mandate to develop a mechanism that would create incentives for developing countries to reduce emissions from deforestation and forest degradation (REDD). In order to ensure that a REDD mechanism is both effective and credible in protecting and restoring forests and reducing carbon dioxide emissions, a range of accounting and methodological challenges will have to be solved. In assessing the scale of those challenges many commentators have looked to pilot projects. However, while instructive, these projects do not get at the larger issues involved in national accounting. It is interesting therefore to look for lessons from the experience of Annex I (developed) countries in accounting for forest-related emissions and sequestration as part of their national emission reduction commitments. This working paper thus analyzes developed country

experience to date in relation to implementation of the LULUCF (land use, land use change and forestry) provisions of the Kyoto Protocol.

Davis, Crystal et al. "A Review of 25 Readiness Plan Idea Notes from the World Bank Forest Carbon Partnership Facility". WRI Working Paper. World Resources Institute, Washington DC. Available online at http://www.wri.org/gfi.
The first step for developing countries to access financing under the Readiness Mechanism of the World Bank Forest Carbon Partnership Facility (FCPF) is the development of a Readiness Plan Idea Note (R-PIN). This paper considers the extent to which R-PINs approved by the FCPF trust fund committee addressed questions of good governance of forests. The objective of this exercise is to identify issues that will need to be addressed more completely as countries proceed with readiness programs.

Dermawan, A.; Petkova, E.; Sinaga, A.C.; Muhajir, M.; Indriatmoko, Y. 2011: Preventing the risks of corruption in REDD+ in Indonesia. CIFOR Working Paper no. 80.
This paper analyses the risks for corruption in REDD+ readiness activities in Indonesia and the conditions that may influence potential outcomes. REDD+ is a mechanism designed under the United Nations Framework Convention on Climate Change to enhance the role of forests in curbing climate change, which include forest conservation and activities that increase carbon stocks. The Government of Indonesia has been introducing policies and regulations, creating coordinating mechanisms and initiating demonstration projects to prepare for REDD+. The REDD+ readiness phase in Indonesia involves significant funding from public and private sources. This paper focuses on the readiness phase because this is the period during which policies, institutions, systems and processes are designed. These will influence the presence or absence of risks and conditions for corruption in subsequent phases. The research relied on analysis of relevant legislation, interviews with agency officials, literature reviews and media reports. As Indonesia stands at the forefront in REDD+ policy reform and institutional design, it is hoped the analysis will also inform other forest-rich tropical countries and the donor community.

de Wasseige C., Devers D., de Marcken P., Eba'a Atyi R., Nasi R. and Mayaux Ph., 2009: *The Forests of the Congo Basin - State of the Forest 2008.* Luxembourg: Publications Office of the European Union, ISBN 978-92-79-13210-0, doi: 10.2788/32259
This principal objective of the SOF report remains to detail the status of dense moist forest in Central Africa. Its focus comprises the six Central African countries containing this type of forest: Gabon, Republic of Congo, Democratic Republic of Congo, Equatorial Guinea, Cameroon, and the Central African Republic. The process of drafting the SOF 2008 began with the definition and selection of indicators for monitoring the state of forests in Central Africa. These indicators are structured around three themes: (i) status and trends of forest cover; (ii) management of production forests; and (iii) conservation and enhancement of biodiversity. The indicators are presented in a hierarchical structure at three levels: regional, national and management unit (specifically logging concessions and protected areas). The indicators were validated by a representative panel of stakeholders in the management of Central Africa forests during a workshop held in Kribi in February 2008. Based on established indicators, national groups of four to ten individuals working within the forestry administration collected data between April and August 2008. The data were primarily from 2006 and 2007, and were subsequently validated in national workshops attended by government officials as well as representatives of environmental NGOs, the private sector and development projects. Finally, the data were provided to the authors of the chapters in the report. The entire report was reviewed by a scientific committee of international renown. The report is divided into three major parts: the national and regional synthesis, thematic chapters dealing with environmental services offered by the forests and the chapters with detailed information on the CBFP landscapes.

Dkamela, G.P. 2011: The context of REDD+ in Cameroon: Drivers, agents and institutions. CIFOR Occasional Paper no. 57. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: **10.17528/cifor/003323**
This profile of Cameroon describes and analyses the national context being primed to receive the REDD+ mechanism. The aim is to highlight relevant processes, in particular: discussions (or lack of discussions) on reference scenarios, mechanisms for funding, costs and benefits, carbon levels, MRV (monitoring, reporting, and verification), policy and action coordination and political reforms. An exercise of this type is necessarily limited in scope because the activities referred to in REDD+ are not yet clear. Another limiting factor can be traced to the Cameroonian context: preparations for the country's participation in REDD+ have not really started. The analysis developed in this report adopts 2 main approaches to compensate for these shortcomings. The first approach considers the starting point to be the basic hypothesis that a REDD+ mechanism has 3 phases. Phases 1 and 2 are of interest here: the first phase is devoted to capacity building and the formulation of

emissions reduction and absorption policies and measures, and the second phase focuses on the implementation of these policies and measures. The second approach adopted in this report comprises an evaluation of the contextual conditions and the presentation of options based on the 3E+ criteria, i.e. effectiveness, efficiency and equity, and co-benefits.

Dwyer, M. B.; Ingalls, M. 2015: REDD+ at the crossroads: Choices and tradeoffs for 2015 – 2020 in Laos. CIFOR Working Paper no. 179. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: **10.17528/cifor/005536**

To date, REDD+ projects in Laos have made relatively conservative choices on driver engagement, focusing on smallholder-related drivers like shifting cultivation and small-scale agricultural expansion, to the exclusion of drivers like agro-industrial concessions, mining concessions and energy and transportation infrastructure. While these choices have been based on calculated decisions made in the context of project areas, they have created a pair of challenges that REDD+ practitioners must currently confront. The first is lost opportunity. By not engaging industrial drivers of forest loss, REDD+ misses an important chance to engage with high level economic decision making. This has implications not only for climate change mitigation, but more importantly for efforts to make Laos's current trajectory of natural resource-intensive development more socially, environmentally and economically sustainable. The second challenge is more immediate. Due to the political-economic circumstances under which forest loss occurs, there is a significant gap between loss that is planned and loss that can be accounted for under REDD's "national circumstance" allowances for planned deforestation. This means that REDD's positive impacts on mitigating forest loss, to the extent that they occur, may be swamped by planned but unaccountable forest loss, and thus difficult or impossible to verify. Thinking bigger on issues from driver engagement to spatial planning and concession regulation to land tenure and rural livelihood possibilities thus presents not only a series of opportunities, but a series of imperatives.

Fatorelli, L.; Gebara, M.F.; May, P.; Zhang, S.; Di Gregorio, M. 2015: The REDD+ Governance Landscape and the Challenge of Coordination in Brazil. *CIFOR Infobrief no. 115*. **Center for International Forestry Research (CIFOR), Bogor, Indonesia.** DOI: **10.17528/cifor/005508**

Key points

- Despite significant efforts towards the coordination of governance related to REDD+ (Reducing Emissions from Deforestation and Forest Degradation), it remains a major challenge in Brazil. This challenge is pervasive whether between government levels (as evidenced in the differences in REDD+ perspectives and interests between federal and state governments), civil society or between government and the private sector.

- Despite their clear mandate to do so, state actors exchange only limited information on REDD+ policy with non-state actors.

- Domestic NGOs play an important mediating role in the limited REDD+ coordination that does take place.

- Private-sector actors, one of the main forces driving deforestation and forest degradation, are largely absent from the REDD+ policy domain, and the few who do participate are relatively isolated from other REDD+ policy actors.

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Gebara, M.F.; Muccillo, L.; May, P.; Vitel, C.; Loft, L.; Santos, A. 2014: Lessons from local environmental funds for REDD+ benefit sharing with indigenous people in Brazil. CIFOR Infobrief no. 98. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
Key lessons

- While the constitutional rights (e.g. property rights) of indigenous peoples (IP) are strong in Brazil and may help to overcome their vulnerability, they are rarely enforceable and do not offer sufficient safeguards.

- Informed consultation and a structured free, prior and informed consent (FPIC) process that considers cultural issues are fundamental to ensuring acceptance and consent by IP.

- Local environmental funds can be a tool for increasing autonomy and decentralization while sharing benefits with IP and financing long-term and specific demands that can change over time.

- Safeguard strategies implemented by the Amazon Fund to avoid conflicts of interest may result in restrictions on the participation of IP, having implications related to the legitimacy of decision-making in the distribution of benefits.

- The absence of timely financial flows to meet IP needs may be a considerable risk since it can encourage environmentally damaging activities.

- Relying on the voluntary market may be risky for IP initiatives because of market instability and possible lack of funding.

Huynh Thu Ba 2013: Can REDD+ turn rainbow? REDD+ and climate change adaptation policies in Vietnam. PhD thesis, University of Melbourne.
Developments in the global climate change mechanism, REDD+ (Reducing Emissions from Deforestation and Forest Degradation, plus Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks) have raised optimism about reducing carbon emissions and deforestation in tropical countries and improving forest management. There are more than 200 sub-national projects on REDD+. Yet evidence shows that it is much harder to implement REDD+ activities than developing policies. Developing countries are moving ahead rapidly with different types of REDD+ interventions but there is limited knowledge of the social impacts from REDD+ initiatives, and its synergies with social vulnerabilities. This thesis aims to contribute to strengthening forest governance to ensure maximum responsiveness to climate-change impacts on forests and people via an empirical research study on REDD+ policy and actions in Vietnam. This thesis contributes to the theoretical knowledge and practical debates on linking climate change mitigation and adaptation, the process of climate change policy formulation and implementation and the broader agenda of sustainable development.

Indrarto, G.B.; Murharjanti, P.; Khatarina, J.; Pulungan, I.; Ivalerina, F.; Rahman, J.; Prana, M.N.; Resosudarmo, I.A.P.; Muharrom, E. 2012: The context of REDD+ in Indonesia. CIFOR Working Paper no. 92. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
This country profile reviews the drivers of deforestation and forest degradation in Indonesia, sets out the institutional, political and economic environment within which REDD+ is being implemented in Indonesia, and documents the process of national REDD+ policy development during the period 2007 – early 2012. While Indonesia is committed at the national and international level to addressing climate change through the forestry sector, there are clearly contextual challenges that need to be addressed to create the enabling conditions for REDD+. Some of the major issues include inconsistent legal frameworks, sectoral focus, unclear tenure, consequences of decentralisation, and weak local governance. Despite these challenges, however, REDD+ opens up an opportunity for improvements in forest governance and, more broadly, in land use governance. More democratic political-economic processes in general, greater freedom of civil society and the press, and heightened awareness of environmental issues can help build support and solidify policies in this direction.

Kengoum, F.; Tiani, A.M. 2013: Adaptation and mitigation policies in Cameroon: pathways of synergy. CIFOR Occasional Paper no. 102. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
The purpose of this study is to identify new synergistic pathways between climate change mitigation and

adaptation policies in Cameroon using an approach based on a literature review of the political processes that led to the introduction of the two strategies. The common feature of the two political processes is the absence of strategy in Cameroon. The country is finding it difficult to assimilate and coordinate these processes at the national level. More attention is being given to mitigation than to adaptation. In any case, it is difficult to formulate any political options without complete studies on the responses to the drivers of deforestation and forest degradation and on the vulnerability of the forest populations and their capacity to absorb climate shocks.

Kengoum, D.F. 2011: REDD+ politics in the media: A case study from Cameroon. *CIFOR Working Paper no. 51.* **Center for International Forestry Research (CIFOR), Bogor, Indonesia.** DOI: **10.17528/cifor/003388**

The purpose of this study is to identify the media discourse on the subject of avoided deforestation in Cameroon and the authors of that discourse. A second purpose is to understand the changes in such discourse whilst identifying levels and centres of interest in order to assess the evolution of REDD+ in the country. The study also identifies reforms being discussed, both on the REDD+ process and at a broader level, and identifies the main actors and the implications of Cameroon media discourse on effectiveness, efficiency, equity and co-benefits (3Es+). This analysis is based on articles published between December 2005 and December 2009 in three carefully selected national newspapers using specific criteria. They were *Cameroun Tribune*, *Le Messager* and *The Post*. The first is a government paper and the others are generally considered to have a critical eye on current events. To better understand the perception of media people on this issue, 12 journalists wereinterviewed. The results are presented and discussed bearing in mind the media's contextual conditions. A preliminary chapter provides elements to better understand the media sector and its influence on discussions about the media landscape for environment and development issues in Cameroon.

Khatri, D.H.; Bhushal, R.P.; Paudel, N.S.; Gurung, N. 2012: REDD+ politics in the media: A case study from Nepal. CIFOR Working Paper no. 96. Center for International Forestry Research (CIFOR), Bogor, Indonesia.

This paper analyses the understandings and actions of a diverse range of actors on REDD+ (reducing emissions from deforestation and forest degradation, and enhancing forest carbon stocks in developing countries) and the current discourse on REDD+, as reflected in the Nepali media. Articles on REDD+ and climate change from three representative newspapers were analysed and in-depth interviews and interactions with nine journalists were conducted. Our analyses show that REDD+ coverage in the Nepali media is limited because the climate change discussion is dominated by concerns over glacial melts, and journalists are reliant on professional experts in the field of forestry and REDD+ to explain the technical language used for REDD reporting. At present, REDD+ coverage is dominated by the global debate and REDD+ is understood as a win–win game operating within the current development aid framework. Media coverage tends to highlight the amount of money that will potentially come from the developed world for the conservation and management of forests in developing countries. While most stakeholders in Nepal, particularly the experts, are optimistic about REDD+ outcomes in addressing climate change mitigation and supporting local livelihoods, journalists and civil society organisations are sceptical because they doubt whether forest-dependent communities and marginalised groups will actually benefit from REDD+. Numerous stakeholders are associated with the current REDD process but few individuals within those institutions are engaged in the REDD+ discourse. The fact that the most dominant and vocal actors in the media are individual technical experts and farmer organisations/federations, followed by the state, shows that the REDD+ debate is currently seen predominantly as a complex, technical issue. More importantly, this shows that the REDD+ debate has not yet become a political focus. Vulnerable groups, such as community representatives, women and Dalit, are absent from the debate because of the technical nature of the conversation and limited forums for these groups to have their say. This shows the exclusivity of current decision-making.

Kweka, D. 2013: REDD+ politics in the media: A case study from Tanzania. CIFOR. Working Paper no. 119. Center for International Forestry Research (CIFOR), Bogor, Indonesia

This research is part of the policy component of CIFOR's global comparative study on Reducing Emissions from Deforestation and forest Degradation (GCS-REDD+), which is conducting research in 12 countries across Africa, Asia and Latin America. The media analysis investigates how discourse around REDD+ policy is framed in the mainstream Tanzanian press, identifying media frames and the main actors and their positions on REDD+, while looking at a range of variables at different levels. The study found that Tanzania is actively involved in REDD+, both by developing supportive policies and by implementing projects on the ground primarily with support from Norway. The media reflects the general agreement, support for and optimism about REDD+ by various stakeholders. REDD+ is seen as a source of additional income for local communities and as a mechanism to curb deforestation. The main concerns expressed are whether its implementation will be effective and cost efficient, and whether benefits will be shared equitably. Two major actors were found to be shaping

the REDD+ discourse in Tanzania: government agencies and nongovernmental organizations (NGOs). The study found that REDD+ discourse in Tanzania revolved around three main meta-topics: ecology, economics and marketing with a strong correlation between REDD+ and economic growth. Deforestation, forest conservation and sustainable forest management received more publicity than any other topic, followed by funding for REDD+ and carbon trading. Most REDD+ articles focused on prognosis (i.e. proposing solutions to the problems of deforestation). Actors were optimistic and skeptical at the same time, viewing REDD+ as a source of income and a means to curb deforestation, but expressing concern about certain issues (i.e. benefit sharing, land tenure and carbon rights) that leave a lot of unanswered questions about how it will unfold.

Kissinger, G.; Herold, M.; de Sy, V. 2012: Drivers of deforestation and forest degradation: A synthesis report for REDD+ policymakers. Government of the UK and Norway.
The Government of the UK and Norway have supported the production of an independent report to help inform the decision-making process on reducing emissions from deforestation and forest degradation (REDD+) at the upcoming United Nations climate change negotiations in Doha in December 2012. The long-term viability of REDD+ depends on altering business-as-usual activity in sectors currently driving greenhouse gas emissions from forests. This synthesis report investigates activities (drivers) that lead to deforestation and forest degradation. It explores the relevance of drivers in REDD+ policy development and implementation, key interventions to address driver activity, the role of drivers for national forest monitoring and for developing REDD+ forest reference (emission) levels. It concludes with recommendations intended to support the on-going international climate negotiations, as well as country-level plans and interventions to affect drivers of deforestation and forest degradation.

Kowler, L.F.; Tovar, J.G.; Ravikumar, A.; Larson, A.M. 2014: The legitimacy of multilevel governance structures for benefit sharing: REDD+ and other low emissions options in Peru. CIFOR Infobrief no. 101. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: **10.17528/cifor/005201**
Key points

- Local governments, indigenous organizations, producer groups and government agriculture offices are noticeably absent from broad regional REDD+ discussions about benefit sharing.

- The legitimacy of project-level benefit-sharing arrangements may be compromised if existing locally recognized institutions and actors are not integrated into both the design and implementation of benefit-sharing schemes.

- Non-monetary benefits are currently more important than direct cash payments in existing benefit-sharing arrangements in Peru, especially because of the absence or delay of carbon payments.

Larson, A.M.; Corbera, E.; Cronkleton, P.; Van Dam, C.; Bray, D.B.; Estrada, M.; May, P.; Medina, G.; Navarro, G.; Pacheco, P. 2010: Rights to forests and carbon under REDD+ initiatives in Latin America. *CIFOR Infobrief no. 33.* **Center for International Forestry Research (CIFOR), Bogor, Indonesia.** DOI: **10.17528/cifor/003277**
Rights to large areas of forest have been granted to communities and indigenous peoples in Latin America, offering these groups an opportunity to participate in REDD+ initiatives. However, tenure is not always secure, and security of tenure alone is insufficient to guarantee positive outcomes for both forests and livelihoods. The question of carbon tenure rights has only just begun to be addressed, and even less attention has been given to liabilities. REDD+ initiatives provide an opportunity to consolidate indigenous territories but present a risk to those without secure land rights. REDD+ initiatives should be informed by a clear understanding of the successes and failures of community forest management. REDD+ initiatives should recognise local diversity and not impose blueprints.

Lestrelin, G.; Trockenbrodt, M.; Phanvilay, K.; Thongmanivong, S.; Vongvisouk, T.; Pham, T.T.; Castella, J.C. 2013 The context of REDD+ in the Lao People's Democratic Republic: Drivers, agents and institutions. CIFOR Occasional Paper no. 92. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
This report explores the drivers (both direct and indirect) of deforestation and forest degradation and discusses the political, economic and social opportunities and constraints that will influence the design and implementation of REDD+ in Laos. The government of Laos has long sought to curb deforestation and forest degradation, and

the country is receiving considerable international attention and support to implement REDD+. However, agricultural expansion, the development of industrial tree plantations, and large hydropower, mining and infrastructure projects continue to result in deforestation, with shifting cultivation and selective logging (legal and illegal) largely blamed for forest degradation. At the same time, indirect drivers of deforestation and forest degradation are rooted in a national agenda of economic growth, characterized by incentives for foreign and domestic investment in forest management and timber harvesting. As a result, Laos is becoming an important resource frontier for transnational capital and large-scale land and natural resource investments. The consequent intensification of competition for resources poses a challenge not only for forest governance, but also for the development of REDD+ policies and initiatives. In an examination of the institutions and policies defining Laos' forestry sector and REDD+, the report reflects on lessons to be learned from past forestry and economic development policies. The government of Laos has demonstrated strong political interest in REDD+, but REDD+ implementation faces major obstacles, particularly unclear carbon rights and weak governance, with the latter attributable to poor local capacity, weak coordination among stakeholders, and minimal involvement by local communities and civil society. The report makes several recommendations for achieving effective, efficient and equitable outcomes of REDD+ in Laos: capacity building of administrative and technical staff, especially at the subnational level; clarification and harmonization of land-use planning and land allocation processes; and stronger monitoring and law enforcement in areas under high threat of deforestation and forest degradation. Furthermore, an accountable and transparent mechanism for sharing the benefits of REDD+ across levels and fully accountable consultation processes must be implemented, with the participation of not only elite and powerful actors such as domestic and foreign businesses but also local groups and civil society.

Luttrell, C.; Obidzinski, K.; Brockhaus, M.; Muharrom, E.; Petkova, E.; Wardell, D.A.; Halperin, J. 2011: Lessons for REDD+ from measures to control illegal logging in Indonesia. CIFOR Working Paper no. 74. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: **10.17528/cifor/003505**

Indonesia has committed to reducing its emissions from land use, land use change and forestry – by 26% by 2020. One way the country plans to meet this target is by reducing its emissions from deforestation and forest degradation through the REDD+ mechanism. By implementing REDD+, Indonesia will become eligible to receive financial payments based on forest carbon credits. A substantial amount of Indonesia's carbon emissions are caused by deforestation and forest degradation from land conversion activities, forest fires and illegal logging, with the latter having significant impacts as a driver of deforestation. Therefore, initiatives to curb illegal logging will have to form a central part of any emission reduction strategy. REDD+ has the potential to help reduce illegal logging activities by creating financial incentives to encourage compliance with the law, changes in behaviour and wider governance reforms. Since 2001, several initiatives in Indonesia have attempted to address the problem of illegal logging. These include international initiatives such as the Forest Law Enforcement, Governance and Trade (FLEGT) process; bilateral agreements between Indonesia and major importers of timber; and market instruments such as timber certification. National initiatives include joint security sweeps to combat illegal logging, anti-money laundering approaches to tackle illegal finance in the sector and the expansion of timber plantations to increase the supply of timber. This occasional paper explores ways in which the ongoing design of REDD+ mechanisms and institutions can benefit from these experiences.

Machado, Frederico and Jamie Gordon (2012). *Extracting Value from the Forest: Lessons* **learned in the Acre landscape, Brazil. Gland, Switzerland: IUCN.**

This paper focuses on efforts to create value from non-timber forest products in the Acre region in the north-western part of the Amazon region in Brazil.

Madeira, E.M.; Sills, E.; Brockhaus, M.; Verchot, L.V.; Kanninen, M. 2010: What is a REDD+ pilot?: a preliminary typology based on early actions in Indonesia. *CIFOR Infobrief no. 26*. Center for International Forestry Research (CIFOR), Bogor, Indonesia. **DOI:** 10.17528/cifor/003266

This infobrief provides an early snapshot of 17 REDD+ pilots under development in Indonesia in mid 2009. There is great variety in and experimentation by the proponents of REDD+ pilots. Three key dimensions useful for categorising early pilots are: 1) degree of spatial planning and heterogeneity of forest classification, 2) strategy for establishing long-term claims to carbon, and 3) predominant driver and agent of deforestation and degradation. The prevalence of the concession model in this sample of REDD+ pilots is explained by its alignment with existing tenure regimes and with the requirement to demonstrate secure, long-term carbon tenure in order to sell credits in voluntary carbon markets. REDD+ pilots following the concession model risk carrying forward biases and constraints of the existing concession system, including the focus on production forests and the tendency to exclude smallholders from management decisions. Addressing the inequalities and inefficiencies of the existing tenure regime requires broader policy reform and larger-scale action than is likely to be achieved by individual pilots. High transaction costs deter the development of pilots that partner directly

with smallholders to reduce emissions. New models and strategies should be developed to reduce these transaction costs, for example, by aggregating or bundling smallholder initiatives. Further research is needed both to assess outcomes of different pilot types and to update this typology to reflect the rapidly expanding number of REDD+ pilots and the rapidly evolving institutional and regulatory framework for REDD+ in Indonesia.

May, P.H.; Millikan, B.; Gebara, M.F. 2011: The context of REDD+ in Brazil: Drivers, agents, and institutions. CIFOR Occasional Paper no. 55. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
No abstract available.

Milne, S.; Chervier, C. 2014: A Review of payments for environmental services (PES) experiences in Cambodia. CIFOR Working Paper no. 154. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: **10.17528/cifor/005070**
This paper presents a broad overview of payments for environmental services (PES) experiences in Cambodia. First, we explore the legal and policy environment for PES, including its promotion by international donors and nongovernmental organizations (NGOs), and its uptake by government actors. This reveals a long-standing uncertainty over whether the government is willing to support PES, and a lack of clarity about what PES actually represents in practice. Second, taking a broad definition of PES, we examine the full range of payments-based schemes for conservation currently operating in Cambodia. These include community-based conservation agreements, direct payments for biodiversity conservation, PES schemes in the context of hydropower, and REDD+ schemes in the context of climate change mitigation. Overall, these payment schemes demonstrate mixed environmental and social effects; and they face a range of technical and practical challenges, relating to the governance context of Cambodia and difficulties in securing any 'willingness to pay' for environmental services beyond donor-funded schemes. More profoundly, these findings illustrate that 'environmental services markets' do not naturally come into being; but instead require a lot of political and discursive work, institution-building, and donor funding to become established. For this reason, we see PES succeeding only in isolated cases, with dedicated NGO-backing and the presence of niche markets. Beyond that, we observe significant challenges for PES and REDD+ in Cambodia, relating mainly to the apparent 'state capture' of these mechanisms. Such an outcome risks the erosion of conservation and local livelihood objectives that international donors and buyers of environmental services are seeking. It also presents the ethical problem of PES and REDD+ being absorbed into the Cambodian regime simply as adjuncts to the status quo.

Moeliono, M.; Santoso, L.; Gallemore, C. 2013: REDD+ policy networks in Indonesia. CIFOR Infobrief no. 63. Center for International Forestry Research (CIFOR), Bogor, Indonesia
In Indonesia, Reducing Emissions from Deforestation and Forest Degradation and Enhancing Forest Carbon Stocks (REDD+) has been adopted as a tool to improve forest governance. The promise of more participation and inclusiveness of REDD+ policies has not been fully realized, as information exchange and collaboration occurs mainly within clusters of organizations of similar type (national government, donor agency/international organization/international NGO and domestic NGO). The REDD+ policy arena is populated by a diverse set of actors who agree on basic REDD+ objectives, but differ on implementation and funding mechanisms. As a group, government agencies with a mandate to administer REDD+ are perceived as having the most influence on national REDD+ policy. The Ministry of Forestry (MoF), in particular, is perceived as the most influential organization and therefore has an opportunity to demonstrate transformational change needed for effective REDD+ development and implementation.

Mpoyi, A.M.; Nyamwoga, F.B.; Kabamba, F.M.; Assembe Mvondo, S. 2013: The context of REDD+ in the Democratic Republic of Congo: Drivers, agents and institutions. CIFOR Occasional Paper no. 94. Center for International Forestry Research (CIFOR), Bogor, Indonesia.

Reviewing the conditions in which the Reduction of Emissions from Deforestation and Forest Degradation (REDD+) mechanism is being established in the Democratic Republic of Congo (DRC) is part of Component 1 of the Global Comparative Study on REDD+ (GCS-REDD) being conducted by the Center for International Forestry Research. The overall aim of this global study is to provide decision-makers, practitioners, donors and the scientific community with reliable information on the dynamics of national actions related to the REDD+ mechanism. Discussions on REDD originally seemed to focus on the construction of a global structure and the establishment of a multilateral instrument to replace the Kyoto Protocol. But at the 14th Conference of Parties (CoP 14), held in Poznan in 2008, discussions on the reliability of REDD+ focused more on the dynamics of national- and local-level actions and brought out the need to better understand, analyze and explain the national institutional context of REDD+ development. Subsequently, this review used the extractive approaches. The first inputs were reports, articles, books and documents on the DRC that were directly related to forest management, socioeconomic and political institutions, etc., whether published or not. Because of the diversity of sources, the quantitative data sometimes seem contradictory and conflictual. In the next step, semi-structured interviews were held with experts working in the forestry sector and data were obtained from the participants' observations. Since this analysis covers the period between May 2011 and June 2012 actions in the field and the institutions after those dates were not included.

Müller, R.; Pacheco, P.; Montero, J.C. 2014: The context of deforestation and forest degradation in Bolivia: Drivers, agents and institutions. CIFOR Occasional Paper no. 108. Center for International Forestry Research (CIFOR), Bogor, Indonesia.

Bolivia's forest resources are of global importance, its main forest areas are located in subtropical and tropical regions. There is severe deforestation going on in the lowlands at a rate of approximately 200,000 ha per year, whilst forest degradation mostly concerns montane forests. Cattle ranching is the most important direct driver of deforestation, followed by mechanized agriculture at medium- and large-scale level, mainly for the production of soy bean, and finally small-scale agriculture. Underlying causes of deforestation include, among others, the opening of the agricultural economy to international markets and the weakness of institutions in charge of controlling land use. From 2006 on, under the government of Evo Morales, Bolivia adopted an official position against the marketization of nature and in defense of the rights of mother earth. In consequence to its rejection of REDD, Bolivia developed an alternative proposal called "Joint Mechanism of Mitigation and Adaptation for Integrated and Sustainable Management of Forests and Mother Earth". This proposal was also promoted in international negotiations on climate change. It focuses on local experiences for a sustainable and integrated management of natural resources and fosters land use planning at different levels of governance. Our analysis suggests that there is still a lack of concrete approaches to mitigate the direct threats to forests; moreover, the control of illegal deforestation is still insufficient. We also note that in parallel to policies of nature conservation, there is a contradicting political agenda being implemented promoting the expansion of the agricultural frontier. Only the future will show if the vision of "Living Well in Harmony with Mother Earth" will really lead to effective measures to combat the loss and the degradation of the immense richness of Bolivian forest.

Murdiyarso, D.; Kauffman, J.B.; Warren, M.; Pramova, E.; Hergoualc'h, K 2012: Tropical wetlands for climate change adaptation and mitigation: Science and policy imperatives with special reference to Indonesia. Center for International Forestry Research (CIFOR), Bogor, Indonesia.

No abstract available.

Murdiyarso, D. 2011: Using Indonesian forests: Institutional reform and massive public participation are crucial to mitigate climate change. Inside Indonesia (105).

Indonesia is home to vast tropical forests, but with deforestation rates approaching 1.8 per cent annually, it is also among the world's major emitters of greenhouse gases. Plans to use Indonesian forests to mitigate global climate change present opportunities to explore significant financial benefits to Indonesia, forested regions, and forest communities, while sorting out Indonesian forest governance. Doing so will require Indonesia to prepare itself with changes in forest institutions, regulations and massive public awareness to attract wide participation of the many stakeholders who play a role in Indonesia's forests.

Murdiyarso, D.; Dewi, S.; Lawrence, D.; Seymour, F. 2011: Indonesia's forest moratorium: A stepping stone to better forest governance? *CIFOR Working Paper no. 76.* **Center for International Forestry Research (CIFOR), Bogor, Indonesia.**

On 20 May 2011, the government of Indonesia released Presidential Instruction No. 10/2011 on 'The postponement of issuance of new licences and improving governance of primary natural forest and peatland',

as part of Indonesia's cooperation with the government of the Kingdom of Norway, according to the Letter of Intent signed by the two governments on 26 May 2010. The Presidential Instruction, which effectively imposes a 2-year moratorium on new forest concession licences, generated widespread public discourse and important policy implications. This working paper analyses the significance of the moratorium in the context of improving forest governance in Indonesia. The moratorium on new concessions in forest areas is an important step towards meeting Indonesia's voluntary commitment to reduce emissions. However, several issues are unresolved concerning the area and status of land covered by the moratorium, and hence the amount of carbon stored in the affected forests and peatlands. The moratorium should be seen as the means and breathing space to establish enabling conditions to reduce greenhouse gases emissions, improve forest and peatland governance, for when a global mechanism such as REDD+ is fully implemented. It could pave the way for successful policy reform far beyond its 2-year term.

Murdiyarso, D.; Donato, D.; Kauffman, J.B.; Kurnianto, S.; Stidham, M.; Kanninen, M. 2010: Carbon storage in mangrove and peatland ecosystems: a preliminary account from plots in Indonesia. *CIFOR Working Paper no. 48.* **Center for International Forestry Research (CIFOR), Bogor, Indonesia.**

Coastal mangrove forests provide a broad array of ecosystem services including fisheries production, sediment regulation, wood production and protection from storms and tsunamis. Similarly, peat swamp forests harbour a diverse range of flora and fauna, regulate water regimes and store large amounts of carbon deposited in organic materials below the ground. In Southeast Asia, the conversion rates of mangrove to other land uses, such as shrimp farms and settlements, are among the highest for any forest type. Furthermore, the conversion of peat swamp forests to oil palm and pulp wood plantations and the associated fires have been the main sources of greenhouse gas (GHG) emissions in the region during the past decade. With deforestation accounting for around 17% of global anthropogenic GHG emissions, the upcoming global mechanism known as Reducing Emissions from Deforestation and forest Degradation (REDD+) provides an important climate change mitigation option. This scheme offers economic incentives for conserving forests and associated carbon (C) stores in developing countries. Mangrove and peat swamp ecosystems are well suited to such strategies. However, although their high rates of C assimilation and export (fluxes) are known, their total C storage—the amount that may be emitted upon conversion—has not been well quantified. We measured total ecosystem C storage (above and below ground) in mangrove ecosystems in North Sulawesi, Central Kalimantan and Central Java, Indonesia. We assessed variations in mangrove C-pools along transects running inland from the ocean edge, as well as their vulnerability to sea-level rise and land use. In addition, in Tanjung Puting National Park, Central Kalimantan, we sampled both the total aboveground biomass and the belowground peat horizons to ascertain total ecosystem C-pools. Summary Our measurements show that total carbon storage in mangrove ecosystems is exceptionally high compared with most forest types, with a mean of 968 Mg C ha –1 and range of 863–1073 Mg C ha –1 . These carbon stocks result from a combination of large-stature forest (trees up to ~2 m in diameter) and organic-rich peat soils to a depth of 5 m or more. Aboveground C-stocks vary widely depending on stand composition and history, but belowground pools comprise a large portion of ecosystem C storage in most sites. Although mangrove composition is often stratified with distance from the ocean edge, C storage does not vary consistently along this gradient. Ecosystem C-pools at Tanjung Puting exceed 1000 Mg ha –1 in many of the sampled locations. All sampled stands had a depth to mineral soil of less than 1 m, with a mean peat depth of 45.5 ± 6.8 cm. Mean total C-stock was 894.3 Mg C ha –1 , with a range of 558– 1213 Mg C ha –1 . It should be noted, when considering these estimates of ecosystem pools, that peat depths of tropical peat swamp forests may be as much as 20 m (with an average depth of 3–5 m). Projected rates of sea-level rise (~1 cm yr –1 over the next century) are ~5–10 times higher than typical mangrove sediment accrual rates (1–2 mm yr –1), suggesting high susceptibility and a potential positive feedback via loss of C-stocks. Thus, the combination of very high C-stocks, susceptibility to land use activities and numerous ecosystem services makes tropical mangroves ideal candidates for REDD+, particularly if climate change mechanisms can be applied to promoting synergies between adaptation to climate change (e.g. local migration) and mitigation. However, additional studies to better quantify ecosystem C-pools and the potential impact of land cover change and fire are greatly needed in order to make sound policy decisions related to carbon financing through the REDD+ mechanism.

Mutasa, Mukundi 2012: Review of REDD+ and carbon-forestry projects in RFGI countries. RFGI Working Paper (2). CODESRIA.

The Responsive Forest Governance Initiative (RFGI) is an Africa-wide environmental-governance research and training program focusing on enabling responsive and accountable decentralization to strengthen the representation of forest-based rural people in local-government decision making. This Working Paper series will publish the RFGI case studies as well as other comparative studies of decentralized natural resources governance in Africa and elsewhere that focus on the intersection between local democracy and natural resource management.

Myers, R.; Ardiansyah, F. 2014: Who holds power in land-use decisions?: Implications for REDD+ in Indonesia. *CIFOR Infobrief no. 100*. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: **10.17528/cifor/005200**

Key messages

- In different provinces or districts, the same laws can be applied in very different ways.

- Participation of customary land users and local communities remains ad hoc and requires that implementing regulations are strengthened, as the existing safeguarding laws are not sufficiently specific.

- Further developments of safeguarding laws and regulations (specifically the distribution of benefits from carbon financing) need to be well defined and better aligned with decentralization processes.

- Subnational actors are unclear on their role in a national REDD+ strategy and how they will be involved in decision making.

- REDD+ is challenged by a misalignment between land use decision-making powers and REDD+ management powers allocated to different bodies and levels.

Nawir, A.A.; Paudel, N.S.; Wong, G.; Luttrell, C. 2015: Thinking about REDD+ benefit sharing mechanism (BSM): Lessons from community forestry (CF) in Nepal and Indonesia. CIFOR Infobrief no. 112. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: **10.17528/cifor/005506**

Key lessons:

- Benefit sharing (BS) approaches in community forestry (CF) are differentiated into: rights allocation-based, input-based and performance-based, from initiation to implementation and each approach has specific and complementary roles in ensuring effectiveness, efficiency and equity of benefit sharing mechanisms (BSMs).

- Rights allocation-based BSMs provide a more sustainable incentive than payment-based incentives for maintaining involvement in CF under conditions of inadequate financing. Maintaining the sustainability of payment-based incentives is problematic because of the need to price incentives correctly relative to transaction and opportunity costs. The need to compensate for opportunity costs is less relevant under rights-based BSMs.

- The type of rights matters. Clear, comprehensive and secure tenure rights that include rights to access, withdraw, manage and exclude, induces strong collective action.

- Effectiveness and efficiency of BSMs can be enhanced by structuring benefits as incentives to change behaviour, particularly when compared to some input-based incentives that are not directly linked to halting of deforestation and degradation.

- Equity in BSM can be enhanced if revenues are allocated for development activities such as community infrastructure and facilities and social services and by explicitly weighting for the poor, women and marginalized groups.

- Though there can be equity trade-offs compared to funding individual payments, our case studies suggest a preference for development activities, especially if such payments are not that significant compared to current shared benefits.

- Transaction costs and the failure to compensate for these act as a barrier to smallholders and the poor

- For equity and long-term commitment, opportunity costs are important in deciding how benefits are shared, particularly if land-use competition is high. There are different types of opportunity costs (i.e. the opportunity costs of revenues from behaviour change of individual household versus the rent of alternative land uses in the area included in a REDD+ scheme) and these differences should be considered in the design.

Nkem, J.; Oswald, D.; Kudejira, D.; Kanninen, M. 2009: Counting on forests and accounting for forest contributions in national climate change actions. *CIFOR Working Paper no. 47.* **Center for International Forestry Research (CIFOR), Bogor, Indonesia.** DOI: **10.17528/cifor/002893**

This paper constitutes a meta-analysis of the first national communications submitted to the United Nations Framework Convention on Climate Change (UNFCCC) in which important climate risks and opportunities for using forest to alleviate these risks were identified. Gap analyses were carried out in seven case study countries in central America (Costa Rica, Honduras, Nicaragua), west Africa (Burkina Faso, Ghana, Mali) and southeast Asia (Indonesia), which form part of the Tropical Forests and Climate Change Adaptation (TroFCCA) project of the Center for International Forestry Research (CIFOR) and Centro Agronómico Tropical de Investigación y Enseñanza (CATIE). In addition, the outline for the second national communication to the UNFCCC was reviewed on how forest information could be used to address and overcome some of the gaps identified in the first national communications. As a case study, similar analysis on the use of forest was conducted on the National Adaptation Programme of Action (NAPA) for Burkina Faso. Although forest is a common theme, there are distinct similarities and differences in the role of forest in the seven countries. In all the countries, forests play an important role in national inventories of greenhouse gases by absorbing carbon dioxide throughout the growth stages. Additionally, forests are globally important as regulating mechanisms in the hydrological cycle. Regional similarities are evident in central American countries in the roles forests play in contributing to hydroelectric activity and in regulating the supply of potable water. There are distinct regional differences between central America, Indonesia and west Africa in both the climate risks and the use of forest. West African countries, for example, are less vulnerable to storms and the resulting deluge-induced inland floods experienced in central America and Indonesia. Land stability as a function of forest management is therefore emphasized in central America and Indonesia. The main message is that forest is important to all seven countries for climate change adaptation. However, each country has unique forms of vulnerability that shape its use of forest goods and services. Thus, the unique context of each country must be considered when formulating climate-change adaptation policies. The analysis of the NAPA in Burkina Faso highlights the significant and diverse roles that forests play in climate change adaptation. The majority of the NAPA priority projects identified in Burkina Faso are forest based. Thus, forest constitutes an important entry point for NAPA implementation, and success will require measures that enhance forest adaptive capacity. Overall, the full potentials of the use of forest are not strongly emphasised in the national documents on climate change. An overall conclusion is that climate change adaptation in tropical countries requires substantial information on forests, which must be timely and accurate, and that needs to be integrated into an adaptive management policy framework.

Norad 2011: Real-Time Evaluation of Norway's International Climate and Forest Initiative Contributions to National REDD+ Processes 2007-2010 Executive Summaries from Country Reports. LTS International in collaboration with Indufor Oy, Ecometrica and Christian Michelsen Institute.
Report summarizing findings from all country reports, where NICFI has a bilateral collaboration.

Norad 2011: Real-Time Evaluation of Norway's International Climate and Forest Initiative Contributions to National REDD+ Processes 2007-2010 Country Report: Brazil. LTS International in collaboration with Indufor Oy, Ecometrica and Christian Michelsen Institute.
Report reviewing achievements and challenges in Norway's bilateral collaboration on REDD+ with Brazil.

Norad 2011: Real-Time Evaluation of Norway's International Climate and Forest Initiative Contributions to National REDD+ Processes 2007-2010 Country Report: DRC. LTS International in collaboration with Indufor Oy, Ecometrica and Christian Michelsen Institute.
Report reviewing achievements and challenges in Norway's bilateral collaboration on REDD+ with DRC.

Norad 2011: Real-Time Evaluation of Norway's International Climate and Forest Initiative Contributions to National REDD+ Processes 2007-2010 Country Report: Guyana. LTS International in collaboration with Indufor Oy, Ecometrica and Christian Michelsen Institute.
Report reviewing achievements and challenges in Norway's bilateral collaboration on REDD+ with Guyana.

Norad 2011: Real-Time Evaluation of Norway's International Climate and Forest Initiative Contributions to National REDD+ Processes 2007-2010 Country Report: Indonesia. LTS International in collaboration with Indufor Oy, Ecometrica and Christian Michelsen Institute.
Report reviewing achievements and challenges in Norway's bilateral collaboration on REDD+ with Indonesia.

Norad 2011: Real-Time Evaluation of Norway's International Climate and Forest Initiative Contributions to National REDD+ Processes 2007-2010 Country Report: Tanzania. LTS International in collaboration with Indufor Oy, Ecometrica and Christian Michelsen Institute.
The key recommendations of the evaluation are:

- There is a need to increase Tanzanian ownership at a high political level. Active leadership and commitment is needed.

- In order to improve cross-sectoral coordination and cooperation, the National Climate Change Steering Committee (NCCSC) should be activated and a technical committee on REDD under the NCCSC should be established and made operational. The REDD Task Force, originally made up of the Division of Environment under the Prime Minister's Office and the Ministry of Natural Resources and Tourism – Forestry and Beekeeping Division, has been expanded to include Zanzibar and the Regional Administration and Local Government section of the Prime Minister's Office. The full participation of these key entities needs to be secured.

- There is a need to focus support on planning, designing, and supporting the decision making required around REDD financing / performance-based payments, in addition to the fund disbursement mechanism. Closely linked to the REDD financing / payment modalities and mechanisms, there is a need to develop benefit and risk sharing formulas.

- The draft proposal on the national REDD Trust Fund needs to be better elaborated and requires a detailed analysis of the pros and cons of the options proposed.

- The issues above require the involvement and engagement of Ministries of Finance (mainland and Zanzibar) as they will be key stakeholders when REDD financing commences.

- Models for district level (and Prime Minister's Office – Regional Administration and Local Governments) engagement with REDD need to be developed and established.

- There is a need for the forthcoming REDD strategy to address the issue of essential land use changes such as the conversion of some forests to other land uses due to population increase and possible need to expand agriculture. Macro land-use planning or zoning should also be taken into consideration.

- Cross-cutting issues, such as gender, HIV-Aids and anticorruption measures need to be articulated clearly in the National REDD Strategy.

- The sustainability of the MRV framework should be addressed. The continuation of the National Forest Resources Monitoring and Assessment (NAFORMA) project work following the Finnish/ FAO project is estimated to require some US$ 500,000 per year. The financing for this must be discussed, agreed and secured as soon as possible.

- Private sector involvement and participation in the REDD process must be organised and supported.

- Capacity development needs continuing attention, but the focus should not only be on "REDD capacity". Capacity constraints are not limited to capability in articulating REDD issues. The largest capacity constraints are in local level sustainable forest management and use, i.e. how to make multiple use forestry a profitable business at local level and how to organise conservation of forests in a sustainable manner.

- The dissemination of information and exchange of experience among NGOs and civil society organisations should be systematised. Annual or twice yearly platforms to exchange experience and information should be organised and supported.

- Donor coordination needs additional attention. Special efforts, such as specific REDD meetings of the Development Partnership Group on Environment should be considered and organised regularly (e.g. once or twice a year).

- Tanzanian lessons learned indicate that there is a need for stronger integration of REDD planning processes at national level with broader national and local level land use planning, particularly with reference to plans for agricultural development. High-level political discussions could be useful in this regard.

Pacheco, P.; Aguilar-Støen, M.; Borner, J.; Etter, A.; Putzel, L.; Vera-Diaz, M.D.C. 2010: <u>Actors and landscape changes in tropical Latin America: challenges for REDD+ design and implementation</u>. *CIFOR Infobrief no. 32.* **Center for International Forestry Research (CIFOR), Bogor, Indonesia.**
Five dominant trends are occurring in tropical Latin America with implications for land use change: (1) rapid growth of agribusiness, (2) expansion and modernisation of traditional cattle ranching, (3) slow growth of small-scale agriculture, (4) logging in production forest frontiers and (5) resurgence of traditional agro-extractive economies. These trends are driven by global markets and national policies, and have significant impacts on landscape change, with diverse associated trade-offs between agricultural development and forest conservation, and impacts on people's livelihoods. Agribusiness expansion helps create economic growth but leads to deforestation and tends to concentrate incomes. Cattle ranching demands extensive land surface and creates few jobs, which also leads to forest conversion. Peasant agriculture creates jobs and local income but has diverse impacts on deforestation. Indigenous and community lands help to protect forests, but generate few opportunities for livelihoods improvement. Forest concessions do little damage to forests but concentrate incomes among a few people. These contrasting outcomes call for differentiated policy measures for agricultural development, forest conservation and poverty alleviation. There is a need to manage the expansion of large-scale agribusiness and ranching, whilst improving the economic options of smallholders, indigenous groups and other disadvantaged people. REDD+ schemes may help to reduce pressures on forests by compensating land users for foregone benefits. However, there is a need to balance efficiency in reducing emissions from deforestation and equity in the distribution of economic incentives. No 'one-size-fits-all' approach to REDD+ could possibly deliver both cost-effectiveness and equity across such diverse landscapes and groups of actors. Whilst some REDD+ activities should target deforestation hotspots at the forest frontier, national strategies must remain inclusive and ensure that benefits and costs are shared among diverse stakeholder groups according to criteria of political fairness. REDD+ thus must go far beyond the compensation of land users' opportunity costs in high-pressure areas. It will need to address some of the underlying structural reasons for resource overuse and underdevelopment in tropical forest areas

Paudel, N.S.; Khatri, D.B.; Karki, R. 2014: REDD+ readiness in Nepal: In search of effective stakeholder participation. *CIFOR Infobrief no. 74.* **Center for International Forestry Research (CIFOR), Bogor, Indonesia.** DOI: **10.17528/cifor/004888**

- In Nepal, key substantive issues, such as measurement, reporting and verification, reference emission levels, governance and financing, on reducing emissions from deforestation and forest degradation (REDD+) are under-addressed. Dispute regarding REDD+ procedural issues, such as participation and communication have dominated. Adjusting this balance may be productive for making headway with substantive issues.

- The REDD+ process in Nepal is failing to fully engage all relevant stakeholders. This lack of genuine engagement invites the risks of non-cooperation of many forest dependent communities and stakeholders.

- Language, technical and attitudinal barriers are limiting participation of a wide range of stakeholders. Work to reduce these barriers, develop capacity of weak stakeholders and forge productive dialogue between experts and civic actors may help improve their participation.

Paudel, N.S.; Khatri, D.B.; Khanal, D.R.; Karki, R. 2013: The context of REDD+ in Nepal: Drivers, agents, and institutions. CIFOR Occasional Paper no. 81. Center for International Forestry Research (CIFOR), Bogor, Indonesia.

This report provides an overview of Nepal's initiatives on readiness for Reducing Emissions from Deforestation and forest Degradation (REDD+). It presents the status of forest cover change; identifies the drivers of deforestation, institutional and distributional factors in the country; analyses the political economy of land use change; revisits the REDD+ process; and assesses prospects for effective, efficient and equitable outcomes of the same. Nepal has a high rate of deforestation and forest degradation, though there exists no robust, comprehensive or updated information to show the precise rate. Multiple drivers—such as high dependency on forests, over harvesting, weak governance, landlessness and high opportunity costs for agricultural expansion—contribute to deforestation. The government's capacity to monitor and address these drivers and underlying causes appears inadequate. Forest officials, civil society organisations and donors exhibit strong enthusiasm for and active involvement in REDD+. Over half a dozen diverse REDD+ readiness initiatives are being implemented by the government and non-state actors. REDD+ implementation has adopted a participatory and multi-stakeholder process usually involving government agencies, civil society organisations and development partners. However, this process is largely detached from the complex dynamics of deforestation and appears to be limited to technical, administrative and peripheral issues. The core issues of forest tenure security and governance reform have not received adequate attention. A robust policy, legal and institutional foundation for community forestry and well-functioning community institutions provide a strong foundation for REDD implementation in Nepal. However, there are enormous challenges from the larger political and socio-economic context, the paucity and diversity of institutional arrangements and the unique nature and distribution of forest types.

Pavageau, C.; Tiani, A.M. 2014: Implementing REDD+ and adaptation to climate change in the Congo Basin: Review of projects, initiatives and opportunities for synergies. CIFOR Working Paper no. 162. Center for International Forestry Research (CIFOR), Bogor, Indonesia.

This report presents the state of progress of projects and initiatives to promote adaptation and REDD+ in the Congo Basin region and it analyses opportunities for synergies or trade-off between the two strategies. 94 national programs and activities on the ground related to REDD+ and 11 on adaptation have been identified in six countries of the Congo Basin. The emerging landscape of climate change projects is quite complex and is mainly rooted in historical approaches. Opportunities for funding exists but are not seized; most of the projects are at an early stage with more emphasize on REDD+ than on adaptation, due to uncertainties about spatiotemporal patterns of risk occurrence, lack of clear adaptation solutions. Some other reasons are linked to insufficient political support or lack of interest for the issue amongst project managers. Adaptation to climate change is rather diffuse in development approach and does not benefit of national structuring framework as REDD+ does.

Among REDD+ initiatives, there are 1) local demonstration activities that directly aim to reduce carbon emission from deforestation, forest degradation, and sustainable forest management and increase carbon stocks, and 2) readiness activities that try to create an enabling framework for countries to participate in REDD+ deals and develop strategies accordingly. Adaptation to climate change and REDD+ evolves as two parallel and similar processes. Potential for synergies among the two processes exists but are not fully recognized yet. Thus transformational changes are needed to increase the integration of adaptation and mitigation in the current climate portfolio. In particular, there is a need for tools, information and knowledge to support decision makers to harmonizing climate policies.

Petkova, E.; Larson, A.M.; Contreras-Hermosilla, A.; Toni, F. 2010: Governance, forests and REDD+ in Latin America. *CIFOR Infobrief no. 28.* **Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: 10.17528/cifor/003270**

Key points

The implementation and success of REDD+ strategies, plans and projects will depend on whether REDD+ influences governance or is shaped by existing governance failures.

As governments prepare for REDD+ implementation, they should:

– address faulty forest policies and revise development and market policies affecting forests to ensure that gains through carbon emissions reduction in one sector are not counterbalanced by losses in another;

– establish a balance between central oversight and decentralised decision-making, tenure security and transparent benefit-sharing arrangements to ensure the legitimacy of REDD+ and avoid conflicts;

– build capacity to implement and enforce the law and reduce forest crime through adequate funding levels, independence from both political and industry influence, and legal and regulatory clarity and stability.

Achieving the necessary policy reform is a politically difficult process likely to meet resistance. However, it provides an opportunity to shift development patterns and reduce deforestation and degradation. Although civil society and external actors, including donors, can be important drivers for reform, ultimately, it will require policymakers and civil servants with initiative and vision.

Pham, T.T.; Moeliono, M.; Le, N.D. 2014: REDD+ policy networks in Vietnam. CIFOR Infobrief no. 78. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: 10.17528/cifor/005088

Key messages

- Reducing Emissions from Deforestation and forest Degradation and Enhancing Forest Carbon Stocks (REDD+) in Vietnam is one of the few policy processes where actors including the State, international nongovernmental organizations (INGOs) and civil society organizations (CSOs) are vocal about taking part in the policy arena.

- A policy network analysis, however, shows that governance of REDD+ remains centralized within a few government agencies(e.g. Ministry of Agriculture and Rural Development) and donors (e.g. UN-REDD) as indicated by their level of influence, frequency of information-sharing with other actors and level of collaboration with other actors.

- Stakeholders identified corruption; ineffective consultation processes leading to lack of inclusion in decision making; limited role of scientists in decision making; and lack of coordination among government agencies and donors as major governance challenges for REDD+ in Vietnam.

- The issue of strongest disagreement and polarization in the policy arena is about REDD funding and how it should be disbursed – whether REDD+ should be merged with existing state budget lines or set up as an independent fund outside these structures.

Pham, T.T.; Brockhaus, M.; Wong, G.; Le, N.D.; Tjajadi, J.S.; Loft, L.; Luttrell, C.; Assembe Mvondo, S. 2013: Approaches to benefit sharing: A preliminary comparative analysis of 13 REDD+ countries. CIFOR Working Paper no. 108. Center for International Forestry Research (CIFOR), Bogor, Indonesia.

The issue of REDD+ benefit sharing has captured the attention of policymakers and local communities because the success of REDD+ will depend greatly on the design and implementation of its benefit-sharing mechanism. Despite a large body of literature on potential benefit-sharing mechanisms for REDD+, the field has lacked global comparative analyses of national REDD+ policies and of the political-economic influences that can either enable or impede the mechanisms. Similarly, relatively few studies have investigated the political-economic principles underlying existing benefit-sharing policies and approaches. This working paper builds on a study of REDD+ policies in 13 countries to provide a global overview and up-to-date profile of benefit-sharing mechanisms for REDD+ and of the political-economic factors affecting their design and setting. Five types of benefit-sharing models relevant to REDD+ and natural resource management are used to create an organising framework for identifying what does and does not work and to examine the structure of rights under REDD+. The authors also consider the mechanisms in light of five prominent discourses on the question of who should benefit from REDD+ and, by viewing REDD+ through a 3E (effectiveness, efficiency, equity) lens, map out some

of the associated risks for REDD+ outcomes. Existing benefit-sharing models and REDD+ projects have generated initial lessons for building REDD+ benefit-sharing mechanisms. However, the relevant policies in the 13 countries studied could lead to carbon ineffectiveness, cost inefficiency and inequity because of weak linkages to performance or results, unclear tenure and carbon rights, under-representation of certain actors, technical and financial issues related to the scope and scale of REDD+, potential elite capture and the possible negative side effects of the decentralisation of authority. Furthermore, the enabling factors for achieving 3E benefit-sharing mechanisms are largely absent from the study countries. Whether REDD+ can catalyse the necessary changes will depend in part on how the costs and benefits of REDD+ are shared, and whether the benefits are sufficient to affect a shift in entrenched behaviour and policies at all levels of government. The successful design and implementation of benefit-sharing mechanisms – and hence the legitimacy and acceptance of REDD+ – depend on having clear objectives, procedural equity and an inclusive process and on engaging in a rigorous analysis of the options for benefit sharing and their potential effects on beneficiaries and climate mitigation efforts.

Pham, T.T.; Moeliono, M.; Nguyen, T.H.; Nguyen, H.T.; Vu, T.H. 2012: The context of REDD+ in Vietnam: Drivers, agents and institutions. CIFOR Occasional Paper no. 75. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
This report discusses the political, economic and social opportunities and constraints that will influence the design and implementation of REDD+ in Vietnam. In particular, four major direct drivers (land conversion for agriculture; infrastructure development; logging (illegal and legal); forest fire) and three indirect drivers (pressure of population growth and migration; the state's weak forest management capacity; the limited funding available for forest protection) of deforestation and degradation in Vietnam are discussed, along with their implications for REDD+. These drivers and their impacts vary from region to region, and change over time – no 'one-size-fits all' formula will function across the whole of Vietnam. The report also examines the lessons learnt from various forestry and economic development policies and programmes and suggests how a future REDD+ mechanism can overcome the major challenges, which include limited funding for forest protection, weak local governance capacity, poor vertical and horizontal coordination, low involvement of the poor, women and indigenous groups, low economic returns, elite capture of land and benefits, and corruption. The report suggests that if REDD+ is to succeed, it must be participatory, that is, all players are given fair and ample opportunity to be part of the programme (particularly those with the least resources or the greatest economic disenfranchisement); transparent, that is, all players can trace how the programme is administered, including the distribution of benefits; and well-monitored, to ensure that the programme is conducted such that it meets its overarching objectives and guidelines. The success of REDD+ will also require that it take a pro-poor and pro-gender equity approach.

Pham, T.T. 2011: REDD+ politics in the media: A case study from Vietnam. CIFOR Working Paper no. 53. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: **10.17528/cifor/003389**
Since 2009, CIFOR has initiated the Global Comparative Study of REDD+ in six countries: Bolivia, Brazil, Cameroon, Indonesia, Tanzania and Vietnam. In analysing national REDD+ policy arenas and emerging strategies, CIFOR researchers have developed five areas of work for each country. These include a country profile, media analysis, policy network analysis, strategy assessment and a fifth area of specific policy studies, to be determined by emerging research results. In 2010 we are publishing the first country profiles and media analyses.

Piu, H.C.; Menton, M. 2014: The context of REDD+ in Peru: Drivers, agents and institutions. CIFOR Occasional Paper no. 106. Center for International Forestry Research (CIFOR), Bogor, Indonesia
This country profile contains an analysis of the causes of deforestation and forest degradation in Peru, and the economic, institutional and political context in which REDD is emerging in the country. Peru has a total forest area of approximately 73 million hectares, almost 60% of national territory. In the past few years, deforestation decreased from 150,000 ha/year to 106,000 ha/year but it still represents one of the biggest sources of greenhouse gas emissions in the country. While it has decreased recently, an increase is expected during coming years due to development policies that support the expansion of road infrastructure in the Amazon, an increase in agricultural production and support for the extractive sectors. The government has declared a goal of reducing to zero the deforestation rate across 54 million hectares of primary forest by 2021, and has initiated the preparation process for REDD+ (Reducing Emissions from Deforestation and Forest Degradation Plus) at a national and subnational level. While the pilot projects are already underway, with international and national funding, and even certification according to international standards, the national government is still in the process of developing REDD+ and MRV (Measuring, Reporting and Verification) strategies under the leadership of MINAM. Even if REDD has solid support within certain sectors of the government and civil society, it will face

big challenges during the implementation phase due to a lack of intersectoral coordination and support to a socioeconomic development that would stimulate conservation and stop deforestation and degradation. In the process of preparation for REDD+, the country has advanced with the processes of safeguarding the participation of the civil society and the protection of native and local communities' rights. At the same time, the challenges concerning weak governance at a national and regional level and conflicts of interest are threats to the effective, efficient and equitable implementation in the long-term.

Pramova, E.; Locatelli, B. 2013: Guidebook on integrating community-based adaptation into REDD+ projects: Lessons from Indonesia and the Philippines. Center for International Forestry Research (CIFOR), Bogor, Indonesia

REDD+ interventions can help both people and forests adapt to climate change by conserving or enhancing biodiversity and forest ecosystem services. However, additional adaptation measures might be needed, such as the protection of agriculture and livelihoods and the development of fire management strategies. Such measures could support the sustainability of REDD+ interventions and the permanence of carbon stocks by preventing activity displacement and induced deforestation and by limiting or avoiding damage to livelihoods and ecosystems from extreme weather events. This guidebook demonstrates how community-based adaptation (CBA) can be integrated into REDD+ interventions and other mitigation activities through a 5-step approach. In addition to vulnerability analysis, a combination of participatory and analytical methods is proposed to capture the voices of multiple stakeholders at the community and broader levels and examine the linkages between adaptation interventions and REDD+. Special emphasis is placed on forest resources and forest management to explore the potential costs and benefits of adaptation interventions for effective REDD+ implementation. Case-studies from Indonesia and the Philippines demonstrate how the steps can be followed. The case study activities and the production of this guidebook were made possible by the financial contribution of the German Federal Ministry for Economic Cooperation and Development (BMZ) and the technical and logistical assistance of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

Rival, A.; Levang, P. 2014: Palms of controversies: Oil palm and development challenges. Center for International Forestry Research (CIFOR), Bogor, Indonesia.

The rapid development of oil palm cultivation feeds many social issues such as biodiversity, deforestation, food habits or ethical investments. How can this palm be viewed as a 'miracle plant' by both the agro-food industry in the North and farmers in the tropical zone, but a serious ecological threat by non-governmental organizations (NGOs) campaigning for the environment or rights of local indigenous peoples? In the present book the authors – a biologist and an agricultural economist- describe a global and complex tropical sector, for which the interests of the many different stakeholders are often antagonistic. Oil palm has become emblematic of recent changes in North-South relationship in agricultural development. Indeed, palm oil is produced and consumed in the South; its trade is driven by emerging countries, although the major part of its transformations is made in the North that still hosts the largest multinational agro industries. It is also in the North that the sector is challenged on ethical and environmental issues. Public controversy over palm oil is often opinionated and it is fed by definitive and sometimes exaggerated statements. Researchers are conveying a more nuanced speech, which is supported by scientific data and a shared field experience. Their work helps in building a more balanced view, moving attention to the South, the region of exclusive production and major consumption of palm oil.

Rutt, Rebecca L. 2012: Social protection in REDD+ initiatives. RFGI Working Paper (3). CODESRIA.

The Responsive Forest Governance Initiative (RFGI) is an Africa-wide environmental-governance research and training program focusing on enabling responsive and accountable decentralization to strengthen the representation of forest-based rural people in local-government decision making. This Working Paper series will publish the RFGI case studies as well as other comparative studies of decentralized natural resources governance in Africa and elsewhere that focus on the intersection between local democracy and natural resource management schemes.

Santoso, L. 2012: Political discourse of REDD+ in Indonesia: Media analysis of national newspapers. Faculty of Social and Political Sciences, University of Indonesia, Indonesia.

The research for this thesis was carried out as part of a global comparative study (GCS) of reducing emissions from deforestation and forest degradation (REDD+), led by the Center for International Forestry Research (CIFOR). It used methodology developed in the Component 1 of the GCS analysing national REDD+ policies and processes. In the thesis the author examines how the mass media translate the REDD+ scheme to be understood for their readers through media framing. Given that REDD+ is a result of political negotiation process at the international level that impact on national politics, this study provides an overview and understanding of the political discourse of REDD+ in Indonesia – by looking at the relationship, roles and interests of key actors that affect the policy making process.

Sheil, D.; Casson, A.; Meijaard, E.; van Noordwjik, M.; Gaskell, J.; Sunderland-Groves, J.; Wertz, K.; Kanninen, M. 2009: The impacts and opportunities of oil palm in Southeast Asia: What do we know and what do we need to know? *CIFOR Occasional Paper no. 51.* **Center for International Forestry Research (CIFOR), Bogor, Indonesia.** DOI: **10.17528/cifor/002792**

The ongoing expansion of oil palm plantations in the humid tropics, especially in Southeast Asia, is generating considerable concern and debate. Amid industry and environmental campaigners' claims, it can be hard to perceive reality. Is oil palm a valuable route to sustainable development or a costly road to environmental ruin? Inevitably, any answer depends on many choices. But do decision makers have the information they require to avoid pitfalls and make the best decisions? This review examines what we know and what we don't know about oil palm developments. Our sources include academic publications and 'grey' literature, along with expert consultations. Some facts are indisputable: among these are that oil palm is highly productive and commercially profitable at large scales, and that palm oil demand is rising. Implementing oil palm developments involves many tradeoffs. Oil palm's considerable profitability offers wealth and development where wealth and development are needed but also threatens traditional livelihoods. It offers a route out of poverty, while also making people vulnerable to exploitation, misinformation and market instabilities. It threatens rich biological diversity—while also offering the finance needed to protect forest. It offers a renewable source of fuel, but also threatens to increase global carbon emissions. We remain uncertain of the full implications of current choices. How can local, regional and international benefits be increased while costs are minimised? While much important information is available, it is often open to question or hard to generalise. We conclude this review with a list of pressing questions requiring further investigation. Credible, unbiased research on these issues will move the discussion and practice forward.

Sills E.O., S. Atmadja, Sassi, C. de A.E. Duchelle, D. Kweka, I.A.P. Resosudarmo, W.D. Sunderlin, (eds.) REDD+ on the ground: A case book of subnational initiatives across the globe. Center for International Forestry Research (CIFOR), Bogor, Indonesia

As one of the leading near-term options for global climate change mitigation, REDD+ has been piloted in over 300 subnational initiatives across the tropics. This book describes 23 of those initiatives in six countries: Brazil, Peru, Cameroon, Tanzania, Indonesia and Vietnam. These initiatives were selected in large part because they had defined their specific intervention areas but not yet offered conditional incentives to reduce forest carbon emissions when CIFOR collected baseline data in 2010. By 2014, they had implemented a broad range of actions both to develop enabling conditions and to reduce forest emissions. Thus, it is now timely to report on their experiences and assess early lessons about REDD+, including finance, tenure, scale, MRV and safeguards. For each of these initiatives, we state the basic facts (where, who, why and when); explain their strategies; describe smallholders living in and around the intervention areas; and highlight key challenges and lessons learned. This information was collected through a household survey at 17 sites, and interviews with key informants and village meetings at all 23 sites.

Sunderland, T.C.H.; Roe, D.; Blomley, T.; Day, M.; Yuliani, L. 2013: Linking great ape conservation and poverty alleviation: Sharing experiences from Africa and Asia. *CIFOR Infobrief no. 60.* **Center for International Forestry Research (CIFOR), Bogor, Indonesia.** DOI: **10.17528/cifor/004097**

Great apes occur in sub-Saharan Africa and Southeast Asia. Efforts to link great ape conservation and poverty alleviation on the two continents share considerable similarities. The common issues allow the development of widely applicable guidelines and policy practice. However, the different socio-political, economic and ecological contexts of Africa and Asia need to be considered in developing any such guidance and practice. All six species of great ape are distributed in countries with high levels of rural poverty. The main threats to great apes in both Africa and Asia are large-scale land-use changes due to commercial enterprises such as oil palm plantations and logging, rather than local poverty. Nevertheless local poverty is a threat in fragmented forest habitats and in countries where the pressure on land is intense. The conservation of great apes has multiple links to poverty alleviation. Poverty can be a driver of local species loss. Conservation can either contribute to poverty alleviation or further exacerbate poverty, depending on how it is implemented and the benefits it generates. Many opportunities exist to link great ape conservation and poverty alleviation; however, inherent trade-offs must be considered. One of the most important is that all great apes are at serious risk of extinction, so conservation is the most critical priority. To that end national and international laws and conventions that protect great apes should be implemented and adhered to. The international interest in carbon conservation, and associated REDD+ schemes, has the potential to provide significant co-benefits to great ape conservation and poverty alleviation by preserving forests of biodiversity value. However, REDD+ also presents risks to both local livelihoods and great apes due to a sole focus on carbon conservation. Potential risks include the exclusion of local people from forest resources and 'leakage' of forest degradation and deforestation activities from high-carbon forests to high-biodiversity forests, including those with great ape populations. Equitably managed great

ape tourism can, in the right circumstances and in a limited number of sites, generate significant revenues and contribute to both great ape conservation and the livelihoods of local people. Conflict between humans and great apes can damage the livelihoods of poor people, for example by ape consumption of subsistence crops. Human–wildlife conflict can also undermine conservation efforts, such as through killing of great apes or loss of local support for conservation initiatives. Great ape tourism runs the risk of exacerbating such conflict because it is based on habituating great apes to humans.

van der Werf, G.R.; Dempewolf, J.; Trigg, S.N.; Randerson, J.T.; Kasibhatla, P.S.; Giglio, L.; Murdiyarso, D.; Peters, W.; Morton, D.C.; Collatz, G.J.; Dolman, A.J.; DeFries, R. 2008: Climate regulation of fire emissions and deforestation in equatorial Asia. Proceedings of the National Academy of Sciences (PNAS) 105(51): 2035020355. DOI: **10.1073/pnas.0803375105**

Drainage of peatlands and deforestation have led to large-scale fires in equatorial Asia, affecting regional air quality and global concentrations of greenhouse gases. Here we used several sources of satellite data with biogeochemical and atmospheric modeling to better understand and constrain fire emissions from Indonesia, Malaysia, and Papua New Guinea during 2000–2006. We found that average fire emissions from this region [128 ± 51 (1s) Tg carbon (C) year-1, T = 1012] were comparable to fossil fuel emissions. In Borneo, carbon emissions from fires were highly variable, fluxes during the moderate 2006 El Niño more than 30 times greater than those during the 2000 La Niña (and with a 2000–2006 mean of 74 ± 33 Tg C yr-1). Higher rates of forest loss and larger areas of peatland becoming vulnerable to fire in drought years caused a strong nonlinear relation between drought and fire emissions in southern Borneo. Fire emissions from Sumatra showed a positive linear trend, increasing at a rate of 8 Tg C year-2 (approximately doubling during 2000–2006). These results highlight the importance of including deforestation in future climate agreements. They also imply that land manager responses to expected shifts in tropical precipitation may critically determine the strength of climate–carbon cycle feedbacks during the 21st century.

Sitoe, A.; Salomão, A.; Wertz-Kanounnikoff, S. 2012: The context of REDD+ in Mozambique: Drivers, agents, and institutions. CIFOR Occasional Paper no. 79. Center for International Forestry Research (CIFOR), Bogor, Indonesia.

This publication offers an overview of REDD+ strategy in Mozambique through a synthesis of the current knowledge about the causes of forest carbon changes, a review of the legal and institutional context, and a description of the current political process of REDD+. The objective of the study is to collate data and relevant information, and to offer a preliminary analysis of the fundamental aspects that can help promote efficiency, efficacy, and equity in REDD+ policy. Specifically, this study concludes that some of the major problems for REDD+ in Mozambique are the lack of data about deforestation and forest degradation, institutional weakness (regarding monitoring and propriety rights), and gaps in human and technical capacity to fulfil demands associated with REDD+. Therefore, efficient results will depend on the degree to which REDD+ policies are oriented toward real mitigation of the sources of forest carbon changes. In Mozambique, REDD+ policy tends to originate outside the timber sector. The cost-effectiveness of the results will depend on identifying and addressing the fundamental causes of forest carbon changes through more viable REDD+ policy options; government capacity to respond to REDD+ demands, especially at the sub-national level; the capacity of civil society and other institutions; and the strength of the institutional framework. The degree of success of equitable outcomes and the generation of co-benefits will depend on the inclusion and appropriateness of the processes at the national level; if those who support REDD+ costs are also being compensated; and on the general definition of carbon rights and environmental services.

Sonwa, D.J.; Weise, S.F.; Nkongmeneck, B.A.; Tchatat, M.; Janssens, M.J.J. 2009: Carbon stock in smallholder chocolate forest in southern Cameroon and potential role in climate change mitigation. *IOP Conference Series: Earth and Environmental Science no. 6*. DOI: **10.1088/1755-1307/6/5/252008**

No abstract available.

Springate-Baginski, O.; Wollenberg, E.; (eds.) 2010: *REDD, forest governance and rural livelihoods: the emerging agenda.* **Center for International Forestry Research (CIFOR), Bogor, Indonesia.** DOI: **10.17528/cifor/003052.**

Reducing emissions from deforestation and forest degradation (REDD) initiatives are more likely to be effective in reducing emissions if they build on, rather than conflict with, the interests of local communities and indigenous groups (referred to henceforth as 'forest communities'). To show how REDD could most benefit forest communities, lessons from incentive-based forest programmes and recent experiences in six countries were reviewed at an international workshop held at the University of East Anglia (UEA) in Norwich, United Kingdom, in the Spring of 2009. Workshop participants included researchers from the Center for International Forest Research (CIFOR) and UEA, and REDD experts from six focus countries: Brazil, Indonesia, Madagascar,

Tanzania, Mexico and Nepal. REDD offers a critical opportunity to enhance the well being of forest communities, a principle upheld by several international agreements and widely accepted voluntary standards related to REDD. The workshop discussions focussed on how best to achieve this. The proceedings of the workshop are organised in two sections. In the first section, experiences from incentive-based forest management are examined for their effects on the livelihoods of local communities. In the second section, case studies from the six case study countries provide a snapshot of REDD developments to date and identify design features for REDD that would support benefits for forest communities.

An introductory chapter provides a synthesis and overview of the workshop findings. Reviews of incentive-based experiences related to payments for environmental services, volunteer carbon markets and the Clean Development Mechanism show that incentives can be successful in supporting forest conservation. However, programmes tended to not benefit the poor, and marginalised some groups even further. Programmes tended to be biased towards particular geographic regions, and populations that were better off. The poor often could not afford to participate because of high transaction costs and, where carbon markets led to more formalised rights than existed previously, the poorest often lost rights. Clear, formal rights supported implementation of programmes. Where rights are unclear, conflict over carbon benefits can be expected. The papers from case study countries described their preparedness for REDD in the lead up to the December 2009 UN Copenhagen meetings. Brazil and Indonesia, as two of the world's highest emitters of forest-related carbon, have taken significant steps to establish policy and project frameworks for REDD.

Most countries have Readiness Plans for the World Bank's Forest Carbon Facility. Madagascar and Tanzania plan to build on existing policies for participatory forestry or conservation. The main concerns in all countries were how to design REDD to reduce emissions effectively: how to establish relevant baseline levels, how to reduce leakage and how to assess additionality. Little attention has been given to helping forest communities participate in REDD decision making processes that will affect their livelihoods. Only two of the countries so far, Brazil and Indonesia, have developed ways to distribute REDD-related benefits to different stakeholders and provide multi-tiered benefits to forest communities. Assuring transparency and accountability, free, prior and informed consent, and participation in REDD decisions will be necessary to ensure even 'good enough' governance in REDD. The workshop findings show that to make REDD work for forest communities there will need to be clear links between incentives, drivers and benefits at multiple scales. There will need to be long-term development opportunities. Not least, forest communities will need to be involved in making REDD decisions that affect them. National REDD programmes will need to be complemented by pro-poor programmes adapted to local conditions. The introduction to these proceedings presents a framework for analysing the design of REDD in terms of these multiple requirements and different groups. The framework allows REDD strategies to be analysed according to the extent to which interest groups at different levels and scales (e.g. households, communities, local government and the timber industry 1) share the burden for forest management beyond forest communities, 2) provide pro-poor, locally adapted incentives that are linked to long-term development opportunities and 3) create safety nets and livelihood options for forest communities that link and cross multiple levels.

The framework can also be used to assess equity (e.g. across different kinds of forests, including areas most at threat of deforestation and conserved forests), the mix of private and public benefits, or other equity attributes of interest. Workshop participants identified research priorities for understanding the links between REDD and forest communities. These address four main questions: 1. How can REDD support the deeper structural changes needed to stabilise climate and economies in the future? 2. Where should REDD initiatives in the landscape focus (in relation, for instance, to carbon density, opportunity costs and potential for co-benefits)? 3. What are the substantive practical concerns in the design and implementation of REDD, and what are the roles of different stakeholders (in setting baselines, capacity for monitoring, incentive structures)? and 4. What are the links between REDD processes and the political, economic and social structures that affect what sorts of REDD projects are established and how they are defined?

Sunderlin, W.D.; Ekaputri, A.D.; Sills, E.O.; Duchelle, A.E.; Kweka, D.; Diprose, R; Doggart, N.; Ball, S.; Lima, R.; Enright, A.; Torres, J.; Hartanto, H.; Toniolo, A. 2014: The challenge of establishing REDD+ on the ground: Insights from 23 subnational initiatives in six countries. *CIFOR Occasional Paper no. 104.* **Center for International Forestry Research (CIFOR), Bogor, Indonesia**

This CIFOR Occasional Paper presents research results on challenges experienced by proponents in their efforts to establish REDD+ subnational initiatives in Brazil, Peru, Cameroon, Tanzania, Indonesia, and Vietnam. On the basis of in-depth interviews with 23 organizations collaborating in CIFOR's Global Comparative Study on REDD+, it was found that the biggest challenges are tenure and the (currently) disadvantageous economics of REDD+. The study observes several patterns connected with these challenges. Performance-based conditional incentives are judged important but are not as central as once envisioned. Although most organizations are forging ahead with REDD+ in spite of the difficulties, some are drifting away from the label "REDD+." Most of the organizations rely heavily on "integrated conservation and development" as a mode of operation, which enables them to move forward in anticipation of more favorable conditions for REDD+, but raises questions about whether REDD+ will fulfill its promise as an innovative and more effective form of conservation. The study proposes some options for overcoming the main challenges, and observes that there are some grounds for hope that REDD+ can eventually turn the corner and fulfill its potential for greatly reducing deforestation and forest-based carbon emissions.

Tang, W.; Feng, W.; Jia, M.; Zuo, H. 2014: Assessment of biomass and carbon of mangroves in West Africa: USAID Final Report

In this project, we conduct GIS-based data processing and spatial analysis to evaluate the coverage, canopy height, biomass, and carbon of mangroves in West Africa. We first introduce study area, covering 9 countries in West Africa. We then conduct literature review on the existing work of mangrove study regarding coverage, canopy height and biomass. In Section 4, we report how we process and analyze mangrove data in the study area. The coverage of mangroves is estimated using data from NASA and USGS and relevant comparison given. Canopy heights of mangroves are derived from NASA dataset and classified into five classes to facilitate further analysis. Aboveground biomass of mangroves is estimated using empirical algometric equation which is a function of canopy height. We estimate the mean above- and belowground biomass of mangroves in our study area at two levels: regional and country. We compare and discuss the estimated mean and total biomass of mangrove forests in our study region. Further, we propose an approach that combines online available data of mangrove coverage and canopy heights to estimate biomass at regional or higher levels (in Section 4.5) and investigate possible anthropogenic impacts on mangrove forests. In the Discussion section, we provide detailed discussion on the area, canopy height, and biomass of mangroves in and across different countries in our study area. In the conclusion section, we summarize findings in this project.

Torres, Arturo Balderas and Margaret Skutsch (2014). *Challenges for pro-poor benefit sharing schemes in the implementation of REDD+ in Mexico.* **Technical Series: Forest Governance and Economics, No. 2. San Jose, Costa Rica: IUCN, pp. 51.**

The implementation of REDD+ in developing countries is expected to produce many environmental and social benefits when these countries receive results-based cash rewards from international sources. These rewards will be measured in terms of emission reductions or increases in carbon removals over the whole country. In this context, it is necessary to create ad hoc institutional frameworks and design equitable and transparent benefit sharing schemes such that the rewards may be distributed among all the many stakeholders within the country who have in some way participated in the achievements. The Forests Dialogue (TFD) has organised four international events to discuss the design of benefit sharing schemes in Vietnam, Ghana, Peru and Mexico. A preliminary version of this report was prepared by the authors for IUCN and presented at the most recent dialogue held in Mexico in June 2014, which gathered more than 50 specialists on forest management and REDD+ from 20 countries. This report presents a summary of the gaps and problems in the design of benefit sharing schemes, focusing particularly on the need to develop pro-poor schemes, and includes the Dialogue's main recommendations and suggestions. An assessment of both the challenges and the potential paths for implementation is included in the example provided by the case of implementation of REDD+ in Mexico.

Trung, L.Q.; Phuong, V.T.; Yang, A.L.; Hai, V.D. 2015: The distribution of powers and responsibilities affecting forests, land use, and REDD+ across levels and sectors in Vietnam: A legal study. CIFOR Occasional Paper no. 137. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: **10.17528/cifor/005743**

What are the roles and responsibilities of different levels of government over forests and land use in Vietnam? Over the last two decades how have government priorities shifted? How has decentralisation been realised through changing land laws and forest protection and development programs? Which powers and responsibilities are centralized, and which are decentralized? What role do local people play? This report

reviews the statutory distribution of powers and responsibilities across levels and sectors. It outlines the legal mandates held by national and lower level governments with regard to land and forest allocation, afforestation programs, rubber plantations, Payments for Forest Environmental Services (PFES), land use planning, and more. The review considers legal and policy changes in land use and forestry in Vietnam following the 'doi moi' reform in 1986 up to 2014. After a short introduction, the second section describes the decentralization process, including mechanisms for participation. The third section outlines sources of revenue available to different government levels from forest fees and payments for environmental services. The fourth section details the specific distribution of powers and arenas of responsibility related to multiple land use sectors across and within levels, and the fifth and final section concludes on the policy changes and processes in relation to observed forest cover change. The study was commissioned under CIFOR's Global Comparative Study on REDD+, as part of a research project on multilevel governance and carbon management at the landscape scale. It is intended as a reference for researchers and policy makers working on land use issues in Vietnam.

UICN-PC (2013). Comment aborder la REDD+ au Cameroun : Contexte, enjeux et options pour une stratégie nationale. Yaoundé, Cameroun : UICN. 103pp.
Le Cameroun, à l'instar d'autres pays du Bassin du Congo, subit de plein fouet les effets environnementaux, sociaux et économico-dévastateurs des changements climatiques, généralement provoqués par la déforestation, la dégradation et la fragmentation des forêts. Ce pays s'impose comme un acteur majeur incontournable dans les stratégies d'atténuation des changements climatiques, compte tenu de son énorme potentiel forestier.

Verchot, L.V.; Petkova, E.; Obidzinski, K.; Atmadja, S.; Yuliani, L.; Dermawan, A.; Murdiyarso, D.; Amira, S. 2010: *Reducing forestry emissions in Indonesia*. Center for International Forestry Research (CIFOR), Bogor, Indonesia.

- Attempts to achieve significant emissions reductions through a plantation expansion programme alone would not be feasible, as planting the number of trees needed to fully achieve emissions reduction targets would require a land area twice the size of Indonesia, even if planted on degraded lands.

- Forest conversion must cease if Indonesia is to achieve emissions reductions through forestry. Expanding production areas (food, oil palm, timber/pulpwood) could undermine emissions reduction efforts if this expansion is based on additional deforestation.

- New plantations should be developed on degraded lands, as expansion of plantations on mineral soil and peatland will significantly increase emissions. It is critical to obtain spatial data about degraded lands; such data should be used to prioritise areas for reforestation and plantation development with dual carbon emissions reduction and economic objectives.

- New plantations developed on degraded lands can make modest contributions to emissions reductions. If industrial plantations are primarily for pulpwood, planting half the degraded land could achieve 8–12% of the emissions reduction target. New industrial plantations for non-pulpwood purposes could contribute 22–33% of the emissions reductions needed.

- Careful spatial planning is required to ensure that expansion of plantation activities does not engender conflicts with local communities and indigenous peoples, but rather that it contributes to enhancing rural livelihoods.

- Government policies to encourage industries to develop new plantations on degraded land will fail to achieve emission reductions without effective law enforcement, monitoring and safeguards to prevent illegal practices; incentives for district government and local stakeholders who have preserved their forest and peatland; and consistent programmes and policies across sectors and agencies.

- Indonesia has a wide range of options in the land use, land use change and forestry (LULUCF) sector for reducing emissions, and these could be pursued more aggressively to achieve greater emissions reductions at low cost. These opportunities involve stopping or reducing deforestation; stopping or reducing peat fires; and stopping peat drainage. Some of these offer possible synergies between

sustainable development, poverty reduction and climate change mitigation, and should be prioritised in the national REDD+ programme.

Vietnam Forest Protection and Development Fund 2014: Payment for forest environmental services (PFES) in Vietnam: findings from three years of implementation. Vietnam Forest Protection and Development Fund, Hanoi, Vietnam

Vietnam's payments for forest environmental services (PFES) policy aims to incentivize individuals and communities to sustainably manage and protect their forests by providing compensation for their efforts.

Wangui Chomba, Susan 2015: REDD+ institutional choices and the implications for local democracy in the Kasigau Corridor, Kenya. RFGI Working Paper (16), CODESRIA.

The Responsive Forest Governance Initiative (RFGI) is an Africa-wide environmental-governance research and training program focusing on enabling responsive and accountable decentralization to strengthen the representation of forest-based rural people in local-government decision making. This Working Paper series will publish the RFGI case studies as well as other comparative studies of decentralized natural resources governance in Africa and elsewhere that focus on the intersection between local democracy and natural resource management schemes.

Waskow, D., W. Bevins, E. Northorp, L. Weatherer, P. Joffe 2015: Building Climate Equity. Creating a New Approach from the Ground Up. World Resources Institute. Available at: http://www.wri.org/publication/building-climate-equity

For more than two decades, crafting global actions that all nations believe to be equitable has been a central challenge for international climate policy. A new approach is required to resolve this challenge. Building on the experiences of 23 countries, this report demonstrates that climate action and equity can be mutually supportive and that well-designed climate policies can strengthen the capabilities of the least well-off and most vulnerable.

Wertz-Kanounnikoff, S.; Sitoe, A.; Salomão, A. 2011: How is REDD+ unfolding in southern Africa's dry forests?: A snapshot from Mozambique. *CIFOR Infobrief no. 37*. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: 10.17528/cifor/003402

Mozambique has high forest cover, a high deforestation rate and severe forest degradation. It is also one of the poorest and most vulnerable countries in the world. Therefore, Mozambique requires a pro-poor REDD+ model that progressively widens its scope to include agriculture and adaptation. Mozambican experts have drafted a national REDD+ strategy, which is currently undergoing government consultation, with public dissemination to follow later in 2011. The main REDD+ initiatives in Mozambique include a Norwegian-funded South-South cooperation programme with Brazil designed to support REDD+ strategy development, and a Japanese-funded readiness initiative on monitoring, reporting and verification and reference levels. Mozambique has a tradition of stakeholder consultation and relatively inclusive processes.

However, to improve the content and acceptance of the REDD+ strategy and subsequent related legislation, greater capacity-building efforts and consultations are needed, especially at subnational levels, amongst communities and in the private sector. Important lessons for REDD+ benefit sharing can be drawn from Mozambique's innovative yet still underimplemented 20% timber royalty distribution mechanism, as well as the two ongoing carbon forestry payments for environmental services schemes. Securing financing for REDD+ will be a challenge, and funding REDD+ implementation phases will require pooling resources from different sources. Implementation of a solid, well-developed REDD+ strategy can serve as a powerful framework to attract and coordinate such long-term financing for REDD+.

Wertz-Kanounnikoff, S.; Kongphan-apirak, M. 2010: Emerging REDD+: a preliminary survey of demonstration and readiness activities. *CIFOR Working Paper no. 46*. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: 10.17528/cifor/002871.

This paper presents the results of a preliminary survey of emerging demonstration and readiness activities to reducing emissions from deforestation and forest degradation and carbon stock enhancement (REDD+) across Africa, Asia, and Latin America. The survey was conducted between November and December 2008, and the information collected was updated until May 2009. While the results of the survey offer a useful snapshot of the landscape of REDD+ activities, they do not capture all the dynamics associated with this rapidly evolving field. As the international debate on REDD+ continues, some projects surveyed may have changed their core objectives and activities, while others may never get off the ground. Another limitation of the survey is the ongoing lack of any clear definition of what constitutes a REDD+ demonstration activity. Despite these shortcomings, this survey offers insights on current trends to inform future REDD+ investments. In total the

survey found over 100 REDD+ activities: 44 demonstration activities, 65 readiness activities (including those by the Forest Carbon Partnerhship Facility and the UN-REDD Programme) and 12 activities where carbon is not an explicit goal. Indonesia has by far the most demonstration activities in the pipeline, making Asia the region with the largest number of REDD+ activities. Many projects (68%) are still in the planning stage. A preliminary assessment of incipient REDD+ investments shows the following.

First, REDD+ initiatives, especially demonstration activities, tend to target countries where deforestation or the risk of deforestation is significant, which suggests realised carbon effectiveness considerations. Second, poor governance contexts do not discourage REDD+ investments, although cost-efficiency considerations may suggest otherwise. Third, although there is scope for natural equity and co-benefits, there is also a risk of trade-offs between carbon effectiveness and co-benefits.

Dry forests – where many rural poor live and where there are high levels of biodiversity – tend to be carbon poor and, thus, feature far less in REDD+ demonstration activities than humid forests. Balancing trade-offs between cost-effectiveness and co-benefit considerations will likely become a central challenge for REDD+ policies and activities. Spatially explicit, high-resolution, environmental and socioeconomic data can offer new scope for REDD+ investments to enhance carbon goals while securing REDD+ co-benefits. Policy makers, donors, and other investors in REDD+ and/or REDD+ co-benefits could assemble such data to enhance their investment choices, monitor their outcomes, and thus provide valuable lessons to inform the national and global REDD+ architecture. Although performance-based payments analogous to payments for environmental services (PES) are core features of the REDD+ idea, the survey further shows that REDD+ policies will require more than PES-type REDD+ schemes. Investments in improved governance and broader policy reforms are equally important to address the root causes of forest emissions. Finding the right policy mix in different country contexts is an important challenge ahead.

Williams, Lauren Goers. 2013. "Putting the Pieces Together for Good Governance of REDD+: An Analysis of 32 REDD+ Country Readiness Proposals." Working Paper. Washington, DC: World Resources Institute. http://www. wri.org/publication/putting-the-pieces-together-for-good-governance-of-redd

Developing countries are receiving new financial and technical support to design and implement programs that reduce emissions from deforestation and forest degradation (referred to as REDD+). Reducing emissions from forest cover change requires transparent, accountable, inclusive, and coordinated systems and institutions to govern REDD+ programs. Two multilateral initiatives— the World Bank-administered Forest Carbon Partnership Facility (FCPF) and the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in developing countries (UN-REDD Programme)—are supporting REDD+ countries to become "ready" for REDD+ by preparing initial strategy proposals, developing institutions to manage REDD+ programs, and building capacity to implement REDD+ activities. This paper reviews 32 REDD+ readiness proposals submitted to these initiatives to understand overall trends in how eight elements of readiness (referred to in this paper as *readiness needs*) are being understood and prioritized globally. Specifically, we assess whether the readiness proposals (i) identify the eight readiness needs as relevant for REDD+, (ii) discuss challenges and options for addressing each need, and (iii) identify next steps to be implemented in relation to each need. Our analysis found that the readiness proposals make important commitments to developing effective, equitable, and well-governed REDD+ programs. However, in many of the proposals these general statements have not yet been translated into clear next steps.

Williams and Davis. 2012. Getting Ready with Forest Governance: A Review of the Forest Carbon Partnership Facility Readiness Preparation Proposals and the UN-REDD National Programme Documents, v 1.9. WRI Working Paper. World Resources Institute, Washington DC. Online at http://www.wri.org/publication/getting-ready

The World Bank administered Forest Carbon Partnership Facility (FCPF) and the UN Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD Programme) are two leading multilateral efforts currently supporting developing countries to become ―readyll to reduce emissions from deforestation and forest degradation and enhance carbon stocks (REDD+). This working paper is the eighth in a series of regular updates reviewing the Readiness Preparation Proposals (R-PPs) submitted by REDD+ Country Participants to the FCPF and the National Programme Documents (NPDs) submitted by UN-REDD Programme countries to the UN-REDD Programme. The analysis is based on a desktop review of each R-PP and NPD in order to understand how countries are considering fundamental issues of forest governance during the readiness phase. We assess whether the documents identify major governance challenges contributing to forest loss, and whether principles of transparency, accountability, participation, and coordination are being applied in the development of REDD+ institutions, systems, and plans. The 7th meeting

of the UN REDD Programme Policy Board and the 10th meeting of the FCPF Participants Committee will be held in Berlin, Germany, from 13-14 October and 17-19 October, respectively. This paper evaluates R-PPs from Central African Republic and Colombia submitted for formal consideration by the FCPF Participants Committee. Draft R-PPs from Guatemala and Mozambique were submitted for informal review, but are not analyzed in this paper. We also review Nigeria's NPD, which will be considered for funding by the Policy Board.

REDD+ theory and policy papers

Angelsen, A. 2015: All You Need Is Cash (for REDD+)? In Patrick Guillaumont and Matthieu Boussichas (eds.) *Financing Sustainable Development: Addressing Vulnerabilities. 385-398.* **Fondation pour les études et recherches sur le développement international (Ferdi), Paris, France.**
No abstract available.

Angelsen, A.; Gierløff, C.W.; Beltrán, A.M.; den Elzen, M. 2014: REDD credits in a global carbon market: Options and impacts. Nordic Council of Ministers, Copenhagen, Denmark.
How can REDD credits be included in a future global carbon market, and what are the impacts of inclusion? We analyze ten different scenarios through 2020, varying the global emission caps and the REDD rules. An inclusion of REDD credits without any adjustments in the global cap will lower carbon prices significantly and cause crowding out. The cap must move towards the 2 degrees climate target if REDD inclusion is to maintain high carbon prices and strong incentives for emissions reductions in other sectors. At the same time, reaching the 2 degree target without full REDD inclusion will increase global mitigation costs by more than 50%.

Angelsen, A., Brockhaus, M., Sunderlin, W.D., Verchot, L.V. 2012: Analysing REDD+: Challenges and choices. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
This is the third book in a series of highly recognised REDD+ volumes from CIFOR. It provides an analysis of actual REDD+ design and early implementation, based on a large research project – the Global Comparative Study on REDD+ (GCS), undertaken by CIFOR and partners. It takes stock of national, subnational and local REDD+ experiences, and identifies the political and practical challenges to designing and implementing effective, efficient and equitable REDD+ policies and projects

Angelsen, A.; Boucher, D.; Brown, S.; Merckx, V.; Streck, C.; Zarin, D. 2011: Guidelines for REDD+ Reference Levels: Principles and Recommendations. Meridian Institute, Washington, D.C., USA.
This report proposes guidelines for developing REDD+ reference levels (RLs) under the United Nations Framework Convention on Climate Change (UNFCCC).1 It identifies principles that should be adhered to, the steps that must be taken, the data that will be required, and shows how the data can be analyzed to produce scientifically credible estimates of historic GHG emissions and removals from forests, which can then be used to project RLs.

Angelsen, A.; Boucher, D.; Brown, S.; Merckx, V.; Streck, C.; Zarin, D. 2011: Modalities for REDD+ Reference Levels: Technical and Procedural Issues. Meridian Institute, Washington, D.C., USA.
Reference levels (RLs) are essential in two ways for Reducing Emissions from Deforestation and Forest Degradation, and the Role of Conservation of Forest Carbon Stocks, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks (REDD+). RLs may be developed to encompass the three land-use categories described by the Good Practice Guidance of the Intergovernmental Panel on Climate Change, namely: forests converted to other lands (covering deforestation); other lands converted to forest (covering expansion of forest carbon stocks by afforestation or reforestation); and forests remaining as forest (covering forest degradation, sustainable management of forests, and conservation of forest carbon stocks -although the latter raises particular challenges because, by definition, it cannot be assigned a rate of carbon flux).

Angelsen, A.; Baur, H.; Haskett, J.; Kanninen, M.; Lasco, R.D.; Locatelli, B.; Murdiyarso, D.; Santoso, L.; Smith, P.; Swallow, B.; van Noordwjik, M.; Wertz-Kanounnikoff, S. 2010: Forests and climate change: a toolbox. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
No abstract available.

Angelsen, A. with Brockhaus, M., Kanninen, M., Sills, E., Sunderlin, W. D. and Wertz-Kanounnikoff, S. (eds) Realising REDD+: National strategy and policy options. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: 10.17528/cifor/002871
Reducing emissions from deforestation and forest degradation, and enhancing forest carbon stocks in developing countries (REDD+) started as a global initiative. Much of the initial debate has focussed on the global REDD+ architecture and how REDD+ can be included in a post-2012 climate agreement. But the debates and the focus of actions have now increasingly moved to national and local levels. More than 40 countries are developing national REDD+ strategies and policies, and hundreds of REDD+ projects have been initiated across the tropics. This book wants to inform these national and local processes, by asking some basic questions: How are participating countries going to reduce emissions and increase carbon stocks that they hope to be paid for through global mechanisms? What new institutions, processes, policies, and projects are needed? What are the options in these areas, and how do they compare?

Angelsen, A.; (eds.) 2008: Moving ahead with REDD: issues, options and implications. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: 10.17528/cifor/002601
REDD is based on a simple and appealing idea, but turning the idea into action is much more complex. We must address many difficult questions before we can create mechanisms that fully exploit the potential of REDD: How can we measure reductions in emissions when data are poor or do not exist? How can we raise the billions of dollars needed to put a REDD mechanism in place? How can we make sure that any reductions in deforestation and degradation are real (additional), and that they do not lead to more trees being chopped down in other forest areas (leakage) or next year (permanence)? How can we make sure that the poor benefit? This book discusses these questions. They are highly relevant to the design of the global REDD architecture in the post-2012 climate regime that is currently being negotiated under the United Nations Framework Convention for Climate Change (UNFCCC).

Each chapter deals with a key issue, presents the options and assesses the implications according to the '3E' criteria: carbon *effectiveness*, cost *efficiency*, and *equity* and co-benefits. While there are technical solutions to all the problems, there are sometimes tradeoffs between the 3Es. Moreover, there are few purely technical issues; most options have political implications, for example, on the distribution of REDD funds across countries.

Angelsen, A.; Streck, C.; Peskett, L.; Brown, J.; Luttrell, C. 2008: What is the right scale for REDD?: The implications of national, subnational and nested approaches. *CIFOR Infobrief no. 15*. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: 10.17528/cifor/002595

Key points:
Three proposals on the geographical level or scale of REDD accounting and incentive mechanisms are under discussion: direct support to projects (subnational levels), direct support to countries (national level), or a hybrid ('nested') approach combining the two.

- A subnational or project approach allows for early involvement and wide participation and is attractive to private investors. However, it may su_er from leakage (increased emissions outside project boundaries) and cannot address the broader forces driving deforestation and forest degradation.

- A national approach allows pursuit of a broad set of policies, addresses domestic leakage and creates country ownership. In the short to medium term, however, a national approach will be feasible for only a few countries, as it does not work well in situations susceptible to governance failures; it may also be less likely to mobilise private investment or local government involvement.

- A nested approach is the most edible mechanism. It allows countries to start REDD efforts through subnational activities and gradually move to a national approach, or for the coexistence of the two approaches in a system where REDD credits are generated by projects and governments, thus maximising the potential of both approaches.

K Bottriell, N Judd 2011: **Review of policy options relating to sustainable palm oil procurement. Proforest for Defra.**
This report, commissioned by Defra, gathers industry viewpoints on several potential policy options relating to increasing the volume of sustainable palm oil consumed within UK supply chains, along with the possible costs and benefits of each of these options. We interviewed 50 companies to establish their commitments to sustainable sourcing. In addition to this a questionnaire and a workshop were used to collect UK stakeholder views on the various policy options available. Another report (available via the link on the right hand side of this page) aimed to map and understand UK palm oil supply chains, which was important preparatory work for this review.

Brockhaus, M.; Di Gregorio, M.; Wertz-Kanounnikoff, S. 2012: Guide for country profiles: Global Comparative Study on REDD (GCS-REDD) Component 1 on National REDD+ Policies and Processes. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
No abstract available.

E. Brown, M. Senior 2014: Common **Guidance for the Management and Monitoring of High Conservation Values.** The Proforest Initiative for the HCV Resource Network.
This document provides general guidance and good practice recommendations for the management and monitoring of HCVs. It is primarily aimed at resource managers and HCV assessors, but may also be of use to certification bodies and auditors. The text provides guidance that is applicable at a global level, but since management contexts are unique and often require that responses be adapted on a case-by-case basis, the guidance presents various examples to illustrate different management and monitoring strategies and prescriptions used by production companies in the field.

CIFOR 2013: REDD+ Subnational Initiatives. CIFOR Factsheet. Center for International Forestry Research (CIFOR), Bogor, Indonesia
REDD+ Subnational Initiatives examines how REDD+ projects can be designed and implemented so that their outcomes are effective, efficient and equitable and they deliver co-benefits. Although REDD+ is still being negotiated in international arenas, some 200 subnational forest carbon initiatives are already underway around the world. These interventions aim to increase forest carbon stocks relative to business-as-usual scenarios (i.e., the scenario if there were no intervention). How successful are these interventions likely to be? Will their outcomes be efficient, equitable and effective? Will they deliver co-benefits such as improved livelihoods and protection of rights, tenure and biodiversity? What conditions and activities help or hinder these projects in achieving their aims? How can they get the necessary support from local people? To help answer these questions, we collect and analyze socioeconomic and biophysical baseline data at 23 REDD+ project sites in six countries, encompassing more than 170 villages and nearly 4000 households. To ensure effects are appropriately attributed to the projects, we compare data before and after, and with and without, an intervention.

CIFOR 2013: Measuring carbon emissions. CIFOR Factsheet. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
The basic idea of REDD+ is to give rewards for successfully reducing the amount of carbon emitted through deforestation and forest degradation. To determine whether a REDD+ activity has been successful in reducing carbon emissions — and hence to allocate rewards — it is obviously essential to measure the size of the emission reductions. To calculate the size of emission reductions attributable to a REDD+ intervention, we need to know two things: (1) the amount of carbon emitted after the intervention; and (2) the amount of carbon that would have been emitted if there had been no intervention (known as the "reference level" or "baseline"). The volume of emission reductions is calculated as the actual emissions after REDD+ minus the reference emissions. A critical element of REDD+ in each country, therefore, is a credible and accurate "MRV system": a system for measuring the results of REDD+ activities, reporting those results to the international community, and then verifying the reports.

CIFOR 2013: Mitigation – adaptation synergies. CIFOR Factsheet. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
The primary purpose of REDD+ is to help mitigate climate change by avoiding the release of carbon emissions caused by deforestation and forest degradation. Mitigation is crucial for limiting the extent of climate change and thus the severity of its impacts on society. Yet even with strong mitigation efforts, the climate will continue to change. Therefore, we must be prepared to adapt to these changes—to adjust human and natural systems so that communities are more resilient and can cope with the harmful effects of climate variability. Forests are important for both mitigation and adaptation, so it makes sense to analyze the linkages between these strategies and identify opportunities to enhance the outcomes of both. In particular, it would be highly benefi cial to use

REDD+ to support measures that help reduce forest communities' vulnerability to the effects of climate change. To guide the development of methods to achieve such synergies, our research analyzes national and international policies and standards to see how they can support integration, assesses the vulnerability of communities and forests, and explores the outcomes of ecosystem-based approaches to adaptation. Mitigation–Adaptation Synergies ForestsClimateChange.org Mitigation–Adaptation Synergies looks for ways to exploit the synergies between REDD+ and climate change adaptation, to ensure that REDD+ has an impact beyond mitigation and is sustainable in a changing climate.

CIFOR 2013: REDD+ benefit sharing. CIFOR Factsheet. Center for International Forestry Research (CIFOR), Bogor, Indonesia

REDD+ Benefit Sharing aims to provide policy options and guidance for the design, development and implementation of REDD+ benefit-sharing mechanisms. As REDD+ is based on conditional rewards for reducing carbon emissions, it requires a system to designate who gets rewarded, why, under what conditions, in what proportions and for how long. Such systems are known as benefit-sharing mechanisms, a broad term that encompasses all institutional means, structures and instruments for distributing finance and other net benefits from REDD+ programs. Benefit sharing is important for creating the necessary incentives to change deforestation and forest degradation behaviors and thus reduce carbon emissions. However, if stakeholders do not see the system as fair, it will threaten the legitimacy of, and support for, REDD+. A well-designed benefit-sharing mechanism can also support the effectiveness of forest management and increase the efficiency of REDD+ programs. Our work on benefit sharing builds on findings from the first phase of CIFOR's Global Comparative Study on REDD+. It examines the opportunity, transaction and implementation costs of REDD+ at national and subnational levels, as well as multilevel governance and rights.

CIFOR 2013: REDD+ Policies. CIFOR Factsheet. Center for International Forestry Research (CIFOR), Bogor, Indonesia.

The overarching aim of REDD+ is to help mitigate global climate change, by creating incentives for countries to reduce emissions of greenhouse gases caused by deforestation and forest degradation. But if REDD+ is to realize its full mitigation potential, the drivers of deforestation and forest degradation must be addressed. This will entail reforms of policies, practices and processes at the national level. National governments in REDD+ countries are adapting or introducing relevant policies. However, whether or not those policies are effective will be determined by numerous factors: the attitudes of political actors, how those actors understand and respond to REDD+, the way institutions are set up, and existing laws and practices. By analyzing the drivers, agents, institutions and public discourses that are shaping the context of REDD+ in several countries, we seek to understand what change is needed to create REDD+ regimes whose outcomes are effective, effi cient and equitable, and how that change can be achieved.

CIFOR 2013: Multilevel Governance and Carbon Management. CIFOR Factsheet. Center for International Forestry Research (CIFOR), Bogor, Indonesia.

Multilevel Governance and Carbon Management examines how institutions of different levels and sectors relate each other in decision-making processes around land use, carbon management and benefit-sharing arrangements, so that economic and policy barriers to adopting REDD+ and other low-carbon emission options can be overcome effectively and equitably.

CIFOR 2008: The role of REDD in stabilising greenhouse gas concentrations: Lessons from economic models. CIFOR Infobrief no. 18. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: 10.17528/cifor/002598

Key points:

REDD can deliver additional near-term emissions reductions that are critical for maintaining global options for stabilizing GHG concentrations.

Estimated costs of REDD vary with the modelling approach used. However, all models indicate that cost savings from REDD could buy deeper and faster emissions cuts than would be achieved with the same global expenditure but without REDD.

Cost-effective and large-scale REDD is available for a limited time only, thus adding value to protecting tropical forests now.

The risk of REDD supply 'flooding' the carbon market can be contained by policy designs ranging from strict and long-term targets with 'banking' to modest limits on the use of REDD and other types of credits.

CIFOR 2008: Financing REDD: Linking country needs and financing sources. CIFOR Infobrief no. 17. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: 10.17528/cifor/002597

A financing mechanism for reducing emissions from deforestation and forest degradation (REDD) is under negotiation, to take effect after 2012. The mechanism will draw on various public and private financing sources to respond to the diverse needs of different developing countries.

Financing for upfront capacity building ('readiness') is likely to rely on public funds, while financing for ongoing emission reductions is likely to come from funds and/or carbon markets (both voluntary and compliance-oriented).

Financing gaps are likely to arise, first in supporting the REDD demonstration period prior to 2012, and second in countries with weak capacity and governance, and thus higher investment risks.

The most promising avenues for addressing financing shortfalls are market-linked mechanisms that tap carbon markets via auctioning emission allowances, fees and taxes on carbon transactions.

The governance context of many tropical forest areas requires substantial prior investments in land tenure clarification and improved law enforcement before market-based finance becomes feasible.

CIFOR 2008: Measuring and monitoring forest degradation for REDD: Implications of country circumstances. *CIFOR Infobrief no. 16.* **Center for International Forestry Research (CIFOR), Bogor, Indonesia.** DOI: **10.17528/cifor/002596**

Key points:

Including forest degradation (along with deforestation) in a REDD agreement will make it more effective in accounting for carbon emissions and more equitable by encouraging additional countries to participate.

Degradation should be viewed as a different process from deforestation with different actors and drivers.

Changes in carbon stocks from forest degradation can be monitored using the 'stock difference' and 'gain-loss' methods. The choice of method will depend largely on countries' data availability and capacity.

The stock-difference method allows local communities and forest users to monitor the carbon stock changes of their own forest activities; the gain-loss method is primarily intended to use secondary data already available at national level.

The inclusion of degradation in a REDD agreement should permit flexibility in the development and application of methodologies, allowing countries to build on their existing capacities and circumstances.

CIFOR 2008: Do Trees Grow on Money?: The implications of deforestation research for policies to promote REDD. *CIFOR Infobrief no. 14.* **Center for International Forestry Research (CIFOR), Bogor, Indonesia.** DOI: **10.17528/cifor/002594**

Key points:

- Emissions from deforestation and degradation account for about 20 per cent of global carbon emissions. A financing mechanism for reducing emissions from deforestation and forest degradation (REDD) is therefore likely to be part of the climate protection regime that will succeed the Kyoto Protocol, which ends in 2012.

- The success of REDD in reducing emissions will depend on tackling profound market and governance failures. REDD policies will have to align the incentives of economic actors and the public interest, a challenge made more difficult by the complex causes of deforestation, many of which are external to the forestry sector.

Policies need to address diverse local situations while removing perverse subsidies that encourage forest conversion, ending unsustainable extraction, devolving rights and responsibilities to local forest users and promoting the benefits and ecosystem services that forests provide besides carbon storage and sequestration.

Daviet, F. 2009: Beyond Carbon Financing. The Role of Sustainable Development Measures and Policies in REDD+. WRI Policy Sercies. World Resources Institute, Washington DC. Available online at http://www.wri.org/

By December 2009 the 191 parties to the UN Framework Convention on Climate Change (UNFCCC) are expected to have drawn up the next global climate agreement. The Bali Action Plan (BAP), on which the UNFCCC parties agreed in December 2007, provides the road map for this new agreement. Under the BAP, both developed and developing countries will need to take nationally appropriate mitigation actions, known as NAMAs, to reduce their greenhouse gas emissions. The parties also agreed that these actions would be measurable, reportable, and verifiable (MRV) and that the developed countries would help with the developing countries' NAMAs by providing support in the form of financing, technology transfer, and capacity building. Unlike the Kyoto Protocol, the BAP affirms the importance of reducing deforestation, which accounts for 17 to

20 percent of the world's annual greenhouse gas emissions, as a strategy for mitigating climate change. It specifies "policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries" (REDD) to be included in the NAMAs that countries can undertake (UNFCCC 2007, 3; FCCC/ CP/2007/6/Add.1 Decision 1). For many experts, the term REDD has become synonymous with a carbon-financing approach, in which the developing countries' reduction of emissions from forests is supported by the developed countries' purchase of carbon credits, which they can use to meet their own emissions reduction or other obligations.

In the Bali Action Plan's REDD (Decision 2 FCCC/CP/2007/6/Add.1), however, the term is defined more broadly to include a range of actions by both developing and developed countries to address the drivers of deforestation (UNFCCC 2007, 8). In this paper we use the term sustainable development policies and measures (SDPAMs) to refer to this broader set of options for REDD actions that can be NAMAs. Because deforestation and forest degradation account for a significant portion of many developing countries' greenhouse gas emissions, addressing the drivers of forest degradation and loss could have a major positive impact on the global effort to counter climate change. It therefore is vital that the climate negotiators in Poznan recognize and encourage those countries that undertake sustainable development policies and measures to reduce forest-related emissions in developing countries.

Davis, C., L.G. Williams, S. Lupberger, and F. Daviet 2013: Assessing Forest Governance: The governance of forests initiative indicator framework. World Resources Institute, Washington DC. Available online at http://www.wri.org/gfi.

Weak governance is often blamed for poor development outcomes, such as poverty and unsustainable levels of natural resource depletion. In the context of forests, a lack of transparency and accountability is often associated with problems such as illegal logging and corruption. Similarly, a lack of open and inclusive decision-making often contributes to the marginalization and impoverishment of forest-dependent communities and indigenous peoples Challenges in defining and measuring forest governance impede efforts to strengthen it. Governance is inherently difficult to assess in a quantitative fashion, and qualitative assessments are often seen as too subjective. Furthermore, the difficulty in clearly defining forest governance raises questions about what exactly should be assessed. The GFI Indicator

Framework contributes to addressing both of these challenges. It provides a clear model for identifying what to assess, and it proposes a qualitative assessment approach that is systematic and replicable. In doing so, GFI aims to support ongoing efforts to strengthen forest governance around the world. The GFI Indicators have been used to support civil society assessments and outreach in Brazil, Cameroon, and Indonesia, but are designed to support many different types of users and applications. These may include but are not limited to:

- Government agencies wishing to assess the effectiveness of policy implementations
- Legislators seeking to identify priorities for legal reforms
- Multi-stakeholder bodies aiming to build consensus about governance challenges
- NGO watchdogs or oversight bodies seeking to monitor government performance
- International organizations or donor agencies seeking to verify compliance with safeguards

Since decisions about what to assess and how to assess it are intrinsically linked to the goals and location of the assessment, we have developed supplementary materials to facilitate use of the GFI Indicators. The GFI Guidance Manual supports a customized assessment by helping users identify their priorities and tailor an assessment process to meet their objectives. The GFI Manual provides insights on issues such as setting assessment objectives, data collection, and communicating findings. It also provides detailed guidance on research methods and potential data sources for each indicator.

Davis, Crystal, and Florence Daviet. 2010. "Investing in Results: Enhancing Coordination for More Effective Interim REDD+ Financing." WRI Working Paper. World Resources Institute, Washington DC. Available online at: http://wri.org

In 2007, the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) placed efforts to reduce emissions from deforestation and forest degradation in developing countries (REDD+) at the center of the international negotiations for a new global climate agreement. Three years later, the outcome of these negotiations remains uncertain, but political and stakeholder interest in REDD+ continues to be high. Developed countries have pledged approximately US$4.5 billion for REDD+ from 2010 to 2012 to support developing country capacity building, planning, and implementation. It is expected that these "interim" actions will encourage the learning, consensus building and trust necessary for an eventual international agreement. Early

experiments with interim REDD+ financing are already generating valuable lessons and experiences. However, a failure to coordinate a growing number of REDD+ donors and actors could jeopardize progress made thus far. Decisions on the allocation and use of interim financing have been ad hoc, fragmented and donor-driven. A plethora of bilateral and multilateral donors have emerged, each pursuing its own vision of REDD+ and operating in accordance with its own procedures, standards, and safeguards.

To date, REDD+ finance has focused on a relatively small subset of countries, raising the risk that large amounts of money driven by multiple donors could overwhelm the capacity of national institutions to manage resources effectively and efficiently, lead to duplicative or conflicting investments, and diminish the potential for these countries to mainstream REDD+ activities into national planning processes. If early investments in REDD+ do not deliver expected results or lead to an erosion of stakeholder confidence and trust, it will be more difficult to scale-up future financing and to maintain political momentum for an international agreement. This working paper proposes several options for improved coordination at the national, bilateral and multilateral level. It also suggests potential roles that Parties to the UNFCCC, the Interim REDD+ Partnership, and the major multilateral REDD+ initiatives (the Forest Carbon Partnership Facility, the Forest Investment Program, and the UN-REDD Programme) can play in taking these options forward.

de Sy, V.; Herold, M.; Wijaya, A.; Verchot, L.V.; Lindquist, E.; Achard, F. 2013: Multiple remote sensing data sources for REDD+ monitoring. Living Planet Symposium, Edinburgh, 9-13 September 2013.
Under the United Nations Framework Convention on Climate Change (UNFCCC), negotiations are in progress to develop a mechanism to reduce emissions from deforestation and forest degradation, and enhancing forest carbon stocks in (sub)tropical non-annex 1 countries (REDD+). In order for REDD+ activities to be effective, accurate and robust methodologies to estimate emissions from deforestation and forest degradation are crucial. Therefore, a national measurement, reporting and verification (MRV) system is required which follows the international Good Practice Guidelines of the Intergovernmental Panel on Climate Change (IPCC). Remote sensing is commonly considered an essential REDD+ observation tool and in combination with ground measurements it provides an objective, practical and cost-effective solution for developing and maintaining REDD+ MRV systems.

The need for data on drivers and activities causing forest carbon change has been highlighted as a central component in REDD+ readiness efforts. Monitoring drivers (e.g. deforestation by agricultural expansion, fuel wood extraction etc.) for REDD+ puts an emphasis on monitoring and tracking human activities. Remote sensing can help to provide information on follow-up land use, type and intensity of land changes, and shape and pattern of deforestation and degradation; which can generate understanding about proximate causes and drivers of deforestation and forest degradation. The general objective of this research is to evaluate the role and options of remote sensing technologies for national forest monitoring for REDD+ (De Sy et al, 2012), with particular emphasis on identifying drivers of deforestation and forest degradation. The 2010 global remote sensing survey of the FAO Forest Resource

Assessment will be used to quantify and assess regionally specific deforestation and degradation drivers, by the interpretation of forest change patches and follow-up land use in deforestation areas (FAO & JRC, 2012). These improved estimates generates novel opportunities for analysing relationships among specific drivers of deforestation and national circumstances, and for identifying underlying causes of deforestation. The focus for this symposium will be on a comparative pan-tropical assessment of regionally specific drivers of deforestation and the development of appropriate remote sensing methodologies for the assessment of these drivers.

Dutschke, M. 2013: Verification vs. Finance?: Removing the negotiation roadblocks for results-based REDD+ activities. CIFOR Infobrief no. 66. Center for International Forestry Research (CIFOR), Bogor, Indonesia
No abstract available.

Dutschke, M. 2013: Key issues in REDD+ verification: Study commissioned by CIFOR. CIFOR Occasional Paper no. 88. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
Amid the discontent of developing countries about the lack of reliable finance for Reducing Emissions from Deforestation and forest Degradation (REDD+), the issue of verification of results-based activities reached an impasse in the 2012 Doha negotiation round of the UN Climate Convention, leading to the suspension of the formulation of a REDD+ Methodological Guidance. The disillusion about REDD+ finance mainly stems from the weakness of demand on carbon markets. Presently, development assistance is the main funding source, which brings up the old debate around aid conditionality, because obviously 'results-based' implies conditionality for funding. This paper assesses the issues of REDD+ financing and verification in the context of the negotiation

positions of the key countries in the present debate. In its preparation, a number of interviews with REDD+ negotiators have been undertaken, in order to better understand the different positions. The study first narrows down the focus on international verification to UN-based funding mechanisms, while bilateral and multilateral funding for individual country activities will usually be granted under individually agreed conditions. Summing up, the study proposes options for the consistent verification of all Nationally Appropriate Mitigation Options, of which REDD+ is only one, under a transparent, peer-reviewed International Assessment and Review process. The more realistic proposal seems to be a second-best option of verifying REDD+ activities only. A REDD+ Effectiveness Assessment is proposed for internationally results-based finance for REDD+ emission reductions at national level. Different modalities are discussed for the choice of reviewers.

Elias, P.; Leonard, S.; Cando, L.; Fedele, G.; Gaveau, D.L.A.; Locatelli, B.; Martius, C.; Murdiyarso, D.; Sunderlin, W.D.; Verchot, L.V. 2014: Synergies across a REDD+ landscape: Non-carbon benefits, joint mitigation and adaptation, and an analysis of submissions to the SBSTA. CIFOR Infobrief no. 71. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
International policy makers are currently exploring methodological matters associated with non-carbon benefits and joint mitigation and adaptation approaches as they relate to REDD+. Although few pilot projects are exploring these issues, emerging evidence shows how these approaches can be implemented on the ground. This analysis draws from the scientific literature on non-carbon benefits and joint mitigation and adaptation, evaluates recent submissions to the SBSTA on these issues, and intends to inform the negotiations on these approaches.

Estrada, M. 2011: Standards and methods available for estimating project-level REDD+ carbon benefits: Reference guide for project developers. CIFOR Working Paper no. 52. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: 10.17528/cifor/003412
No abstract available.

Gingold, Beth, A. Rosenbarger, Y., I. K. D. Muliastra, F. Stolle, I. M. Sudana, M. D. M. Manessa, A. Murdimanto, S. B. Tiangga, C. C. Madusari, and P. Douard 2012. "How to identify degraded land for sustainable palm oil in Indonesia." Working Paper. World Resources Institute and Sekala, Washington D.C. Available online at http://wri.org/publication/identifying-degraded-land-sustainable-palm-oilindonesia.
This WRI/Sekala Working Paper demonstrates how to implement a quick and cost-effective method for identifying potentially suitable "degraded land" for sustainable palm oil production in Indonesia and presents results from the application of the method in West Kalimantan and Central Kalimantan. The method consists of a desktop analysis as well as field assessments.

Hanson, C. and T. Searchinger. 2015. "Ensuring Crop Expansion is Limited to Lands with Low Environmental Opportunity Costs." Working Paper. Installment 10 of *Creating a Sustainable Food Future*. Washington, DC: World Resources Institute. Available online at http://www.worldresourcesreport.org.
In *Creating a Sustainable Food Future: Interim Findings*, we proposed that in a sustainable food future the world sufficiently feeds itself without any further conversion of natural ecosystems into crops. We found, however, that it may be difficult to boost crop yields and limit food crop demand growth sufficiently to close the approximately 70 percent gap between global crop calories available in 2006 and those needed in 2050 with absolutely no expansion of cropland.

For instance, in order to avoid any further increase in area harvested each year, we found that—absent reductions in food crop demand—the annual average increase in crop production per hectare from 2006 to 2050 would need to be about one-third more than it was in the previous 44-year period (1962 to 2006), a period that encompassed the Green Revolution. Likewise, numerous studies project cropland expansion over coming decades. For instance, the Food and Agriculture Organization of the United Nations (FAO) projects an expansion of 69 million hectares (Mha) between 2006 and 2050. Bajzelj et al. (2014) estimate a much greater expansion—655 million hectares between 2009 and 2050 based on the continuation of recent crop yield trends. And while demand-side measures can help close the gap, they may not do so sufficiently by themselves.

For instance, in the Interim Findings we found that halving the global rate of food loss and waste by 2050 would close the crop calorie gap by about 20 percent. New cropland historically has come from the conversion of forests, grasslands, and wetlands. However, such conversion generally has high environmental and social impacts. It typically releases greenhouse gas emissions otherwise stored in vegetation and soils, reduces wildlife habitat, and disrupts watershed protection benefits, to name a few. Moreover, conversion can displace

people who live in those ecosystems or trigger social conflict with communities that depend on the natural ecosystem. Finding alternative locations for any inevitable cropland expansion is therefore urgent. One commonly suggested option is to focus future cropland expansion toward "marginal" or "degraded lands." There are several challenges associated with the concept of degraded land, however, that make this solution not as straightforward as it might seem at first glance.

First, there is little consensus on the definition of "degraded land." Second, estimates of degraded land extent and location vary widely and often do not overlap. Third, much of the land typically characterized as degraded is already cropland and therefore by definition cannot be a candidate for cropland expansion (the focus of this working paper)—but rather are candidates for restoring crop productivity on existing croplands (which we encourage). Restoring degraded cropland into greater productivity is a very important strategy for boosting food production, but it cannot be considered a "new" source of cropland. Fourth, although the phrase might connote vast tracts of uninhabited or unutilized land, degraded lands are not necessarily vacant areas that are unused by people or that fail to provide benefits.

Fifth, there appears to be a "race for degraded lands" among a variety of interests, including those seeking to boost food production, increase wood product supplies, advance bioenergy, and restore native ecosystems. In other words, the same land is being sought for multiple purposes. Beyond invoking "degradation," other attempts to identify areas suitable for crop expansion often identify lands whose conversion would have high environmental impacts or forgone benefits. These land categories sometimes include: (1) "potentially arable" land that is not now farmed except dense forests, (2) wet savannas, (3) grazing lands, (4) secondary forests, and (5) abandoned farmland. Considering these land types as always or inherently appropriate for cropland expansion leads to overestimates of the amount of land available for sustainable cropland expansion, creating unrealistic expectations. To accommodate any cropland expansion in a manner consistent with a sustainable food future, we need to circumvent the ambiguity and other challenges related to the concept of "degraded land" and avoid misconstruing as inherently appropriate for cropland expansion lands whose conversion would have relatively high environmental impacts.

One approach is to limit any expansion of cropland to lands with low environmental opportunity costs. This concept acknowledges that there are nearly always opportunity costs to expanding crops onto a tract of land—the opportunity to use that land for some other purpose or to merely let it regenerate into something eventually approaching its native ecosystem. Although borrowed from the world of economics, "opportunity costs" in this working paper focus on forgone environmental benefits. Our working definition is that lands with low environmental opportunity costs are those that simultaneously meet at least four criteria:

1. **Not already supporting crops.** By definition, land that is already being used for crop production (no matter how unproductive) is not eligible as an area for cropland area expansion.
2. **Minimal impact on native ecosystems and biodiversity.** Any cropland expansion should avoid converting natural ecosystems or negatively impacting biodiversity.
3. **Low "carbon loss to crop production" ratios.** These are lands whose conversion to cropping would release relatively little carbon compared to the likely tons of crop production per hectare.
4. **Low "blue water" footprint.** These are lands whose conversion to cropping would lower or at least maintain pressure on freshwater resources in the watershed.

The extent of lands with low environmental opportunity costs is uncertain. We have not yet conducted a global mapping analysis. Yet given our strict criteria, our hypothesis is that only modest amounts of land will qualify.
Tracts of land that do meet these four criteria should then be assessed against a set of non-biophysical considerations that determine whether the tract should or even could be converted into cropland. These considerations include:

5. **Economic viability.** Is converting the tract of land into cropland economically viable from the farmer's perspective?
6. **Legal availability.** In light of land-use zoning and other policies, is it legally possible to convert the tract of land to cropland?
7. **Social acceptability.** Do the people living on or holding rights to the tract of land want it converted to cropland?
8. **Best alternative use.** Is cropping an optimal use of that tract of land relative to alternatives such as letting the native ecosystem recover?

Failure to meet criteria 5, 6, and 7 does not mean that a tract of land should necessarily be removed from consideration since steps could be taken to improve performance against those criteria. For example,

introducing economic incentives could improve economic viability. Changing land use zoning could make tracts legally available. And improving the benefits local people gain could make conversion to crops more socially acceptable.

Limiting crop expansion to lands with low environmental opportunity costs is distinct from other strategies or "menu items" profiled in the Interim Findings. For instance, the menu item on "improving land and water management" [see pp. 68-73 in Interim Findings] is about increasing crop productivity per hectare on land that is already being used for crop production. Utilizing lands with low environmental opportunity costs, on the other hand, is about expanding crop production onto areas that currently are not supporting crops. And whereas the menu item "increasing pastureland productivity" (see pp. 77-80 in Interim Findings) is about improving meat and milk production per hectare, this working paper focuses on crop production.

To limit future cropland expansion to lands with low environmental opportunity costs, three sets of policies, incentives, and practices (collectively called "measures") are needed. The first set of measures is designed to generate a clearer understanding of what and where lands with low environmental opportunity costs are located. These include:
- Agreeing on a clear definition.
- Applying our criteria to generate maps.
- Identifying cleared or abandoned agricultural lands where biophysical or human factors are blocking natural regeneration.

The second set of measures would facilitate use of lands with low environmental opportunity costs. For farmers to use these areas for crops, the lands need to be available from a legal, economic, and social perspective. These measures include:
- Prioritizing lands with low environmental opportunity costs in participatory spatial planning.
- Clarifying and strengthening land tenure on lands with low environmental opportunity costs.
- Introducing financial incentives for farmers to use lands with low environmental opportunity costs.
- Improving technical assistance and rural extension for using such lands.
- Strengthening community engagement processes.

The third set of measures is designed to discourage cropland expansion to lands with high environmental opportunity costs by making the financial, reputational, market access, or legal "cost" of converting natural ecosystems into cropland greater than the cost of expanding onto lands with low environmental opportunity costs. This set can stimulate demand by farmers and agricultural companies to use lands with low environmental opportunity costs. These measures include:
- Introducing and enforcing moratoriums on converting natural ecosystems.
- Accelerating adoption of "deforestation-free" supply chain commitments.
- Implementing monitoring systems.

The relative importance of these measures will depend on the particular contextual circumstances of the tract of land being considered. And the second and third set of measures are generally important for encouraging sustainable agricultural intensification on existing cropland and grazing lands, too. Combined, all three groups of measures could help direct any cropland expansion toward lands with low environmental opportunity costs, thereby helping contributing to the menu for a sustainable food future.

Hawthorne, S.D.; Boissiere, M. 2014: Literature review of participatory measurement, reporting and verification (PMRV). *CIFOR Working Paper no. 152.* **Center for International Forestry Research (CIFOR), Bogor, Indonesia.** DOI: **10.17528/cifor/005030**
We conducted a literature review of participatory monitoring and existing PMRV approaches to identify strategies and conditions that support the development and implementation of sustainable PMRV in the REDD+ context. To identify data and processes that should be included in PMRV, we reviewed MRV requirements in the REDD+ context. The literature is analyzed to summarize the lessons learned from participatory monitoring, examine when, where and how PMRV has been developed and implemented, and identify any knowledge gaps. With Indonesia as our case study, we explored the feasibility of PMRV implementation and assessed how PMRV could be integrated into the national MRV system. We examined the proposed national MRV system in Indonesia, compiled a database of REDD+ projects and conducted short interviews with selected project proponents.

Huberman, D. (2008) A Gateway to PES: Using Payments for Ecosystem Services for Livelihoods and Landscapes. Markets and Incentives for Livelihoods and Landscapes Series No. 1, Forest Conservation Programme, International Union for the Conservation of Nature (IUCN), Gland.
The main objective of this work is to provide an introduction and sense of direction (i.e. a "Gateway") into the complicated world of Payment for Ecosystem Services (PES). It by no means intends to serve as a

comprehensive overview of this vast field. It provides one entry point for engaging in PES, and was designed to fit into the broader Livelihoods and Landscapes (LLS) strategy, as developed by IUCN's Forest Conservation Programme.

Jagger, P.; Sills, E.; Lawlor, K.; Sunderlin, W.D. 2010: A guide to learning about livelihood impacts of REDD+. CIFOR Occasional Paper no. 56. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: 10.17528/cifor/003283

This guide is about understanding the livelihood impacts of first-generation REDD+ projects. These projects are being planned and funded by a range of actors, with the aim of implementing a range of interventions to reduce deforestation and forest degradation, to promote conservation and sustainable management of forests and to enhance forest carbon stocks. The international community is looking to these projects for insight and guidance on the design of REDD+. Clearly, there are limitations to how REDD+ can be implemented and what it can achieve at the subnational level, and thus we should not expect the experience of projects to answer all of our questions about REDD+. However, by applying rigorous research designs and mapping the causal chains of projects, we can gather valuable evidence about how REDD+ interventions affect social welfare in forest regions. This guide provides an overview of such methods.

Kanninen, M.; Murdiyarso, D.; Seymour, F.; Angelsen, A.; Wunder, S.; German, L. 2007: Do trees grow on money?: the implications of deforestation research for policies to promote REDD. *Forest Perspectives no. 4*. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: 10.17528/cifor/002347

This paper has two objectives. First, it analyzes the past research on deforestation and summarizes the findings of that research, in terms of its relevance to the development of future REDD regimes. Second, it highlights areas where future research and methodological development are needed to support national and international processes on avoided deforestation and degradation.

Kauffman, J.B.; Donato, D. 2012: Protocols for the measurement, monitoring and reporting of structure, biomass and carbon stocks in mangrove forests. CIFOR Working Paper no. 86. Center for International Forestry Research (CIFOR), Bogor, Indonesia.

This report describes the approaches necessary for the measurement, monitoring and reporting of structure, biomass and carbon stocks in mangrove forests. Mangroves are coastal ecosystems providing numerous ecosystem services affecting both marine and terrestrial resources. In addition, they contain substantial carbon stocks and, due to high rates of deforestation, are significant sources of carbon emissions. Because of their value as carbon stocks and sinks and their numerous other benefits, mangroves could be excellent candidates for carbon mitigation programmes including Reducing Emissions from Deforestation and Forest Degradation, and Enhancing Forest Carbon Stocks in Developing Countries (REDD+). This publication outlines biologically relevant and statistically valid approaches to the efficient and accurate assessment of ecosystem structure, biomass and carbon stocks of mangrove forests.

Kindermann, G.; Obersteiner, M; Sohngen, B.; Sathaye, J; Andrasko, K.; Rametsteiner, E; Schlamadinger, B; Wunder, S.; Beach, R. 2008: Global cost estimates of reducing carbon emissions through avoided deforestation. *Proceedings of the National Academy of Sciences (PNAS) 105(30):* 10302-10307 DOI.

Tropical deforestation is estimated to cause about one-quarter of anthropogenic carbon emissions, loss of biodiversity, and other environmental services. United Nations Framework Convention for Climate Change talks are now considering mechanisms for avoiding deforestation (AD), but the economic potential of AD has yet to be addressed. We use three economic models of global land use and management to analyze the potential contribution of AD activities to reduced greenhouse gas emissions. AD activities are found to be a competitive, low-cost abatement option. A program providing a 10% reduction in deforestation from 2005 to 2030 could provide 0.3– 0.6 Gt (1 Gt = 1 X 10'5 g) CO2'yr-1 in emission reductions and would require $0.4 billion to $1.7 billion.yr-1 for 30 years. A 50% reduction in deforestation from 2005 to 2030 could provide 1.5–2.7 Gt CO2'yr-1 in emission reductions and would require $17.2 billion to $28.0 billion.yr-1. Finally, some caveats to the analysis that could increase costs of AD programs are described

Kurnianto, S.; Murdiyarso, D. 2010: *Forest carbon database: a web-based carbon stock data repository and exchange system.* Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: 10.17528/cifor/003234

The Global Comparative Study on REDD+, established by CIFOR, supports a Forest Carbon Database and exchange system in the public domain. The database helps develop national and subnational monitoring, reporting and verification of REDD+ activities. The database is designed for an open access to allow

participation of researchers and practitioners, who carry out regular forest inventory, manage permanent sample plots, and conduct research on forest carbon stocks and related topics. This system allows you to account for five carbon pools: aboveground tree biomass, belowground tree biomass, dead woody debris, understory/litter and soil. You can also add supporting information (details on your site, land cover, climate and soil) to build a profile of your carbon stock data. If you upload your entire inventory of data, the carbon stock in that ecosystem will be automatically calculated. Our system offers the following advantages:

1. We help reduce duplicate data collection by making available data that have already been collected. This reduces costs.

2. We provide easy access to data that cannot be readily replicated, such as large surveys that are too expensive to replicate.

3. We help you compare carbon stocks across land use types based on data provided by other contributors.

This user guide is designed to familiarise the users with the features of the forest carbon database before deciding to participate and contribute to the system.

Lam, J. 2010: Consumer country measures: best practice in facilitating the legal trade in precious woods and lessons learnt. Proforest for Chatham House.

This paper outlines the experiences with applying best practices and lessons learnt in <u>consumer</u> countries to tackle the illegal trade of precious and high value woods. The paper identifies the range of different initiatives and measures driving the demand for legal and/or sustainable timber in consumer countries, including legislation, public and private sector measures (public procurement policies, forest certification, stepwise programmes) and consumer measures (awareness raising and campaigns). A number of case studies are used to draw out lessons that can be potentially used to facilitate the legal trade of precious woods.

Larsen, G. and F. Daviet 2012: Safeguarding forests and people. A framework for designing a national system to implement REDD+ safeguards. World Resources Institute. Accessible at: http://www.wri.org/publication/safeguarding-forests-and-people

During the design of REDD+, Parties recognized that REDD+ actions will likely not be sustainable unless they account for the role of local people and ecosystems. As a result, Parties defined seven "safeguards" to guide implementation of REDD+, among them transparency, participation, protection of biodiversity, and protection of the rights of local people. Governments in REDD+ countries are tasked with providing information on how these safeguards will be "addressed and respected." One option is to develop a national system focused on implementing the safeguards and to provide information on how the system functions. The purpose of this report is to support this process by providing a framework for what a robust national system to implement the REDD+ safeguards would include.

Larsen, G. and F. Daviet 2012: Map of SBSTA submissions. REDD+ Safeguard Information Systems. WRI Working Paper. World Resources Institute, Washington DC. Available online at http://www.wri.org/gfi

In June 2011, the UNFCCC Subsidiary Body for Scientific and Technical Advice (SBSTA) requested input on a guidance document for its REDD+ "safeguard information system." 26 groups have submitted input to date; this Working Paper describes and summarizes those submissions.

Larson, A.M.; Barry, D.; Dahal, G.R.; Colfer, C.J.P. 2009: Recognising community rights: the potential and challenges of forest tenure reform. *CIFOR Infobrief no. 22*. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: 10.17528/cifor/002894

Key points:

- Forest tenure reform differs from agrarian reform. Besides responding to livelihood demands, it also explicitly aims to conserve forests, and is often driven by demands for ancestral or customary land rights.

- Formal forest-tenure rights have been combined with burdensome responsibilities to protect forests—based on norms established by the state even when there are effective local customs.

- Communities expend scarce human and financial resources in their efforts to defend their new rights from ongoing encroachment.

- Forest tenure reform has demonstrated its potential to improve livelihoods and conserve forests; to fully support livelihoods improvement, policy makers can build on community strengths and local rule

making, and facilitate community capacity, empowerment and market access, rather than always to impose external norms and regulations.

Lin, L. 2012: Geography of REDD+ at Multiple Scales: Country Participation and Project Location. PhD Thesis. North Carolina State University.
Reducing emissions from deforestation and forest degradation (REDD+) is a financial mechanism that provides incentives for developing countries to adopt policy approaches including reduction of emissins from forests, conservation and sustainable forest management, and enhancement of carbon stocks.

Loft, L.; Pham, T.T.; Luttrell, C. Lessons from Payments for Ecosystem Services for REDD+ Benefit-Sharing Mechanisms. CIFOR Infobrief no. 68. Center for International Forestry Research (CIFOR), Bogor, Indonesia
Where benefits and costs accrue at different scales, financial intermediaries are needed to facilitate relations between global-scale buyers and local-scale providers of carbon sequestration and storage. These intermediaries can help to collect and distribute payments and to promote the scheme to potential beneficiaries. The benefits distributed should compensate for the transaction, opportunity and implementation costs incurred by stakeholders for providing ecosystem services. Therefore, calculating the costs and understanding who incurs them are essential for benefit sharing. Targeting benefits according to a set of criteria that match the objectives of the specific mechanism increases the mechanism's efficiency. As the level of performance-based payments may not be able to compete with the opportunity costs of highly profitable land uses, performance-related benefit-sharing mechanisms should be focused on areas with moderate opportunity costs. Benefits should be divided into upfront payments to cover startup costs and to give an initial incentive for participation, and payments upon delivery of ecosystem services to ensure adherence to conditionality.

Menton, M.; Ferguson, C.; Lelmu-Brown, R.; Leonard, S.; Brockhaus, M.; Duchelle, A.E.; Martius, C. 2014: Further guidance for REDD+ safeguard information systems?: An analysis of positions in the UNFCCC negotiations. CIFOR Infobrief no. 99. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
We analyzed submissions to the Subsidiary Body for Scientific and Technological Advice (SBSTA) from Parties and Observer Organizations on two issues: (i) party and observer positions on inclusion of further guidance on REDD+ safeguard information systems (SIS); and (ii) developing country Party experiences and lessons learned from SIS development. We also carried out a brief survey among REDD+ negotiators. The major findings are summarized as follows:
- Some Parties are against the United Nations Framework Convention on Climate Change (UNFCCC) providing further guidance on SIS, but the majority of submissions and survey respondents favor further guidance.
- Some Parties express concern about the potential trade-offs between further guidance and the promotion of country-driven approaches and national sovereignty.
- Submissions both in favor of and against further guidance emphasize the need to minimize the burden of creation of and reporting on SIS.
- While developed country Party submissions emphasize the need for SIS to demonstrate adequate governance and safeguard implementation, civil society organizations highlighted issues around equity and participation of local people in the process.
- The contrasting views suggest that a viable compromise to move the safeguarding work forward could be to produce guidance on how to develop a country-driven approach.

Mora, B.; Herold, M.; de Sy, V.; Wijaya, A.; Verchot, L.V.; Penman, J. 2012: Capacity development in national forest monitoring: Experiences and progress for REDD+. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
The GOFC-GOLD Land Cover Office (gofcgold.wur.nl) and the CIFOR Global Comparative Study on REDD+ (forestsclimatechange.org) held a workshop on 'Stepwise approaches for national forest monitoring and REDD+ MRV capacity development' (gofcgold.wur.nl/sites/CIFOR_workshop.php) in Wageningen, The Netherlands, on 3–5 September 2012. This joint publication is a synthesis of this experts' workshop, published with the aim of presenting, discussing and analysing experiences from national forest monitoring readiness and capacity-development activities for REDD+. Most developing countries have substantial capacity gaps in national forest monitoring relative to the IPCC 'good practice' requirements of transparency, consistency, completeness, comparability and accuracy. Capacity-development programmes need to take this into account. Several success factors for continuous improvement in national forest monitoring were extracted from developing country experiences. Particularly noted as essential are stable institutional arrangements with a strong mandate

for the lead coordinating agency and clearly defined roles and responsibilities for the other stakeholders and sectors involved.

Another important element is the availability of technical and institutional capacities in a stable and long-term setting. Where possible, countries should build on existing institutional forest monitoring frameworks and technical capacities to develop REDD+ monitoring. Continuous improvement cycles and learning-by-doing have been common practice in many developing countries; however, they require sustained financial resources, as well as continued investment in education and related research and development. While improving capacities, moving to incentives based on national-level reporting on emission reductions can help catalyse progress. Interim performance indicators and a focus on simple methods for reference levels and reference emission levels may also be helpful.

A national forest monitoring system comprises the institutional and consultative arrangements that enable a country to estimate its greenhouse gas emissions and removals from forests, including those due to REDD+ activities. In addition, a system should provide data for policy assessment, take advantage of the knowledge of local communities in monitoring, be linked to monitoring of other forest values such as biodiversity and social conditions, and provide information on the success of policy implementation. A national forest monitoring system should provide information on *all* forestland, including land on which regrowth is taking place. In addition, drivers of forest change that are outside the forestry sector (e.g. arising from agriculture or fuelwood demand) should be considered because of their importance for the statistical design, implementation and, in particular, monitoring for REDD+ and its impacts. The concept of stepwise progress and continuous improvements underpins the model applied by many countries in building a monitoring system. This concept recognizes that it takes time to implement missions and removals methodologies and to collect the required data consistently in space and time.

A stepwise approach allowing for conservative accounting of emissions and removals estimates may therefore be useful. National REDD+ MRV should use the most recently agreed or adopted IPCC methods. Current IPCC methodology is suitable for estimating emissions and removals associated with REDD+ activities, but does not address these activities systematically by name. Therefore, the IPCC should be encouraged to develop further useful methodological guidance. The process of planning and implementation of REDD+ MRV may lead to initial priorities for MRV capacity development being defined, based on 1) understanding of the national REDD+ strategies and policies that address the key activities and drivers of forest change nationally; 2) identification of high-priority areas in which to focus most of the detailed MRV activities as part of a stratified national approach; and 3) the evolution of national MRV capacity development as a process following a roadmap with simple, interim performance targets that can be defined as intermediate milestones.

Moura Costa, P, R Nussbaum 2009: Accelerating Transfers of Interim Finance for REDD+: Options for Early Market Involvement. Proforest for DFID UK.
This report looks at the options and opportunities for early market involvement in the process of funding and implementing REDD+ (Reducing Emissions from Deforestation and forest Degradation) activities even before a full international UNFCC (UN Framework Convention on Climate Change) agreement is in place.

Mulatu, K.A.; Herold, M.; Koster, H.; Aguilar-Amuchastegui, N.; Thompson, D.; Mora, B.; Wijaya, A.; Skutsch, M; Calmel, M. 2013: Workshop Report on Science solutions to policy challenges for evolving REDD+ measuring, reporting and verification requirements: report from a multistakeholder workshop. Carbon Management 4(6): 587-590
A workshop entitled 'REDD+ measuring, reporting and verification – science solutions to policy challenges' was organized by the WWF Forest and Climate Initiative, WWF Netherlands and Wageningen University REDD@WUR network from 10th to 12th June 2013 in Zeist, The Netherlands. The purpose of this workshop was to assess the status and development of monitoring approaches in light of the evolving REDD+ measuring, reporting and verification needs from different actors in the REDD+ measuring, reporting and verification process. Accordingly, the most important gaps were identified and led to the development of research priorities with focus on better linking local and national REDD+ efforts on five themes, namely: monitoring and measurement; reporting and verification; reference levels; measuring, reporting and verification of safeguards; and benefit sharing.

Murdiyarso, D. and Herawati, H. (eds.). Carbon forestry: who will benefit? proceedings of Workshop on Carbon Sequestration and Sustainable Livelihoods, held in Bogor on 16-17 February 2005. 26-41.
DOI: **10.17528/cifor/001733**
Carbon sequestration projects through land use, land-use change and forestry (LULUCF) activities could

demonstrate a win-win situation from the point of view of climate change and sustainable development. Under the current rules of the Clean Development Mechanism (CDM) of the Kyoto Protocol the activities are limited to afforestation and reforestation. Properly designed, these projects conserve and/or increase carbon stock and at the same time improve rural livelihoods. Such projects have been developed and implemented in a number of countries with different ecosystems and social settings. They do not necessarily comply with the current legally binding carbon market under CDM but demonstrate the participation of the low-income rural communities in sustainable forestry, agroforestry and other natural resource management activities. This publication is a collection of the lessons learned from a number of case studies ranging from small to large scale projects, from community-based to corporate operations, and from development to conservation activities.

Although most projects are still in their infancy stage and many more lessons to be learned it was realized that bundling climate change and community development projects is a practical approach to support sustainable livelihoods. At the same time the strategic approaches to influence the next rounds of climate negotiation were also addressed. These are dealing with issues, such as, avoiding deforestation and adaptation measures for vulnerable ecosystems and communities, who have relatively low adaptive capacity. Emerging markets for carbon in the context of rural development and organization were identified. This transition has had implications for the development of its institutional arrangements at project management and community levels, which in turn have affected the project's legitimacy and its ability to promote equitable outcomes. It has been demonstrated that purely carbon management-oriented activities are able to convince rural communities and investors to participate. Broader carbon forestry activities have the potentials to be integrated in the sustainable development agenda.

Norad 2014: Real-Time Evaluation of Norway's International Climate and Forest Initiative. Synthesizing Report. LTS International in collaboration with Indufor Oy, Ecometrica and Christian Michelsen Institute.
Report summarizing findings from the 2009-2014 NICFI evaluation.

Norad 2013: Real-Time Evaluation of Norway's International Climate and Forest Initiative: Contribution to Measurement, Reporting and Verification. LTS International in collaboration with Indufor Oy, Ecometrica and Christian Michelsen Institute.
Report summarizing NICFI's support to MRV.

Norad 2012: Real-Time Evaluation of Norway's International Climate and Forest Initiative: Lessons Learned from Support to Civil Society Organisations. LTS International in collaboration with Indufor Oy, Ecometrica and Christian Michelsen Institute.
Report summarizing NICFI's support to civil society organizations.

Norad 2011: Real-Time Evaluation of Norway's International Climate and Forest Initiative Contributions to a Global REDD+ Regime 2007-2010. LTS International in collaboration with Indufor Oy, Ecometrica and Christian Michelsen Institute.
This report is an output of the first iteration of a process of real-time evaluation of Norway's International Climate and Forest Initiative (NICFI). This strand of evaluation addresses NICFI's contribution to the development of an international regime to Reduce Emissions from Deforestation and forest Degradation1 (REDD+) within a broader climate change agreement, and covers the period from the launch of NICFI to the end of June 2010. The other strand (published separately) examines NICFI's support to the formulation and implementation of national REDD+ strategies.

Pirard, R.; Lapeyre, R. 2014: Market-based instruments for ES: A rough guide to the literature jungle. Presented at PESMIX Workshop, Montpellier 11-13 June 2014. 27p
No abstract available.

Proforest 2014: Briefing notes on FLEGT and REDD+. Proforest and EU.
Both the EU Forest Law Enforcement Governance and Trade (FLEGT) action plan and the UN supported Reducing Emissions from Deforestation and forest Degradation (REDD+) mechanism aim to achieve better forest management in developing countries. Though there are clear differences between these two initiatives, there are also many areas of overlap. This series of briefing notes aims to show how these two initiatives can be linked to provide mutual benefits.

Proforest 2012: Assessment of Certification and Legality Verification Schemes against the EU Timber Regulation. Proforest for the European Timber Trade Federation (ETTF).
This report, commissioned by the European Timber Trade Federation, assesses whether timber certification and legality verification schemes comply with the EU Timber Regulation (EUTR) which will come into force in March 2013.

RECOFTC 2010: Forests and climate change after Copenhagen: an Asia-Pacific perspective. The Center for People and Forest (RECOFTC), Bangkok, Thailand.
No abstract available.

Saunders, J, R Nussbaum, A Hoare, C McDermott, J Saunders, P Moura Costa 2009: **Accelerating Transfers of Interim Finance for REDD+: Building Absorptive Capacity. Proforest for DFID.**
There is a global commitment to reduce greenhouse gas emissions from tropical forests through the introduction of a financing mechanism to provide incentives to rainforest nations for maintaining forest carbon. A crucial issue if these countries are to acquire and use significant resources for REDD+ effectively is that of absorptive capacity. This report explores the potential barriers lack of absorptive capacity may create and considers the implications for the design of an interim finance mechanism for REDD+.
Saunders, J, R Nussbaum 2009: **Forest Governance and Reduced Emissions from Deforestation and**

Degradation (REDD). Proforest for Chatham House Energy, Environment and Development Programme.
Presented at the UNFCCC in Bali, December 2007. This paper sets out a number of lessons from ongoing efforts to improve forest governance, which should be considered at both the design and implementation stage of a potential REDD mechanism, and suggests that those countries that improve their forest governance, clarify tenurial arrangements and address illegality are more likely to achieve reduced deforestation and benefit from potential REDD investment than those that do not.

Sehring, J.; Korhonen-Kurki, K.; Brockhaus, M. 2013: Qualitative Comparative Analysis (QCA): An application to compare national REDD+ policy. CIFOR Working Paper no. 121. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
This working paper gives an overview of Qualitative Comparative Analysis (QCA), a method that enables systematic cross-case comparison of an intermediate number of case studies. It presents an overview of QCA and detailed descriptions of different versions of the method. Based on the experience applying QCA to CIFOR's Global Comparative Study on REDD+, the paper shows how QCA can help produce parsimonious and stringent research results from a multitude of in-depth case studies developed by numerous researchers. QCA can be used as a structuring tool that allows researchers to share understanding and produce coherent data, as well as a tool for making.

Verchot, L.V.; Singh, V.P. 2009: Carbon sequestration opportunities with smallholder communities: Forestry, Agriculture and Agro-forestry. Proceedings of the 4th World Congress on Conservation Agriculture, 4-7 February 2009. New Delhi, India. 351-355. World Agroforestry Centre.
No Abstract available.

Sunderlin, W.D.; Larson, A.M.; Duchelle, A.; Sills, E.O.; Luttrell, C.; Jagger, P.; Pattanayak, S.; Cronkleton, P.; Ekaputri, A.D. 2010: *Technical guidelines for research on REDD+ project sites with survey instruments and code book.* **Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI: 10.17528/cifor/003286**
These technical guidelines are intended to serve six main purposes:

- A key reference document for members of the research team;

- A means for outside experts to understand and provide critical feedback on the study;

- A guide to enable non-CIFOR collaborators to conduct this form of research on their own;

- A source of information for REDD+ proponents on research activities conducted at their

- project sites;

- A way for donors to better understand the technical attributes of what they are funding;

- and

- A source of information on methods decisions for team members writing scientific

- reports.

The first purpose listed above is the most important (in terms of frequency of use of these guidelines) and is therefore elaborated. The guidelines shall be used as the framework for orientation and instruction for the enumerators and data encoders. They shall be used by the enumerators as a source of information on the general aims of CIFOR, of GCS-REDD+, and of this research activity in particular, so that this information can be conveyed (for example) to village respondents, project proponents, and officials in the field. The guidelines shall be used by enumerators as a means to resolve methodological issues that may arise in the field when they are out of contact with the Field Research Supervisor. Among other purposes, the research team will use this document as a basis for knowing the exact meaning of certain variables measured in the survey. The encoder will use this document, among other purposes, as a guide
for interpreting the answers recorded in survey forms.

van Asselt, H.; Streck, C.; Assembe Mvondo, S.; Duchelle, A.E.; Haug, C.; Humphreys, D.; Mulyani, M.; Silori, C.S.; Suzuki, R.; Zelli, F.; Frick, S.; Lentini, M.; Luintel, H.; Salimon, C. 2012: Governance for REDD+, forest management and biodiversity: existing approaches and future options. IUFRO World Series no. 31. International Union of Forest Research Organizations (IUFRO), Vienna, Austria.

The chapter examines the evolution of REDD+ governance and identifies policy options to increase synergies among REDD+, the sustainable management of forests and biodiversity conservation. REDD+ emerged at the international level as a point of convergence across the 'institutional complexes' of forests, climate and biodiversity. This convergence attracted the engagement of a wide range of institutions in REDD+ activities, which together have drawn on three primary sources of authority to influence REDD+ rule-making: government sovereignty, contingent finance and voluntary carbon markets. Intergovernmental processes, which represent the primary articulation of governmental authority at the global level, have generated few binding commitments to the sustainable management of forests or biodiversity due to conflicting country interests. These efforts instead have favoured normative guidance, monitoring and reporting, and legality verification initiatives that reinforce sovereign authority. Bilateral and multi-lateral finance initiatives have exerted 'fund-based' authority through the application of operational safeguards protecting indigenous and local communities and biodiversity, but limited funding and low capacity of REDD+ countries to absorb those funds have constrained their influence. Finally, non-state actors have developed voluntary certification schemes for forest and carbon as a 'fast track' approach to elaborating more substantive international standards for environmentally- and socially-responsible forest practices. While the small size and voluntary nature of markets for forest carbon have greatly constrained the impact of these approaches, this could change if a significant regulatory market for REDD+ develops. Furthermore, the governance of REDD+, forest management and biodiversity is pluralistic, involving multiple institutions and actors. Efforts to promote REDD+ safeguarding at the international level exist in tension with national sovereignty and local autonomy. This complexity is taken into consideration in the suite of policy options provided in this chapter, which suggest the need to draw on a range of institutions and approaches and to consider how together they influence the balance of power and incentives across actors and scales.

Verchot, L.V.; Petkova, E. 2010: The state of REDD negotiations: consensus points, options for moving forward and research needs to support the process. Center for International Forestry Research (CIFOR), Bogor, Indonesia.

The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD) commissioned this report from the Center for International Forestry Research (CIFOR) to summarize the current state of negotiations towards a decision in Copenhagen,

specifically outlining areas of consensus, options for resolving areas where consensus has not yet been reached, and priorities for research to support successful implementation of an international REDD Programme following a decision at the 15th Conference of the Parties (COP) in Copenhagen.

Wollenberg, E.; Springate-Baginski, O. 2009: Incentives +: how can REDD improve well-being in forest communities? *CIFOR Infobrief no. 21.* **Center for International Forestry Research (CIFOR), Bogor, Indonesia.** DOI: **10.17528/cifor/002868.**
REDD initiatives are more likely to succeed if they build on the interests of forest communities and indigenous people. More attention is needed to the balance of incentives, benefits, rights and political participation across levels of decision making, interest groups and administration. Incentives can include payments or other benefits for good practices, developing alternative livelihoods, formalising land tenure and local resource rights and intensifying productivity on non-forest lands. The pressure to reduce deforestation needs to be spread across many levels to reduce the burden on forest communities.

Wong, G. 2014: The experience of conditional cash transfers: Lessons for REDD+ benefit sharing. CIFOR Infobrief no. 97. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
Key Lessons

- Conditionality is a key element of conditional cash transfer (CCT) programs and its use has broad political and social appeal. The use of intermediate indicators for ease of implementing conditionality and monitoring (e.g. school enrolment or visits to the clinic) may not fully capture the desired long-term outcomes (e.g. learning achievement or health indicators). The parallel for REDD+ is in choosing between simpler input-based conditionality indicators (e.g. number of trees planted, number of monitoring surveys carried out) or long-term outcome-based indicators (e.g. forest cover maintained, amount of carbon emissions reduced).

- Conditionalities can create substantive costs and there is mixed evidence on their effect. Their relevance and feasibility depend on contextual factors such as politics, and the feasibility, desirability and capacity of countries to set and monitor conditions.

- CCT programs often experience tension between efficiency and equity, where more complex eligibility criteria to ensure equity outcomes will entail higher costs to implement and to monitor. There is a similar tension for REDD+ in realizing objectives for effectiveness (e.g. households who are eligible based on their expected deforestation behavior) and equity (e.g. reaching the poorest households).

- Additionality is an important component of CCT programs, and there is some evidence of positive spillovers on the behavior and consumption of households that do not receive the transfer. The magnitude of these spillovers depends on uptake rates, counterfactual compliance and distribution of the opportunity costs of compliance. For REDD+, there is a risk of negative spillovers if targeting is perceived as unfair, particularly by those who may be non-eligible because of the non-additionality of their behavior before payments (e.g. forest stewards).

- The effect of additional cash inflows into a household economy has in some cases led to changes in consumption preferences that can have a negative impact on the environment, and in the case of REDD+, this could result in displacement of forest degradation activities elsewhere.

- Evidence from CCT programs suggests that packaging complementary measures may be an effective way to address multiple goals of improved health and education outcomes with poverty alleviation and resilience to risks. The potential for linking REDD+ with social measures is an attractive solution to avoid over-burdening the REDD+ agenda.

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Yang, A.L.; Wong, G.; Loft, L. 2015: What can REDD+ Benefit Sharing Mechanisms learn from the European Rural Development Policy? *CIFOR Infobrief no. 126*. **Center for International Forestry Research (CIFOR), Bogor, Indonesia.** DOI: **10.17528/cifor/005745**

Key messages

iv.   Designing incentives to achieve multiple objectives

- The Rural Development Policy (RDP) provides lessons for REDD+ in its implementation of a single financial instrument that can coherently attend to different country needs, priorities and contexts with streamlined monitoring and funding allocations.

- Differentiated payment calculations [applied at different levels] can account for contextual conditions increasing the likelihood that beneficiaries will perceive compensation as equitable, which motivates them to participate and comply with the scheme, and support the delivery of the desired outcomes.

v.   Multi-level governance (MLG)

- The RDP is at risk of being dominated by elite actors, especially when powers are decentralized and wider representation is not ensured. Elite capture is a common issue in forest management and requires specific attention within the context of REDD+ benefit distribution.

- Although local level decision-making can enhance outcomes, evidence from the RDP suggests that overt top-down governance still prevents local actors from fully participating despite policy priorities to the contrary, even when local governance institutions are created. As such, REDD+ safeguards for procedural equity are important, but not necessarily sufficient, to counter these effects.

vi.   Monitoring and evaluation

- Despite a strong commitment to monitoring, as impact indicators remain elusive, the available RDP output indicators currently provide only superficial insights into policy performance and are limited in their ability to assess the quality of activities in practice. Proxy indicators are needed, particularly for measuring the long-term outcomes and co-benefits of REDD+.

- The RDP's consistent monitoring and evaluation system is a strength that could be applied to REDD+. A qualitative evaluation approach should also be considered to complement quantitative indicators, account for data gaps, and capture other intangible policy/project aspects.

Annex 6: Study B Materials

Figure A6-1: Theory of Change: Zero-Deforestation (2015).

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Figure A6-2:Strategic Framework for Climate and Forestry Initiative (as per January 2016)
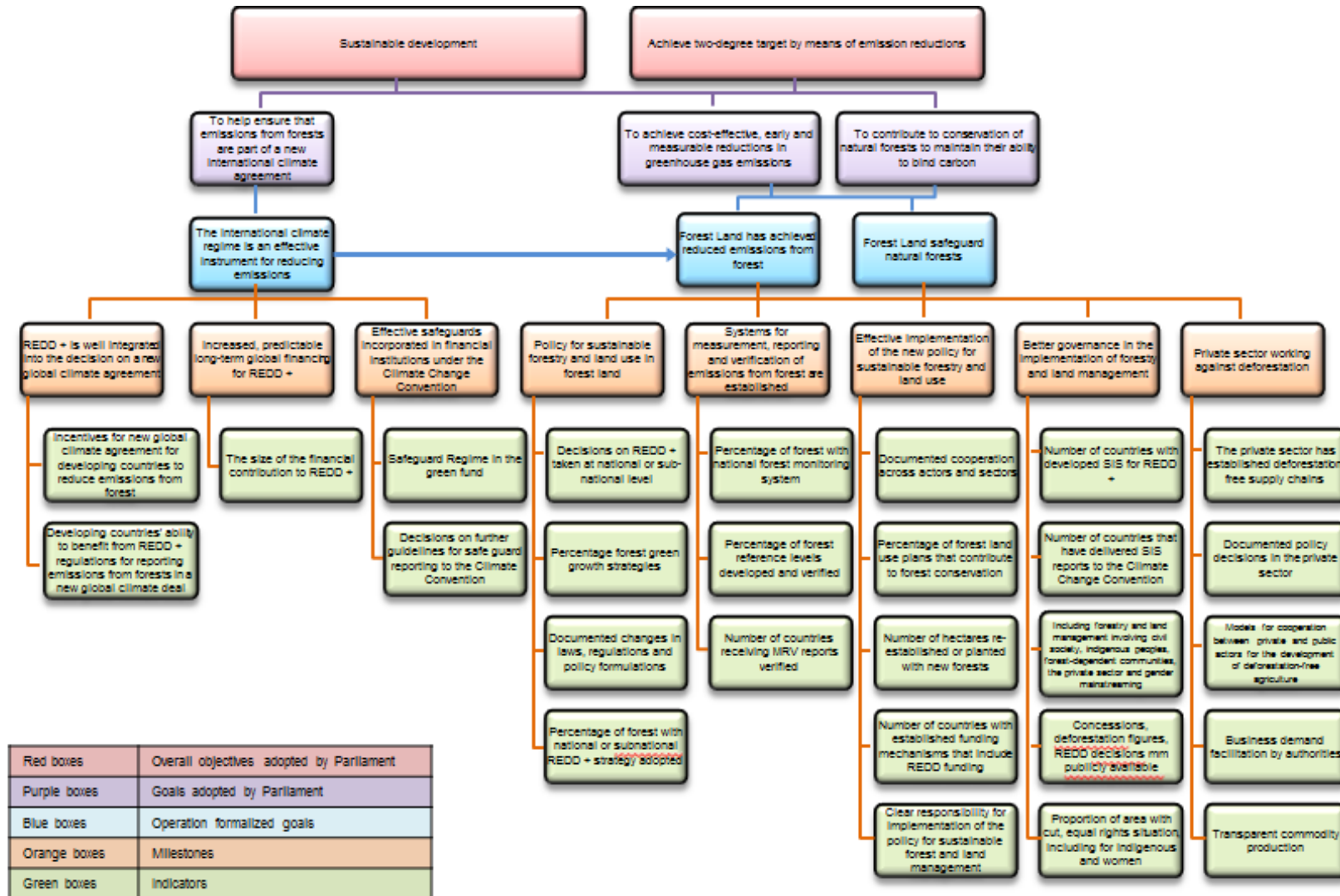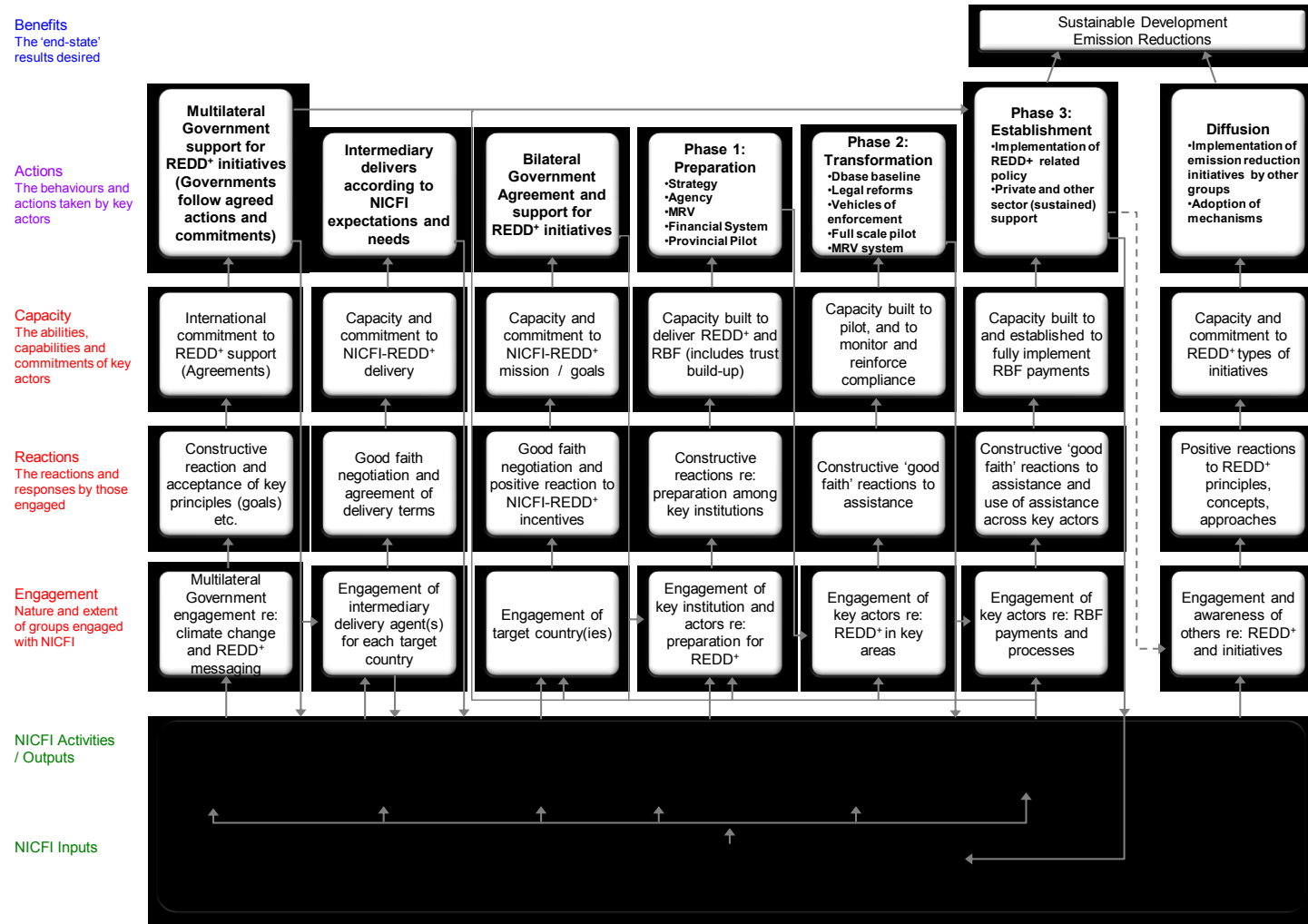
Figure A6-3: 'Strawman' Implementation Pathway Element of Programme Theory Based broadly on the Indonesia Case*

*Note this strawman model has been developed using preliminary information and is intended for illustration only. The intent is that a model of this type will be developed with an accompanying narrative and the discussion of important assumptions, factors and conditions influencing success as part of the completion of Study B. Note that even upon completion there will likely be the need for constant review, revision and update.

Annex 7: Study B – Literature Review on Results-Based Payments

The special studies or enquiries (under Study A or as separate studies) mentioned above will focus on developing an understanding from past reviews, evaluations and the literature related to past programme theories and mechanisms what has worked (to what extent) for whom and why?

The TOR for Study B specifically mentioned the need to examine the programme theories and research evidence behind Study Area 5: Results-Based Financing – given its centrality in global REDD+ strategy.

A preliminary review of the literature reveals that over the last 5-10 years, RBP has been increasingly used in international development, and for number of reasons.

   i.   to increase accountability and incentives to deliver results,

   ii.   to improve the effectiveness and efficiency of a government owned sector program,

   iii. to support institutional development,

   iv.   to facilitate development coordination and harmonization,

   v.   to enhance development effectiveness.

RBPs have been primarily used to improve service delivery in the education, health and infrastructure sectors. Little use has been made of RBP to promote complex policy and practice changes of the kind that REDD+ seeks. Previous donor efforts to use conditional aid (ex-ante payments) to encourage policy change are now considered to have been unsuccessful. In the words of Collier (1997) "aid for reform" is "hopelessly naïve and ignorant of political economy".

While many donors are enthusiastic about RBP and already adopting them widely, there is still little hard evidence to show how and more importantly, how well they work (DFID 2014).

Discussions of incentive payments are usually framed in terms of "principals", providing the payments, and "agents", carrying out the work and delivering the result. RBPs are distinguished from other kinds of incentive payments by being paid *ex-post* – that is after the agent delivers the results previously agreed with the principal. Conditional aid, on the other hand, while still framed around agreed results, provides the payment *ex-ante* - in anticipation of the agreed results.

A well-designed RBP agreement will feature clarity regarding:

• The nature of the agreed "result" – including quantity, quality and time of delivery

• Agreed and accurate mechanism for measuring the result

• Agent's capacity to deliver the result

• The nature of the "payment" – the right people get paid, the right amount (commensurate with the behaviour change), at the right time.

Good communication amongst all stakeholders on all these topics is vital to ensuring the effective operation of the RBP system.

Some problems or potentially unwanted consequences of RBPs and incentive payments generally include:

i. agents may pay less attention to results that are not incentivized, or to indicators that are relatively poorly rewarded (multi-tasking),

ii. agents may misreport results (gaming),

iii. costs may increase as agents may demand compensation for carrying extra risks,

iv. providers may focus excessively on easy results that are easy to obtain (cherry-picking),and

v. monetary incentives may undermine intrinsic work motivation. Performance drops to below starting point when incentives end.

Finally, various observers (incl. Chambers 2014) note that incentive payments in aid, can perpetuate unequal power relations and undermine national sovereignty.

Four theories have been advanced to explain why governments (or other "agents") might respond to RBP from donors (or other "principals) (Perakis and Savedoff 2014)":

i. Payments are in their *pecuniary interest* – they will <u>shift their domestic priorities</u> or exert greater effort because they need the funding.

ii. Payment make results visible in a way that draws the *attention* of politicians and bureaucrats to <u>outcomes</u> (rather than focus on inputs)

iii. Payment generates *accountability* to constituents, especially when programme outcomes reflect constituents' interests/desires.

iv. Payments allows funders to give recipients greater *discretion* during implementation, creating opportunities to adapt and learn vs. normal aid, which interferes with normal processes

Perakis and Savedoff (2015) conclude that in general RBF works not through financial incentives, accountability or discretion, but because the payments draw attention to the results, making them more salient to politicians and managers. It is perhaps worth considering how long this psychological impact lasts.

Several reviews have concluded that RBPs have been found to work best where there is already a commitment to the results being promoted, especially by the relevant government officials. In a recent Indonesian study, for example, the presence of management commitment was the strongest factor influencing local governments' use of performance indicators (cited in Brinkerhoff and Wetterberg 2013).

It appears that RBPs for implementation (service delivery) are more likely to be successful than those for policy change. This may reflect that implementation is usually the work of people lower down the hierarchy, while policy change is the purview of the most powerful.

How does this bode for REDD+? In REDD+, the central proposition is that payments linked to verified reductions in deforestation will incentivise the actions necessary to actually achieve the desired outcome. The open question, which will be further explored in Study B, is through which pathways this change is supposed to happen. One issue is that NICFI and more explicitly REDD+ are now multi-objective. They are not *just* focussed on ER. What happens if forest-based emissions are reduced, but other objectives of forest conservation and poverty alleviation are not met?

In REDD+, RBPs are only provided in Phase 3 (see Table below). The readiness and transformation phases are funded through conventional aid, and/or conditional aid. In the NICFI programme, only Brazil and Guyana are receiving RBPs. Brazil, however, had already implemented the necessary reforms and begun to reduce its deforestation rates before the NICFI programme started, so it would be difficult to claim that *new* "behaviour change" was incentivised through RBF. However, NICFI's contributions to the

Amazon Fund *have* apparently provided the world with a powerful example of how reduced deforestation can be rewarded by the international community.

	Phase I: Unconditional aid	Phase II: Conditional aid	Phase III: Payment for emission reductions (PES)
Pay for what?	Build capacity, prepare REDD+ action	Policy reforms	Emission reductions
Pros	Often a necessary first step	Induce policy & structural changes	Direct incentives, 'no cure, no pay'
Cons	Limited incentives for reduced emission	Donor credibility of conditionality, measurements	MRV, reference levels
Norwegian agreements	Tanzania, Indonesia (PI)	Guyana, Indonesia (P-II)	Brazil, Guyana, Indonesia (P-III)

Source: Author's construction, based on the four bilateral agreements.

The Indonesia experience with RBF (Brinkerhoff and Wetterberg 2013) is perhaps salutary for REDD+. Even at local levels of government, elites were found reluctant to forgo private gain in order to deliver public goods. Strong leadership from the centre, monitoring and incentivising implementation of reforms by local government were found necessary to affect change. REDD+ is attempting to influence enormous changes, firstly amongst very powerful national elites, and then amongst local elites, in a sector notorious for high levels of corruption, abuse of aid money and flagrant disregard for the rule of law. Given these factors, can small gains in developing MRV technologies and establishing a national REDD+ strategy and institutional framework, funded through conventional (abusable) aid, lead on to the real changes in land use and poverty alleviation practices that NICFI and the international REDD+ project require? The literature suggests that the RBP lever is challenged to compensate governing and management elites for their opportunity cost, let alone be able to ensure that required benefits reach forest dependent communities. Further, many national elites may feel privately justified in their behaviour, in the face of the hypocrisy of donor governments who expect root and branch reforms from developing countries to mitigate GHG emissions, while failing to make serious reforms of their own political economies that have caused spiralling GHG emissions in the first place.

Brinkerhoff and Wetterberg (2013) conclude that political economic factors need to be analysed and addressed. This means recognising the multi-actor nature of governance and service delivery systems, and pursuing both central and local levers for incentivising change. The implication is that NICFI and REDD+ need to be more strategic – and in some cases more 'hands-on' in their approach, in turn requiring greater investment in staffing and intelligence gathering.