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A review of selected REDD+ project designs

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The aim of the IGES Forest Conservation Team is, through strategic research, capacity building and outreach, to contribute to the development of policies and instruments for the sustainable management and use of forest resources.

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Foreword

Parties to the UNFCCC have agreed that the future global mechanism to mitigate climate change will include incentives for developing countries to protect and enhance carbon stocks in their forest – a concept known as REDD+. At the 13th COP in Bali, parties agreed on Decision 2/CP.13 Reducing Emissions from Deforestation in Developing Countries: Approaches to Stimulate Action. This decision encourages support to developing countries to increase their capacity to estimate and reduce forest emissions, and encourages parties to explore a range of actions, identify options and undertake efforts, including demonstration activities, to address the drivers of deforestation. The call for demonstration activities at the 13th COP spurred the development of numerous REDD+ projects that are now found in parts of Africa, Central and South America and Asia.

REDD+ projects could generate information important to the development of national REDD+ strategies and architecture and for the climate change negotiations. There is thus a need to extract and present the information and lessons that are being generated in a systematic and accessible manner. *REDD+ Projects: A review of selected REDD+ project designs* aims to contribute to meeting this need. Twenty-seven REDD+ project designs are reviewed, using a common template that covers the basic issues that all REDD+ projects must address to deliver carbon credits.

This review is divided into two parts. Part 1 consists of two chapters. Chapter 1 introduces the topic and the template. Chapter 2 provides a discussion on various elements of the 27 project designs. Part 2 is the annex, which consists of the summaries of the 27 project designs.

This work is generally based upon outputs produced through a REDD+-related project funded by the Ministry of Environment, Japan.

I would like to congratulate the authors for succeeding in bringing together this report, which I anticipate will be useful to people working on REDD+ issues from local to international levels.

Hideyuki Mori

IGES President

February 2013

Editors

February 2013

Executive summary

- REDD+ projects can now be found in many developing countries and could provide important lessons for the development of national REDD+ strategies and national systems to monitor forest carbon stock changes, as well as for the international climate change negotiations. This report aims to present a succinct overview of REDD+ projects to provide an understanding of their designs and to enable comparison between them. The report covers 27 projects using a template that includes common issues for all REDD+ projects aiming to generate carbon credits. It draws on material from project design documents.

- REDD+ projects are found across parts of Asia, Africa and Central and South America. Of the 27 projects reviewed, 11 are located in Asia, four in Africa, two in the Pacific, and 10 in Central and South America. The global spread of REDD+ projects is important for demonstration of the REDD+ concept in different contexts and to different audiences.

- REDD+ projects come in all sizes. Larger projects tend to be for areas that are under the management of state authorities and may include multiple forms of tenure. Mid-size projects include timber concessions, and private and indigenous reserves. The projects less than 10,000 ha are projects where individual households or communities have tenure for small areas of land that contain forest patches or woodlots, and where the proponents are "bundling" these patches/woodlots under a single project.

- REDD+ projects are being designed for a variety of tenure arrangements. Roughly one third of the projects are for land managed by state agencies and one third for land that individual households or communities manage according to informal customary tenure arrangements or formal arrangements. In contrast, the number of timber concessionaires involved in REDD+ project development is small. REDD+ does not appear to be attractive to timber concessionaires whose practices are currently degrading the forests that they operate in.

- REDD+ projects tend to be designed and implemented through partnerships or coalitions of organisations to ensure the requisite resources and expertise. The initiative for many of the surveyed project designs is coming from outside the host countries, with the lead being provided by international NGOs, carbon project developers, donors, or corporations, or a combination thereof. International NGOs have a strong interest in REDD+ project development and see REDD+ financing as a way to achieve their biodiversity or other objectives. In contrast, it appears that the number of projects initiated by corporations interested in securing offsets to achieve their own emissions reduction targets is low.

- Most of the 27 projects are dealing with multiple drivers of deforestation and forest degradation, and thus require multiple REDD+ strategies. At least 74% of the projects are located in areas where local people, not companies or other outside investors, are seen as the main deforestation agents. Project developers may find it easier to persuade local communities to participate in their projects and face more resistance from companies and investors who profit from land and forest development.

- Many of the project strategies focus on engaging local communities and address lack of household capacity and lack of economic choices for communities as underlying drivers of deforestation. Some project design documents lack proper feasibility studies of the proposed activities to engage communities in REDD+ and do not present examples of their achievements with these activities elsewhere. These designs do not instil a sense of confidence that the projects have a reasonable chance of succeeding in achieving their objectives.

- Tree planting for land rehabilitation and timber supply is a REDD+ activity common to many of the projects, indicating that many of them include degraded areas. Another common set of activities are associated with securing tenure for the proposed REDD+ activities. These include delineating and expanding the boundaries of conservation areas, and securing tenure for households and communities. Less common are activities that directly challenge the commercial interests of companies/investors, such as improving forest management in concessions, stopping illegal logging and stopping large-scale conversion for agriculture.

- Essentially, all the project designs propose activities that have implications for local communities, which emphasises the fact that in developing countries, forests and their immediate surrounds should never be assumed as empty spaces. The proposed participation activities range from consultation and information gathering, through to employment and income generation, tenure security, institution building, and decision-making on project activities. Only seven of the project designs foresee a role for local communities in project development/management teams.

- Many of the REDD+ strategies set out in the 27 project designs should provide important biodiversity co-benefits. Fourteen of the 27 projects have been validated against the voluntary Climate, Community and Biodiversity Standards, which require project developers to commit to a biodiversity monitoring plan, and to monitor and mitigate potential negative offsite biodiversity impacts caused by the shifting of deforestation drivers from within to outside the project areas.

- The Verified Carbon Standard is also popular with REDD+ project developers, and its methodology and project validation processes could also provide useful ideas to negotiators designing the global REDD+ mechanism. Plan Vivo, another voluntary carbon scheme, is less popular amongst the 27 project designs, but offers an alternative approach suited to community-scale REDD+ that negotiators should take note of.

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Abbreviations and acronyms

AFOLU	Agriculture, forestry and land use
AGLB	above ground living biomass
ANR	assisted natural regeneration
BGLB	below ground living biomass
C	carbon
CCBA	Climate, Community and Biodiversity Alliance
CCBS	Climate, Community and Biodiversity Standards
CDM	Clean Development Mechanism
COP	Conference of the Parties (to the UNFCCC)
DBH	Diameter at breast height
DD	deforestation and forest degradation
DW	dead wood
ETM	Enhanced Thematic Mapper
FPIC	free prior informed consent
GHG	greenhouse gas
ha	hectares
HCV(F)	high conservation value (forest)
HWP	harvested wood products
ICRAF	World Agroforestry Centre
IGAs	income generating activities
IGES	Institute for Global Environmental Strategies
IPCC	Intergovernmental Panel on Climate Change
GPG	Good Practice Guidance
L	litter
LUCF	land use, land-use change
MRV	Monitoring, reporting and verification
ND	no data
NGO	non-governmental organisation
NTFPs	non-timber forest products
PDD	project design document
PSP	permanent sample plot
RAFT	Responsible Asia Forestry and Trade
RED	Reducing emissions from deforestation
REDD+	Reducing emissions from deforestation and forest degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks
$	US dollars
SFM	sustainable forest management
SOM	soil organic matter
tCO2e	tons carbon dioxide equivalent

TNC	The Nature Conservancy
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
VCS(A)	Verified Carbon Standard (Association)
VCU	Verified Carbon Unit
VERs	Verified Emissions Reductions

Note: Project acronyms can be found in Chapter 1, Table 1.

1. Introduction and explanation of the project template

Henry Scheyvens

1.1.   Introduction

Climate change is one of the greatest environmental challenges of our time. The 4th Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) informs us that not only is climate change real, but that human activities have been driving climate change through the release of gases into the atmosphere that augment the Earth's natural "greenhouse effect" (IPCC, 2007). 195 countries have joined the United Nations Framework Convention on Climate Change (UNFCCC) in an endeavour to limit global temperature increase to avoid dangerous climate change and to cope with its impacts.

Deforestation contributes to climate change by reducing the potential for forests to act as sinks and stores of carbon, and by releasing carbon dioxide and other greenhouse gases (GHGs) into the atmosphere from forest biomass and soils. The IPCC 4th Assessment Report stated that deforestation was responsible for about 17% of emissions from human activities (ibid.). Without taking action to reduce emissions from deforestation, it may be impossible to avoid dangerous levels of climate change (Eliasch, 2008).

Parties to the UNFCCC agreed that the future global mechanism to mitigate climate change will include incentives for developing countries to protect and enhance carbon stocks in their forest – a concept known as REDD+. REDD+ projects can now be found in many developing countries and could provide important lessons for the development of national REDD+ strategies and national systems to monitor forest carbon stock changes, as well as for the international climate change negotiations.

This report aims to present a succinct overview of REDD+ projects to provide an understanding of their designs and to enable comparison between them. The review covers 27 projects using a template that includes common issues for all REDD+ projects aiming to generate carbon credits.

Projects were selected in a somewhat organic manner according to the availability of information. There were no specific criteria for project selection, other than a preference for projects that were relatively advanced in their designs in order to be able to extract information on important design elements. Time and

resource constraints limited the number of projects that could be included in this review.

Table 1 lists the projects selected and the acronyms for these that are used in Chapter 2. These are not all official or accepted acronyms for the projects, but they provide a useful shorthand form for the purposes of discussion.

Table 1: Projects covered by the review and the acronyms used

Project name	Acronym used in the review
Boden Creek Ecological Preserve	BCEP
Noel Kempff Mercado Climate Action Project	NKMCAP
Oddar Meanchey Community Forestry REDD Project	OMCFRP
Sofala Community Carbon Project	SCCP
Reducing carbon emissions from deforestation in the Ulu Masen Ecosystem, Aceh, Indonesia	UME
REDD+ project to reduce emissions from deforestation and increase sequestration through reforestation in mangrove forests	RMF
Isangi Reduced Emissions from Degradation and Deforestation Project	IREDDP
Umiam Sub-watershed REDD+ Project, East Khasi Hills District Meghalaya, India	URP
Berau Forest Carbon	BFCP

Program	
Halitina RED Project	HRP
Juma Sustainable Development Reserve Project	JSDRP
Rimba Raya Biodiversity Reserve REDD Project	RRBP
Purus Project	PP
Suruí Forest Carbon Project	SFCP
Leuser Ecosystem REDD Project	LERP
Forest Land Use and Climate Change in North Sulawesi in the Poigar Forest	FLUCC
Budongo-Bugoma Landscape REDD+ Project	BBLP
Merang REDD Pilot Project	MRPP
April Salumei REDD Project	ASRP
Kamula Doso Improved Forest Management Carbon Project	KDIFMP
Kalimantan Forests and Climate Partnership	KFCP
Mawas Peatlands Conservation Project	MPCP
Biocorridor Martin Sagrado REDD+ Project	BMSRP
The Kasigau Corridor REDD Project Phase Ⅰ - Rukinga Sanctuary	KCRP
Madre de Dios Amazon REDD Project	MAP
Pax Natura REDD Project	PNP
Paraguay Forest Conservation Project, San Rafael	PFCP

The report is divided into two parts. Part 1 consists of two chapters. Chapter 1 provides the background to REDD+ projects and explains the need for the report. It identifies common elements of REDD+ projects and introduces the template used to provide the project design summaries. Chapter 2 extracts a number of observations from the summaries regarding project location and size; tenure; proponent coalitions; drivers of deforestation and forest degradation, and the strategies set out to tackle these drivers; communities and biodiversity safeguards; methodologies used to estimate climate benefits; third party assessment of the projects; and the issuance of carbon credits.

In part 2 of the report (the annex), summaries of the 27 project designs are provided.

1.2. REDD+ in the negotiations

Through its Clean Development Mechanism (CDM), the Kyoto Protocol allows developed countries to offset some of their emissions to achieve their emissions reduction targets by supporting mitigation activities in developing countries. Activities to avoid emissions of carbon dioxide (CO_2) from standing forests were excluded as a CDM mitigation option, but this was not because deforestation was thought not to be significant for climate change. Rather, concerns were raised that knowledge on how to measure forest carbon stocks was lacking, that the risks of emissions displacement and non-

permanence were high, and that avoided deforestation mitigation activities could flood the carbon markets with credits.

At the 11th Conference of the Parties (COP) to the UNFCCC in Montreal in 2005, Costa Rica and Papua New Guinea proposed the concept of reducing emissions from deforestation (RED) as a new agenda item for negotiators. Over the course of the climate change negotiations, the concept has expanded to REDD+, i.e. 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.

At the 13th COP in Bali, parties agreed on Decision 2/CP.13 Reducing Emissions from Deforestation in Developing Countries: Approaches to Stimulate Action. This decision encourages support to developing countries to increase their capacity to estimate and reduce forest emissions, and encourages parties to explore a range of actions, identify options and undertake efforts, including demonstration activities, to address the drivers of deforestation.

The 13th COP did not provide a precise definition of a demonstration activity, but provided indicative guidance to undertake and evaluate demonstration activities. The indicative guidance reveals that demonstration activities are thought of as activities that (i) reduce emissions from deforestation and/or forest degradation, (ii) provide results-based, demonstrable, transparent, verifiable and consistent estimates of emissions, (iii) use reference emissions levels based on historical emissions and take into account national

circumstances to estimate the impact of the activity on emissions, and (iv) in the case of sub-national activities, assess emissions displacement.

The choice of the term "demonstration activity" implies that the activities aim to provide examples of how the concept of reducing emissions from standing forests can be applied. The UNFCCC website states "demonstrations are essential in order to establish a basic stock of practical experiences."[1] Demonstration activities can generate new knowledge and ideas, and parties have been encouraged to share information on their activities through the UNFCCC REDD web platform. Demonstration activities could be particularly important in countries where proof of concept is needed to provide confidence that activities to protect or enhance forest carbon stocks can provide comparable benefits to alternative land use activities.

Negotiators have agreed that ultimately REDD+ must be implemented through national systems. Reflecting on the outcomes of the negotiations, the basic elements of a national REDD+ system can be seen as (i) a strategy or set of REDD+ activities aimed at protecting and/or increasing existing forest carbon stocks, (ii) a reference (emissions) level (REL/RL) against which the impacts of REDD+ activities can be measured, (iii) a national

forest monitoring system (NFMS) to monitor changes in forest carbon stocks, as part of a monitoring, reporting and verification (MRV) framework for REDD+, and (iv) a system to monitor and report on the safeguards that parties have agreed for REDD+. Demonstration activities could provide important inputs to the development of national REDD+ architecture by providing data, methods and lessons on all of these elements of national REDD+ systems.

1.3. What is a REDD+ project?

The call for demonstration activities at the 13th COP spurred the development of numerous REDD+ initiatives that are now sprinkled across parts of Africa, Central and South America and Asia. Some of these are REDD+ sub-national demonstration activities insofar as they are presented as such by governments. Others fit the description of a demonstration activity provided in the indicative guidance of 2/CP.13, though they are not actively promoted by governments as demonstration activities. Most of these initiatives do not state in their design documents that one of their objectives is to "establish a basic stock of practical experiences." That there is only one REDD+ demonstration activity described on the UNFCCC REDD web platform, attests to the fact that their objectives mostly lie elsewhere; though some of these do aim to generate information, systems and experiences useful to the development of national REDD+ systems and the negotiations. In this review, we use the

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[1]

http://unfccc.int/methods_science/redd/redd_web_platform/items/6679.php, accessed 03/01/2013

term REDD+ project to denote sub-national REDD+ initiatives that have the basic elements proposed in the indicative guidance of 2/CP.13, whether or not they are officially recognised and promoted by the host governments as demonstration activities.

The project design documents reviewed for this report suggest that all REDD+ projects have in common the following key elements:

1. An organisation or a group of organisations that can provide the necessary inputs to design and implement the project;

2. A source of financing to design, prepare and begin implementing the project;

3. Project approval;

4. Ownership of carbon rights;

5. A strategy to combat the drivers of deforestation;

6. A credible reference emissions level;

7. A credible projection of likely emissions if the project was implemented;

8. An independent expert review process to validate the estimation of climate benefits;

9. Implementation and monitoring of the project;

10. A verification process to issue carbon credits;

11. An arrangement to market and retire the credits.

This is not a normative list. There are many more elements that REDD+ projects *should* have. For example, it can be argued that REDD+ projects should include free prior informed consent processes and additional steps to ensure all REDD+ safeguards identified by the COP are respected.

1.4. Information used to compile the report

A wealth of information and ideas are being generated in the design and implementation of REDD+ projects. As this is in no way reflected on the UNFCCC REDD web platform, there is a clear need for initiatives to present information on the projects in an accessible form for analysis and comparison. Several types of information on REDD+ projects can be tapped. The most detailed information is usually found in project design documents. Many are available through the Internet, and together with registration, validation and verification documents, they often can be found on the websites of voluntary schemes for climate projects, particularly the websites of the Climate, Community and Biodiversity Alliance (CCBA)[2] and the Verified Carbon Standard (VCS) programme[3]. While they are often rich in

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[2] http://www.climate-standards.org/
[3] http://v-c-s.org/

detail, project design documents reflect the interests of the project proponents, and must be read with this understanding. Validation and verification reports provide an independent view on the projects, but they too need to be read critically with a view to the scope and robustness of the validation and verification processes. Analysis and discussion by researchers and other outside observers are also available for some projects and assist in developing a balanced perspective on them.[4]

Using a template, this report aims to provide a snapshot of how the project developers aim to deal with the common issues that all REDD+ projects must address in their designs. It draws material from the project design documents for this purpose. This report does not aim to provide an independent, comprehensive evaluation of these projects. Rather, it compiles materials in a way that enables the reader to quickly understand the basic elements of the proposed REDD+ projects and to make comparisons between projects. The template also provides information on the progress of the projects towards delivering carbon credits, and provides links that readers can follow for further details, including links to critical commentary, where these were found.

1.5. Project template

The template consists of the following three components.

1.5.1. Progress bar

Below the project title the template has a progress bar that aims to provide an at-a-glance sense of the progress that the project has made towards the generation of carbon credits. The progress bar contains three elements. The first provides some understanding of the progress in designing the project. Two icons are used to differentiate between whether the design is at the stage of a basic feasibility study, or has progressed to a project design document (PDD).

	Feasibility study
	Project design document

The second element of the progress bar indicates whether the project has been validated against an independent standard.

	Validation against independent standard

The third element of the progress bar indicates whether carbon credits (also known as offsets, Verified Carbon Units (VCUs), etc.) have been issued or traded. Information on this third element is not

always clear or available as trading may be treated as a confidential business matter by project proponents. If it appears that carbon credits have been issued, are being offered for sale or have been traded, but the information is uncertain, a question mark is placed next to the icon.

Carbon credits have been issued and possibly traded

1.5.2. Distinctive features

This part of the template provides a one paragraph summary of what can be considered the distinctive features of the project. These could be related to location, forest types, drivers of forest loss, strategies to counter these, engagement of local communities, proponents, financing arrangements, progress, etc.

1.5.3. Project design snapshot

Other than information on validation, verification, registration and issuance of carbon credits, information for this section of the template is drawn directly from the project design documents or feasibility studies. The icons and headings used are explained in Figure 1.

Figure 1: Project template

Icon	Heading	Explanation
	Location:	*Self-explanatory*
	Proponents:	*Self-explanatory*
	Start date: **Accounting period:**	*The start date refers to the first year for the accounting of the project's expected impacts on emissions. The accounting period (or project crediting period) refers to the length of time for which the carbon benefits are estimated.*
	Area, tenure and forest type Project area: Project zone / reference area: Land status: Forest type:	*Project area refers to the whole area that the project is being implemented over. The accounting area in which climate benefits are estimated does not always encompass the entire project area. The project zone or reference area refers to an area near the project and similar to it that is monitored to see what happens when the REDD+ activities are not implemented.*
	Drivers and rates of deforestation and forest degradation Drivers: Rates:	*To develop the REDD+ strategy and the REL, knowledge of the drivers of deforestation (and possibly forest degradation) is required.*
	Scope and strategy Scope: Strategy to reduce emissions and/or enhance carbon stocks: Strategy to reduce emissions displacement:	*Scope: Scope refers to which of the 5 REDD+ activities, as defined by the COP, the project is accounting for, i.e. (i) reduced emissions from deforestation, (ii) reduced emissions from forest degradation, (iii) conservation of carbon stocks, (iv) sustainable management of forests, and (v) enhancement of carbon stocks.* *Strategy: A strategy is needed to generate climate benefits. A strategy to mitigate emissions displacement may also be included in the project design.*
	Community engagement and participation	*In developing countries, communities live in or on the fringes of many forested areas. Most projects will thus have to set out processes for engaging with communities and may identify roles for communities and/or specify benefits for them. The*

		communities themselves could also initiative a REDD+ project, i.e. play the role of project proponent.
	Financing Project cost estimation: Upfront financing: Anticipated Mid / Long-term financing:	*Self-explanatory*
	Reference emissions level Remote sensing Reference period:	*Refers to the historical period for establishing the REL.*
	Data sets:	*Projection of future emissions scenarios for forest lands usual requires a combination of remotely sensed data and ground-based measurement. There are usually various options for remote sensing data sets that proponents can select from.*
	Interpretation:	*Interpretation refers to the land cover classes that are identified and mapped to assess and monitor carbon stocks.*
	Ground-based measurement: Sampling design: Sample plots:	*As it is normally impractical to measure every tree, a sample of trees is surveyed using sampling plots and the mean carbon stock for the entire forest is inferred from these. Various options for sampling designs exist.*
	Carbon pools:	*The IPCC recognises 5 forest carbon pools: above-ground living biomass (AGLB), below-ground living biomass (BGLB), deadwood (DW), litter (L), soil organic matter (SOM), and harvested wood products (HWP). Carbon accounting standards may allow proponents to exclude some pools from their measurements, as long as this does not result in over-estimation of climate benefits (conservative approach).*
	Allometrics / Expansion factors:	*Using information on tree species, diameter, height, etc. total tree biomass can be estimated using allometric equations. Biomass can also be estimated by applying expansion factors to*

		commercial timber inventories.
	Without project scenario:	*Refers to the scenario for emissions that the proponent presents as mostly likely if the project is not implemented.*
	With project emissions/removals	
	Project scenario:	*Refers to the proponent's expectation for how the proposed strategies will impact emissions.*
	Deduction for emissions displacement and management of non-permanence risk:	*Due to the potential risks of emissions displacement and non-permanence of the climate benefits, the proponent may deduct some offsets from the total calculated as a form of insurance against these risks.*
	Project emissions deduction:	*Project activities can produce their own emissions and proponents may estimate and deduct these from their gross climate benefits.*
	Methodology:	*Project proponents aiming to have carbon credits issued by voluntary systems will have to use a credible/approved methodology for calculating climate benefits.*
	Climate benefits Total: Annual average: Annual average per ha:	*Self-explanatory*
	Monitoring Climate benefits:	*The estimation of climate benefits from REDD+ activities involves uncertainty. Proponents will have to monitor projects after they begin to check the validity of their RELs and to estimate the actual climate benefits achieved. They may be required to submit monitoring reports to the voluntary carbon schemes that they are participating in.*
	Social and biodiversity safeguards:	*Whether social and biodiversity safeguards are taken seriously will depend on the project proponent, but some voluntary*

		project standards require positive social and biodiversity outcomes.
	Validation/Verification/Registration /Issuance of credits:	*When the climate benefits of projects are independently reviewed, there can be several steps before credits are issued, though some may occur at the same time.*
		Validation is an auditing process to check compliance of the project design with the voluntary standard.
		Verification is auditing of the project at some time after implementation to check that the estimated climate benefits were achieved.
		Registration refers to the listing of the project on a registry that manages carbon credits to ensure no double counting. The registry also issues and retires the credits.
	Links	*Links are provided to project documents, documents associated with the voluntary schemes, and independent commentary.*

1.6.   Summary

REDD+ projects could generate information important not only for the development of national REDD+ systems but also for the climate change negotiations. There is a need to extract and present this information in a systematic and accessible manner. This report attempts to do this using a common template that covers the basic issues that all REDD+ projects must address to deliver carbon credits. Chapter 2 reflects on what the 27 project summaries tell us about their designs, and on their progress towards generating carbon credits.

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2. What the REDD+ project designs tell us

Henry Scheyvens, Miho Sagara and Enrique Ibarra Gene

2.1. Introduction

Project design documents commonly exceed 100 pages and contain rich information on project settings, strategies, methodologies to assess climate benefits, and other issues. Review of project design documents can aid in developing an understanding of how REDD+ could be implemented in different settings and comparison between these documents may uncover the possibility of alternative approaches to dealing with any one single issue. In this chapter we extract observations on some of the key elements of REDD+ project design. We cannot discuss in detail every design element covered in the project summary template, but the reader can follow up on particular elements according to their area of interest by referring to the annex. The discussion below covers geographical aspects of the projects; tenure arrangements; the organisations involved in project development; drivers of deforestation; accounting scope and REDD+ strategies; community and biodiversity safeguards; methodologies; and validation, verification, registration, and issuance of credits.

2.2. Geographical aspects

2.2.1. Host region/country

REDD+ projects are found across parts of Asia, Africa and Central and South America. Of the 27 projects reviewed in this report, 11 are located in Asia, four in Africa, two in the Pacific, and 10 in Central and South America. While the numbers in Africa and the Pacific are not as high as elsewhere, the global spread of REDD+ projects is important for demonstration of the REDD+ concept in different contexts and to different audiences, and to provide a positive signal to the international negotiations on REDD+. Whereas the CDM has been criticised for the highly uneven geographic distribution of CDM projects that heavily favours a few countries, especially China and India, [5] the early signals from REDD+ projects are that the concept can potentially be applied in many countries in different regions of the world. At a national level, Indonesia stands out for hosting more than 50 REDD+ projects

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[5] China and India collectively host 84% of CDM projects in Asia (http://www.cdmpipeline.org/cdm-projects-region.htm).

(Ibarra-Gene, 2013), though some are still at a very early conceptual stage and it is not clear how many of these will be realised as actual projects.

2.2.2. Area of REDD+ implementation (accounting area)

The average size of the project accounting area is 298,000 ha, but to gain a better sense of the size of REDD+ projects, it is better to focus on those that have progressed to the point of submitting their designs for independent assessment, or have had their designs validated against voluntary standards, as these have more likelihood of progressing to implementation (though this is not always

the case, e.g. UME, KDIFMP). Excluding projects that do not meet these criteria leaves 17 projects. These 17 projects have an average area of 168,218 ha, with a coefficient of variation of 134%, indicating a large range in project sizes (Table 2.1). The largest project covers 750,000 ha (UME), and the smallest just over 1,000 ha (PFCP).

Three projects are less than 10,000 ha (BCEP, SCCP, PFCP), seven are greater than 10,000 ha but less than 100,000 ha (OMCFRP, RRBP, PP, SFCP, KCRP, MAP, PNP), and seven are 100,000 ha and above (NKMCAP, UME IREDDP, JSDRP, ASRP, MPCP, BMSRP). REDD+ projects thus come in all sizes.

Table 2.1: Size of accounting area for selected REDD+ projects

Projects independently assessed or undergoing assessment	Accounting area (ha)
BCEP	5,211
NKMCAP	642,184
OMCFRP	67,583
SCCP	9,599
UME	750,000
IREDDP	261,500
JSDRP	329,483
RRBP	40,000
PP	34,702
SFCP	31,994
ASRP	150,620
MPCP	100,000
BMSRP	295,654
KCRP	30,169
MAP	97,817
PNP	12,000
PFCP	1,182
Total	2,859,658 ha
Average	168,218 ha
SD	225,004 ha
Coefficient of variation	134%

Larger projects tend to be for areas that are under the management of state authorities and may include multiple forms of tenure. Mid-size projects include timber concessions, and private conservation and indigenous reserves. The projects less than 10,000 ha are projects where individual households or communities have tenure for small areas of land that contain forest patches or woodlots, and the proponents are "bundling" these patches/woodlots under a single project. The potential for this approach to achieve greater scale is suggested by OMCFRP, which engages 58 community forest groups managing over 60,000 ha of forest.

2.3. Tenure arrangements

Each country has detailed laws that specify possible types of forest tenure arrangements; hence, care has to be taken with generalisation across countries. Table 2.2 lists the 27 projects against broad types of tenure arrangements that exist at the project sites.

The first observation from Table 2.2 is that REDD+ projects are being designed for a variety of tenure arrangements, and that no one type dominates. Roughly one third of the projects are for land managed by state agencies and one third for land that individual households or communities manage according to informal customary tenure arrangements or formal arrangements.

Table 2.2: Type of tenure in each project area

Tenure types	Number of projects	Projects
Private rights to manage as a reserve	4	BCEP, NKMCAP, RRBP, KCRP
Household/community	8	OMCFRP, SCCP, URP, BBLP, ASRP, KDIFMP, PNP, PFCP
Managed by state agencies (usually conservation/protection forests)	9	UME, RMF, JSDRP, LERP, FLUCC, MRPP*, KFCP, MPCP, BMSRP
Timber concessions	2	IREDDP, MAP
Indigenous reserves	2	HRP, SFCP
Owned by corporation	1	PP
Multiple tenure	1	BRCP

*MRPP is a production forest

That many REDD+ projects are being undertaken in state forests managed by state agencies is in no way surprising for three reasons. First, 80% of forests in developing countries are publicly owned (FAO, 2010, p. xxiv). Second, for a number of well-documented reasons, governments in developing countries have mostly struggled to manage forests sustainably (Kissinger, Herold, & De Sy, 2012, p. 5), meaning that these forests offer the additionality that markets require. Third, governments often choose to retain some of their best forest assets under state management – they have been reluctant to provide tenure rights for high-quality forests to local communities (Scheyvens, Hyakumura, & Seki, 2007) – and conservation organisations interested in using REDD+ to finance their biodiversity objectives are likely to be interested in these forests.

Two REDD+ projects (FLUCC, MRPP) that will be managed by forest management units (KPH) in Indonesia fall under the state-managed forests group. The KPH is a relatively new concept in Indonesian forest policy under which eventually all of Indonesia's forests are to be managed by professional management teams based near the forests (Ibarra-Gene, 2013). KPH will manage all types of forests (protection, production, etc.) so, while we denoted the KPH projects as state managed forests, the tenure arrangements could involve rights held by non-state groups, such as concessionaires, households and communities.

Almost one third of the 27 projects are for land under household or community management, and this is somewhat surprising. Households and communities usually only manage small patches of forest or woodlots and often on degraded lands (Scheyvens et al., 2007) where carbon stocks may not be so high. Projects are not designed for one household or community, but rather to bring in a sufficient number of households or communities to achieve the scale necessary for a financially viable project. High transaction costs can be expected, so why do we see such a relatively large proportion of this type of project? Part of the explanation lies in the fact that over the past several decades many governments have introduced policies to provide forest tenure rights to households and/or communities. OMCFRP, for example, takes advantage of the Forest Law 2002 that gave Cambodia's Forestry Administration the authority to grant areas of production forest to local community management. Nepal perhaps presents the best example of government support for community forestry, where the Forestry Act 1993 enabled the state to hand over forests to local communities, and where now roughly one fourth of the national forests are managed by community forest user groups (MOFSC, Undated, p. 17). Part of the explanation could also be that it may be easier for project developers to engage communities than large-scale developers who profit from their existing investments in land and resource development. Yet another possible explanation is that community development is an explicit objective of some project proponents (e.g. OMCFRP, URP).

The number of timber concessionaires involved in REDD+ project development is small. Of the two timber concession

projects, one (MAP) aims to use REDD+ financing to have sufficient "presence" in the concession to stop illegal activities. This, in part, it aims to achieve by using REDD+ payments to maintain Forest Stewardship Council certification for the concessions. The other (IREDDP) sees REDD+ as compensation for stopping commercial logging. There are in fact two other avoided logging projects (ASRP, KDIFMP), both in Papua New Guinea, though we chose to list these as under community tenure, because both proposed logging projects were stopped through the national courts (before REDD+ project development began) and it appears rights over their use may have returned to the customary owners.

Thus far we have been discussing tenure arrangements that exist at the time of project design. However, the proponents may propose changing the land/forest tenure or actions to legally reinforce the existing tenure as part of their REDD+ strategies. For example, land under PP is held privately and one of the proposed activities is to grant each family residing on the property and who join the project one hundred hectares of land, subject to a concession agreement of use, for a period of five years.

2.4. Project proponents and others involved in project development

Understanding who the proponents and developers of REDD+ projects are is important. The interests of proponents / developers and the resources and expertise they bring to bear on projects will have a significant impact on outcomes. There are potentially a wide variety of organisations that could have an interest in REDD+ project development. Profiteers could see REDD+ projects as a good way to make money, and there have been reports of individuals or organisations, the so-called "carbon cowboys," seeking to manipulate local groups to secure and profit from the rights to carbon in their forests (e.g. Sanchez, 2012). Others could have more commendable motives.

Just as motives are important to REDD+ project outcomes, so too are the competencies that the project proponents / developers possess. REDD+ projects are complex. They require skills to work from local through to international levels on the legal, social, technical, managerial, financial and marketing aspects of project design and implementation. Without these competencies, no matter how commendable the motives, the projects will not succeed. It is thus of no surprise that given their inherent complexity, REDD+ projects tend to be designed and implemented through partnerships or coalitions of organisations to ensure the

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requisite resources and expertise. In Table 2.3 we have tentatively grouped the projects under different coalition types, but with the understanding that this classification and assignment may require further tuning.

Table 2.3 suggests that the initiative for many of the projects is coming from outside the host countries. Coalition types A to D are all types where the lead seems to be coming from international non-governmental organisations (NGOs), carbon project developers, donors, or corporations. International NGOs have a strong interest in REDD+ project development and see REDD+ financing as a way to achieve their biodiversity or other objectives.

The number of type C coalitions (government-government-others) is small at only three. This is at first glance surprising as it was governments who agreed at the 13th COP on the desirability of having demonstration activities. However, the low number is in part a reflection of the classification used, and governments are in fact key organisations in a number of the projects. BFCP is a good example, where The Nature Conservancy appears to have provided the initial idea for the project, but where forestry departments from district, provincial and central levels in Indonesia are involved.

Type D coalitions are led by corporations that are interested in using REDD+ for offsetting. Two projects (PFCP, RMF) are listed under this type, but this assignment is not straightforward. For example, the motives are clear for Swire Pacific Offshore Ltd, which is developing PFCP to provide offsets for its emissions as part of its corporate social responsibility policy. However, while for RMF, offsets are clearly an objective as the feasibility study was funded by the Japanese government, which is seeking to promote its bilateral offset credit mechanism, whether YL Building, one of the proponents, is hoping to secure offsets for itself is not clear. Also, HRP could have been assigned to type D, as Kanematsu Corporation is involved and its motivation could also be to secure offsets for itself. There are still other cases where it seems that corporations have provided upfront funding to have the option of future credit purchases (e.g. RRBP, MPCP), but they were not the project initiators. Overall, it appears that the number of projects initiated by corporations interested in securing offsets to achieve their own emissions reduction targets is low.

There are two cases where indigenous organisations appear amongst the project initiators (HRP, SFCP), and two cases where the projects have been initiated by foundations working with local partners (JSDRP, PNP). To see indigenous organisations play a central role in project initiation and development is encouraging, as official forest policies in many developing countries have tended to act against their interests (Rights and Resources Initiative, 2012). However, further analysis is required to understand precisely what roles they are playing, given the complexities of REDD+ project design.

Table 2.3: Coalition types responsible for REDD+ project design

Coalition type	No. of projects	REDD+ Projects
A. International NGO partnering with local or national governments and/or businesses	9	BCEP, NKMCAP, OMCFRP, URP, LERP, BBLP, MPCP, KCRP, BFCP
B. Global carbon project developer, partnering with private sector, local organisations, technical advisors, etc.	9	SCCP, UME, IREDDP, PP, RRBP, ASRP, KDIFMP, BMSRP, MAP
C. Government-government-others coalition	3	KFCP, MRPP, FLUCC
D. Corporation with local partners	2	RMF, PFCP
E. Indigenous association/NGO with partners	2	HRP, SFCP
F. Foundations with partners	2	JSDRP, PNP

2.5. Drivers of deforestation and forest degradation, accounting scope, and REDD+ strategies

2.5.1. Drivers of deforestation and forest degradation

Each project has its own particular set of drivers of deforestation and forest degradation (DD) that it must address. The drivers can be separated into *underlying drivers*, such as economic policy, population growth, poverty, poor governance, weak law enforcement and insecure tenure, and *proximate causes*, such as conversion for agriculture, fires, etc.

Table 2.4 groups the proximate causes of DD described in the project designs into several categories. The total number of drivers projects are dealing with cannot be read directly from the table, as more than one driver is grouped under some of the categories.

Table 2.4 shows that most of the 27 projects are dealing with multiple DD drivers and thus require multiple REDD+ strategies. Only seven projects list one direct cause of DD.

Combining driver types A and E (and without double counting) shows that 74% of the projects are located in areas where local people, not companies or other outside investors, are seen as the main deforestation agents. This figure could be higher if differentiation between companies and local people involved in the type B driver legal/illegal logging, which is listed as a degradation driver for two thirds of the projects, was made.

Table 2.4: Proximate causes of deforestation/degradation identified in project documents

Driver type	Agents	No. of projects	Projects
A. Subsistence agriculture and/or small-scale cash cropping, cattle rearing, aquaculture , etc.	Local people, including recent migrants	19	BCEP, NKMCAP, SCCP, UME, RMF, IREDDP, URP, HRP, JSDRP, PP, LERP, FLUCC, BBLP, ASRP, BMSRP, KCRP, MAP, PNP, PFCP
B. Legal or illegal logging (degradation)	Companies / local people	18	BCEP, NKMCAP, OMCFRP, SCCP, UME, IREDDP, BFCP, JSDRP, SFCP, LERP, BBLP, MRPP, ASRP, KDIFMP, KFCP, MPCP, BMSRPP, MAP,
C. Planned conversion for cropping, plantations, ranching, etc.; land sales; settlements (deforestation)	Companies / Investors	9	OMCFRP, UME, BFCP, HRP, RRBP, SFCP, LERP, BBLP, MPCP
D. Fire	Companies / Investors / Local people	6	OMCFRP, SCCP, RMF, URP, MRPP, MPCP
E. Fuelwood collection/charcoal production (degradation)	Local people	3	OMCFRP, SCCP, URP
F. Other (stone quarrying, mining, drainage of peat land, clearance by local people to claim land)	Companies / Investors / Local people	6	URP, BFCP, LERP, KFCP, MPCP, BMSRPP

There may be several reasons for this focus on local people as deforestation agents. Project developers may find it easier to persuade local communities to participate in their projects and face more resistance from companies and investors who profit from land and forest development. Or, conservation organisations aiming to use REDD+ for biodiversity protection may have identified sites with important conservation value where local people just happen to be the most significant agents of land cover change. Further analysis is required to understand this focus on local deforestation agents.

Companies and investors as deforestation agents have not been totally ignored by project proponents, with one third of the projects aiming to address large-scale planned forest conversion for agriculture, land sales, etc. Fire, mining, clearance to

claim land and peat drainage are amongst the other proximate causes of DD identified by proponents. The most commonly discussed underlying drivers are road construction, including paving of existing roads, migration to the project areas resulting from population growth, lack of economic opportunities, and government policy on land and resources development.

2.5.2. Accounting scope

The DD drivers influence the accounting scope of the proposed projects. The accounting scope refers to the REDD+ activities that are included in the calculations of anticipated climate benefits of the project.

The definition of REDD+ agreed by parties to the UNFCCC sets out five possible activities related to the management of forest carbon stocks, namely, reducing deforestation, reducing forest degradation, conserving forest carbon stocks, sustainable management of forests, and enhancing forest carbon stocks. The 27 REDD+ projects covered in this report all include avoided deforestation activities in their carbon accounting, 15 include avoided degradation activities, and nine include enhancement of forest carbon stocks. Several also include afforestation and reforestation in their project strategies, but these cannot be included in the REDD+ accounting.

The concept of "sustainable management of forests" (not to be confused with sustainable forest management (SFM), a much broader concept that captures the economic, social and environmental values of forests) refers to selective, rotational timber harvesting of standing forests that does not damage the forest to a point where carbon stocks are permanently diminished. It is notable that amongst the 27 projects, no forest concessions aim to implement this concept by introducing improved forest management practices (e.g. reduced impact logging systems and methods), though The Nature Conservancy has listed this as a proposed REDD+ activity for its district-wide REDD+ project (BFCP) in Berau, Indonesia. REDD+ does not appear to be attractive to timber concessionaires whose practices are currently degrading the forests that they operate in.

2.5.3. REDD+ strategies

Project developers will have to address the direct causes of DD, and may also seek to address some of the underlying drivers (e.g. by securing clear forest tenure for local people), but others will be beyond their influence (e.g. population growth and national policies on agriculture and mining). Table 2.5 groups the types of strategies project developers are proposing to combat DD drivers and/or enhance forest carbon stocks. As expected from the fact that most projects are dealing with multiple DD drivers, Table 2.5 reveals that they are proposing multiple REDD+ activities. Of these, many of the project strategies focus on engaging local communities and address lack of household capacity and lack of economic choices for communities as underlying drivers of deforestation. The types of proposed engagement with local communities are wide ranging. Some projects seek to engage communities directly in protecting and enhancing forest carbon stocks, either by contributing to fire

prevention, patrols, etc. for forests that are not under local tenure, and others aim to introduce controls and other management practices in forests that are under household/community tenure. The strategies proposed when REDD+ activities limit household or community use of forests include payments for ecosystems services, developing alternative livelihoods, increasing agricultural productivity (thereby reducing the need to clear forests), and reducing the need for fuel wood or planting trees to provide a new fuel wood source.

Table 2.5: Types of REDD+ strategies described in project documents

Strategy type	No. of projects	Projects
A. Payment to communities for provision of ecosystems services & creation of alternative livelihoods through training, grants, microfinance, business creation, etc.	19	BCEP, SCCP, UME, URP, BFCP, JSDRP, RRBP, PP, SFCP, LERP, BBLP, ASRP, KDIFMP, KFCP, MPCP, BMSRP, KCRP, MAP, PFCP
B. Tree planting for land rehabilitation and timber supply (enrichment planting, reforestation, assisted natural regeneration)	14	OMCFRP, UME, RMF, IREDDP, URP, HRP, RRBP, PP, LERP, FLUCC, BBLP, MRPP, KFCP, PNP
C. Controlling and monitoring access to forests	9	BCEP, OMCFRP, RMF, HRP, PP, SFCP, FLUCC, MRPP, BMSRP,
D. General community development	7	NKMCAP, HRP, JSDRP, ASRP, KDIMFP, MPCP, BMSRP,
E. Improving agricultural productivity, practices and resilience (for local agriculture)	6	OMCFRP, IREDDP, URP, HRP, BBLP, PFCP
F. Improved management of reserve/protected area	5	BFCP, JSDRP, MRPP, MPCP, BMSRP
G. Delineating & expanding boundaries	4	NKMCAP, UME, RRBP, BMSRP,
H. Strategies to reduce fuel wood use	4	OMCFRP, URP, BBLP, BMSRP
I. Engaging local communities in activities to protect & enhance carbon stocks (patrols, tree planting, fire fighting etc.) &/or MRV	4	BCEP, RMF, HRP, MRPP
J. Strengthening local government/community institutions for forest management/REDD+	3	RMF, SFCP, BBLP
K. Securing tenure for households/communities	3	OMCFRP, PP, BBLP
L. Community-based forest management planning & controls	2	OMCFRP, PNP
M. Fire prevention	2	OMCFRP, MPCP
N. Improved forest management in timber concessions	1	BFCP
O. Stop commercial logging	1	IREDDP
P. Stopping large-scale conversion for agriculture	1	BFCP

Some project design documents lack proper feasibility studies of the proposed activities to engage communities in REDD+ and do not present examples of their achievements with these activities elsewhere. The plans for creating alternative livelihoods are often not supported with studies of market conditions and the investments required in productive capital and capacity building. Eco-tourism and alternative livelihood creation are proposed by several proponents who appear to have no experience with these interventions, yet these kinds of interventions clearly require expert knowledge, as underlined by the many examples where they have failed or underperformed as part of conservation initiatives (Sunderland et al., 2005). In these circumstances, the projects run the risk of creating expectations that later may not be met. There are, of course, other cases where the project proponents are well-established in the project area and/or have had good experiences with the activities they are proposing for REDD+ (e.g. KCRP).

Tree planting for land rehabilitation and timber supply is another REDD+ activity common to many of the projects, indicating that many of them include degraded areas. This includes enrichment planting and assisted natural regeneration. If agroforestry is included, the number of projects engaged in tree planting increases further. Another common set of activities are associated with tenure. One project (NKMCAP) secured tenure by purchasing concession rights and then retiring the concessions, though because of the costs

involved, establishing reserves through the purchase of property rights is not likely to become a significant REDD+ strategy. More common tenure-related strategies are delineating and expanding the boundaries of conservation areas, and securing tenure for households and communities. Strengthening forest management through planning, capacity building, etc. in conservation areas and household and community forests are another set of common activities.

Table 2.5 suggests that activities that directly challenge the commercial interests of companies/investors, such as improving forest management in concessions, stopping illegal logging and stopping large-scale conversion for agriculture, are less common. This reinforces the earlier observation that project proponents appear more comfortable working in areas where local people rather than powerful business actors are viewed as the main deforestation agents. However, Table 2.5 needs to be interpreted with care. Some proposed projects may not set out strategies to intentionally challenge powerful business interests, but may have the effect of denying these interests access to land and resources. For example, by securing forest tenure for local communities, OMCFRP denies speculators and developers access to the land.

2.6. Community and biodiversity safeguards

It appears that largely because of pressure from non-governmental organisations, the 16th UNFCCC COP, held in 2010 in Cancun, agreed in Decision 1/CP.16 to a set of seven safeguards that should be addressed and respected throughout the implementation of REDD+ activities. These are:

(a) That actions complement or are consistent with the objectives of national forest programmes and relevant international conventions and agreements;

(b) Transparent and effective national forest governance structures, taking into account national legislation and sovereignty;

(c) Respect for the knowledge and rights of indigenous peoples and members of local communities, by taking into account relevant international obligations, national circumstances and laws, and noting that the United Nations General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples;

(d) The full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities, in the [REDD+] actions referred to in paragraphs 70 and 72 of this decision;

(e) That actions are consistent with the conservation of natural forests and biological diversity, ensuring that the [REDD+] actions referred to in paragraph 70 of this decision are not used for the conversion of natural forests, but are instead used to incentivize the protection and conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits;

(f) Actions to address the risks of reversals;

(g) Actions to reduce displacement of emissions.

As it was governments that agreed to Decision 1/CP.16, it is governments who are responsible for ensuring that the REDD+ safeguards are met in project design and implementation. Mostly, however, governments preparing for REDD+ are still in the process of developing national (and sub-national) safeguards frameworks, and until now they have mostly left it to project developers to decide how or whether the safeguards are addressed.

The basic motivations for the REDD+ safeguards were the concerns that REDD+ activities should provide long-term, real climate benefits, and that a focus solely on climate objectives could have negative unintended outcomes on other significant issues, such as governance, biodiversity and basic human rights. Safeguards (a) and (b) are mostly directed at the development of national REDD+ systems, so we have excluded them from our discussion, and safeguards (f) and (g) are related to climate benefits, so are discussed in section 2.7 on methodologies. Safeguards (d) and (e) are especially important for ensuring climate projects "cause no harm" with respect to other significant issues at the project level, and are discussed in this section.

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2.6.1. Community and indigenous people's safeguards

Of all the elements a REDD+ project must address, it is perhaps the quality of engagement with local groups that is most difficult to interpret from project documents. For example, project developers may state that they are implementing free prior informed consent processes in their engagement with communities, but if they do not provide supportive evidence, then it is impossible to have any insight into the quality of these processes. The discussion below is thus necessarily constrained by this reality. (Note: LERP is excluded from the discussion in this section because the project documents provide little information on community and biodiversity issues.)

Various typologies have been established to differentiate between types of participation. Arnstein (1969), for example, proposed a "ladder of citizen participation" consisting of eight levels of participation based on an argument she developed around the extent of citizen power in determining outcomes. These eight participation types are 1. Manipulation, 2.Therapy, 3. Informing, 4. Consultation, 5. Placation, 6. Partnership, 7. Delegated power, 8. Citizen control.

Generic typologies such as this can be used to differentiate between types of engagement with local communities in REDD+ projects. The 26 project designs (LERP excluded) are grouped in Table 2.6 according to how they explain their engagement with local communities. The levels of participation used are:

A. Consultation: Communities are consulted and provide information;
B. Income generation: Communities are trained on livelihoods and/or hired as labour;
C. Resource rights: Communities are assisted on tenure-related issues, including through participatory mapping, etc.;
D. Resource management: Communities are engaged in forest management;
E. Design and decision-making: Communities are part of the proponent coalition and/or are involved in design or decision making.

These levels generally increase in significance in terms of the potential for local communities to shape outcomes.

Level A: Consultation is the lowest level in participation. To be consulted and informed in advance before the launching of a project is a basic necessity for community participation. Twenty-three projects (88%) are listed in Table 2.6 as having undertaken or planning to undertake consultations with local communities. This high percentage highlights the importance of the REDD+ community safeguards; unlike mitigation activities in other sectors, such as energy and transportation, REDD+ projects are almost invariably going to require engagement with local communities.

Table 2.6: Levels of community participation in projects

Level	Number of projects	Projects
A. Consultation: Communities are consulted and provide information	23	BCEP, OMCFRP, SCCP, RMF, BFCP, JSDRP, RRBP, PP, SFCP, BBLP, ASRP, KDIFMP, KCRP, BBLP, PNP, UME, KFCP, MPCP, BMSRP, KCRP, MAP, PNP, PFCP
B. Income generation: Communities are trained on livelihoods and/or hired as labour	25 (hired as labour - 16)	**BCEP**, NKMCAP, OMCFRP, SCCP, UME, RMF, **IREDDP,** URP, BFCP, HRP, JSDRP, RRBP, PP, SFCP, BBLP, **MRPP, ASRP,** KDIFMP, KFCP, MPCP, BMSRP, **KCRP, MAP,** PNP, PFCP
C. Resource rights: Communities are assisted on tenure-related issues, including through participatory mapping, etc.	9	**NKMCAP**, OMCFRP, SCCP, UME, **RRBP, BBLP, KFCP,** BMSRP **MPCP**
D. Resource management: Communities are engaged in forest management	15	OMCFRP, **UME, RMF, URP, BFCP,** JSDRP, FLUCC, KDIFMP, HRP, SFCP, **SCCP,** BMSRP**, PP, PNP, PFCP**
E. Design and decision-making: Communities are part of the proponent coalition and/or are involved in design or decision making	7	**OMCFRP, HRP, JSDRP, KDIFMP, FLUCC,** **BMSRP, SFCP**

Note: For project designs that exhibit various levels of participation, the project name is set in bold for the highest level.

The principle of free prior and informed consent (FPIC) is important to Level A and other levels of participation. FPIC can be defined as "the establishment of conditions under which people exercise their fundamental right to negotiate the terms of externally imposed policies, programs, and activities that directly affect their livelihoods or wellbeing, and to give or withhold their consent to them" (Anderson, 2011, p. 15). The quality of awareness and consultation activities depends on, *inter alia*, the comprehensiveness of the information provided, whether all the community members are consulted, and the timing, regularity and length of consultations. Some project documents are careful to provide information on these issues (e.g. SFCP); others, less so.

Regarding Level B: Income generation, 25 project designs (96%) propose community livelihood development through training, marketing, etc., and more than half the projects intend to hire or have already hired people from the communities to conduct some of the project activities. The significance of these proposed livelihood (including employment) activities for local communities depends, *inter alia*, on whether the proposed activities are in fact (socially and economically) feasible, how many people participate, how the people are selected, how much income is generated relative to other income sources, the economic status of the participating households, whether the households will be provided support to ensure wise use of the income generated, and so forth.

When livelihood generation is part of a broader approach to participation in which communities are engaged in significant project decision-making processes, rather than only being hired as labour, greater benefits for the communities in terms of their well-being and development might be expected. Nevertheless, even if only recruited for their labour, the skills acquired and income generated could be important for the participating households (depending on the nature of the work). The issues are clearly complex and it is difficult to gain a comprehensive understanding on these issues from project documents alone.

Level C. Resource rights is clearly important when project designs propose working with local communities who are using forest lands and resources but have inadequate, insecure and/or unclear tenure rights. Thirty-five per cent of the project designs are proposing activities to support communities on tenure-related issues. In addition to participatory mapping, the processes they propose include: assisting in creating an official indigenous organization with legal status (NKMCAP); supporting acquisition of land titles for forest owners (BBLP); helping communities and government work together to resolve land tenure issues (KFCP); and helping the communities and organizations to secure land tenure over the project area (BMSRP).

Level D. Resource management has been defined broadly to include community-based forest management and other models of resource management through which local households will be rewarded for providing ecosystem services. Fifty-

eight per cent of projects propose Level D participation in their designs.

Communities are significantly involved in project initiation and/or design and decision making (level E participation) in only seven projects (27%). This could reflect a variety of factors, such as low local awareness and capacity to initiate REDD+ projects, and lack of effort by some proponents to include local communities in project management teams.

Table 2.7 lists the level of participation in each project against the tenure arrangements at the project site. The table shows that the levels of community participation partly, though not entirely, reflect the tenure arrangements. When forests are under community tenure, the communities will necessarily have significant roles in project implementation, though there are several projects outside of community tenure where the proponents appear to have made efforts to ensure level E participation (e.g. JSDRP).

In the cases of private rights to manage forests as a reserve and timber concessions, only participation levels A, B and C can be found. Participation levels D and E can mostly be found in household and community tenure arrangements, as well as indigenous reserves. Regarding protection and conservation forests managed by state agencies, the levels of participation proposed differ among the project designs. Given the relatively large accounting areas that these projects often encompass, Level E participation would appear highly desirable, but can only be found in 38% of the project designs.

Table 2.7: Relationship between type of tenure and level of community participation

Tenure types	Number of projects	Projects
A. Private rights to manage as a reserve	4	BCEP (A,B), NKMCAP (B,C), RRBP (A,B,C), KCRP (A,B)
B. Household/community	8	OMCFRP (A,B,C,D,E), SCCP (A,B,C,D), URP(B,D), BBLP (A,B,C), ASRP (A,B), KDIFMP (A,B,D,E), PNP (A,B,D), PFCP (A,B,D)
C. Managed by state agencies (usually conservation/ protection forests)	8	UME (A,B,C,D), RMF (A,B,D), JSDRP (A,B,C,D,E), FLUCC (D,E), MRPP (B), KFCP (A,B,C), MPCP (B,C), BMSRP (A,B,C,D,E)
D. Timber concessions	2	IREDDP (B), MAP (A,B)
E. Indigenous reserves	2	HRP (B,D,E), SFCP (A,B,D,E)
F. Owned by corporation	1	PP (A,B,D)
G. Multiple tenure	1	BFCP (A,B,D)

2.6.2. Biodiversity safeguards

Table 2.8 lists some of the biodiversity monitoring elements found in the project designs. The biodiversity safeguards have been incorporated into the REDD+ concept because of the concern that REDD+ activities (i.e. activities that focus on forest carbon stock protection or enhancement) could have a perverse impact on biodiversity. This could be imagined if a forested area with low carbon stocks but high biodiversity values (e.g. a naturally sparse forest or secondary forest) was felled and replaced with a fast growing timber plantation with lower biodiversity values.

There appears to be no clear evidence of this possible outcome within the REDD+ project designs reviewed. However, another possibility is that activities that would have taken place in the project area, e.g. logging, clearance for agriculture, etc., are stopped by the project and move elsewhere (activity leakage), with negative impacts on biodiversity outside the project area. This element of the biodiversity safeguards is taken up by the Climate, Community and Biodiversity Standards, which require evaluation and mitigation of likely negative impacts on biodiversity outside the project zone resulting from project activities (CCBA, 2008). The Standards also require a commitment to establishing a monitoring plan to quantify and document the changes in biodiversity resulting from the project activities, including the types of measurements, the sampling method, and the frequency of measurement (ibid.).

Table 2.8: Biodiversity monitoring elements

Monitoring elements	No. of projects	REDD+ Projects
(a) Monitoring target:		
Species and species evidence	11	BCEP, NKMCAP, IRDDP, RRBP, PP, SFCP, MRPP, ASRP, KDIFMP, PFCP, OMCFRP
✓ bat, avian, mammals (common monitoring targets)		
✓ key species (HCV, IUCN listed etc.)		
✓ endemic species		
✓ invasive species		
✓ animal signs (tracks, scat, nest)	2	IREDDP, OMCFRP
Site conditions	4	SCCP, PP, KDIFMP, OMCFRP
✓ high conservation value zones		
✓ water availability		
✓ soil conservation		
✓ forest cover		
Human – biodiversity interaction	5	IREDDP, SFCP, KCRP, PNP, OMCFRP
✓ number of observed snares and traps		
✓ market surveys (bush meat trade)		
✓ community use of timber and non-timber forest products		
✓ illegal grazing and illegal charcoal production		
✓ implementation of actions to prevent land-use changes and to protect water resources and biodiversity		
(b) Monitoring method:		
✓ field surveys (remote acoustical detectors, camera traps)	6	BCEP, PP, OMCFRP, RRBP, BMSRP, KCRP
✓ remote sensing	1	RRBP
(c) Frequency of monitoring:		
✓ daily	1	KCRP
✓ monthly	1	OMCFRP
✓ annually	2	OMCFRP, ASRP
✓ every 2 years	1	OMCFRP
✓ 5-yearly	2	OMCFRP, PFCP
(d) No information	11	UME, RMF, URP, BFCP, HRP, JSDRP, FLUCC, BBLP, KFCP, MPCP, MAP

Table 2.9 shows that the reviewed project designs are for a variety of forest conditions. One group of projects target areas that have a high percentage of intact forest, and these can be found in all tenure types. Another group of projects are for areas with some intact and some degraded forest, while a smaller group are primarily working with degraded forests. Among the projects, it appears the latter group can only be found for type C tenure, i.e. forests managed by state agencies. Due to the high per hectare costs of land and forest rehabilitation activities, it may be that the

mobilisation of financing for large degraded forest areas is more likely to come from bilateral sources (government to government) than the private sector.

Table 2.9: Biodiversity advantages of REDD+ projects

Tenure type	REDD+ Projects	Forest condition	Existence of reserves	Existence of endangered species / hotspots
A. Private rights to manage as a reserve	BCEP	Areas of forest degraded by human activities and storms	Two protected areas near project site Drains directly into Marine Sanctuary and coral reef habitat designated as World Heritage Site	15 IUCN listed species
	NKMCAP	Degraded by former logging activities	Part of national park World Heritage Site	"endangered species"
	RRBP	75% still intact	Bounded by national park	> 150 IUCN listed species in project zone
	KCRP	Some patches of primary forest	Lies between national narks	Eastern Arc Mountains Hotspot
B. Household / community	OMCRP	20% of forest in project area degraded	-	93 IUCN listed species
	SCCP	Some degraded forest	Within buffer zones of national park	2 IUCN listed species 63.7% of project area has HCV status
	URP	43.6% dense forest	-	Hotspot of amphibian biodiversity
	BBLP	92% intact primary forest	Forest reserves under central government protection	-
	ASRP	Various ecological zones still intact	-	IUCN listed species
	KDIFMP	Minimum disturbance from human activities	-	-
	PNP	74.8% primary forest	Borders on several national parks	-
	PFCP	50.5% modified primary forest	Reserve area for protected forest	-

		17.8% secondary forest	Areas under public domain	
C. Managed by state agencies	UME	High quality forest in most areas above 500 meters	Adjacent to national park	"endangered species"
	RMF	Degraded mangrove forest	Protected forest	-
	JSDRP	Only 1.1% of project area deforested	Reserve	12 IUCN listed species
	LERP	N.D.	N.D.	-
	FLUCC	40% natural forest	N.D.	-
	MRPP	Mostly degraded	Linked to national park	-
	KFCP	Logged-over and degraded forest on peat dome	-	-
	MPCP	Intact/degraded, bare area	To be designated as conservation area	-
	BMSRP	Old-growth primary forest and degraded forest	Conservation area next to national park (World Heritage Site)	17 IUCN listed species (project zone)
D. Timber concessions	IREDDP	Intact primary forests	Bounded by protected area	92% of project area is HCV status
	MAP	Completely forested; no degraded forest	Next to buffer area of national park	Biodiversity hotspot
E. Indigenous reserves	HRP	14% Dense forest 17% Open forest	-	-
	SFCP	Old-growth forests; degraded forests	-	13 IUCN listed species
F. Owned by corporation	PP	Intact primary forest	Includes fully protected forest	30 IUCN listed species
G. Multiple tenure	BFCP	20% stable undisturbed forest	Includes protected area	-

Some REDD+ sites will be more advantageous than others in terms of biodiversity protection. Within the project site, the legal status of the forest with respect to conservation and the existing biodiversity values, and within or near the project site, the presence of reserves / protected areas are important factors related to this advantage. Table 2.9 includes information from each project design from this perspective of "biodiversity advantage."

Conservation areas (national parks, biodiversity reserves, World Heritage Sites, etc.) are attractive as REDD+ project sites for conservation-oriented organisations, not only because of their biodiversity values, but also because of their strong legal status for protection. The same can be said for high conservation value forests where private rights to manage the land as a reserve have been acquired (type A tenure). Sites adjacent to protected areas can also be attractive to conservation-oriented organisations, as they can serve as buffers to conserve the biodiversity within the protected areas (e.g. as intended by SCCP and RRBP). In contrast, forests under community or household tenure (type B tenure) might be less attractive to conservation NGOs because they lack the economies of scale of larger land holdings and the existing tenure may not be as secure.

Karousakis (2009) advocates REDD+ for areas with high biodiversity values that are at high risk of deforestation and forest degradation, and proposes a national mapping of areas where high carbon benefits and high biodiversity benefits overlap. A potential problem with this is that areas with high biodiversity values and strong legal status for biodiversity protection could be given priority for REDD+ at the expense of other areas that could also benefit from well-design REDD+ initiatives through, for example, the protection of locally important ecosystems services, and by providing income and services to poor households. In developing their national REDD+ strategies, governments might wish to consider how to design REDD+ policy most effectively to support not only biodiversity conservation, but also other national objectives such as poverty alleviation.

2.7. Methodologies

To generate carbon credits, REDD+ projects must have a methodology for estimating climate benefits that offset buyers will accept. Project developers can use a methodology already approved by a third party or develop their own methodology and then have it validated by a third party. Both of these options are provided by the Verified Carbon Standard (VCS). The VCS methodology approval process involves the submission of a proposed methodology by a "methodology element developer," a public call for submissions on the proposed methodology through the VCS programme website, and independent expert assessments. Final approval is given by the VCS Association (VCSA), which manages the programme.[6]

From their design documents, it appears that 11 of the 27 of the projects have used VCS approved methodologies, but the interest of project proponents in VCS methodologies is higher than this figure suggests. Some of the other project developers have used their own rather basic methodologies for their initial carbon accounting work, but aim to later use VCS approved methodologies (e.g. ASRP, UME). Other projects are interested in providing a new methodology as one of their outputs (e.g. BFCP, KFCP).

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[6] http://v-c-s.org/, accessed 05/03/2013

Table 2.10 lists VCS approved methodologies that REDD+ project proponents could potentially select from and the project designs that have incorporated these methodologies. In addition to these methodologies, the VCS has approved 38 module and tools that provide guidance on specific elements of climate benefit estimation, such as estimating carbon stocks in specific carbon pools, estimating uncertainty, and demonstrating additionality. Many of the modules and tools were developed with REDD+ projects in mind. REDD+ project developers thus have an increasing array of methodologies, modules and tools that they can use to provide estimates of project climate benefits that carry some assurance of credibility.

Table 2.10: VCS approved REDD+ methodologies and their uptake by project developers

	Methodology	No. of projects	Projects
VM0004	Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests, v1.0	1	RRBP
VM0005	Methodology for Conversion of Low-productive Forest to High-productive Forest, v1.1	0	
VM0006	Methodology for Carbon Accounting in Project Activities that Reduce Emissions from Mosaic Deforestation and Degradation, v1.0	2	OMCFRP, IREDDP
VM0007	REDD Methodology Modules (REDD-MF), v1.3	4	BCEP, RMF, PP, MAP
VM0009	Methodology for Avoided Deforestation, v2.1	1	KCRP
VM0010	Methodology for Improved Forest Management: Conversion from Logged to Protected Forest, v1.1	0	
VM0011	Methodology for Calculating GHG Benefits from Preventing Planned Degradation, v1.0	0	
VM0012	Improved Forest Management in Temperate and Boreal Forests (LtPF), v1.1	0	
VM0015	Methodology for Avoided Unplanned Deforestation, v1.1	3	HRP, SFCP, BMSRP

lists the projects against the schemes they have been validated under.

A number of observations can be drawn from Table 2.11. First, voluntary schemes are popular with REDD+ project developers. The numbers in the table would be higher for CCBA, VCS and Plan Vivo if projects *intending to apply* for validation were included. Second, the CCBA and VCS are the two most popular schemes, and dual validation using both schemes is popular. All projects validated against the VCS have also been validated against the CCB Standards.

2.8. Validation, verification, registration, issuance of credits

To provide assurance that their project claims are reasonable, project developers can apply for validation to voluntary schemes that offer third party validation services for REDD+ activities. Table 2.11

Table 2.11: Voluntary schemes used for project validation

Scheme	No. of projects	Projects
CCBA	14	BCEP, OMCFRP, SCCP, UME, JSDRP, RRBP, PP, SFCP, ASRP, BMSRP, KCRP, MAP, PNP, PFCP
VCS	8	BCEP, OMCFRP, RRBP, PP, BMSRP, KCRP, MAP, PFCP
Plan Vivo	1	SCCP
Other party assessment	2	NKMCAP, MPCP

Dual validation is in fact encouraged by the CCBA. It provides guidance and templates to enable project developers to meet both the CCB Standards and the VCS in project design and reporting.[7] Table 2.11 doesn't show an important aspect of this dual validation in that project developers nearly always acquire CCBA validation first, and then move on to VCS validation.

To understand the interest in both CCBA and VCS validation, we must understand the commonalities and differences in the schemes. Both schemes essentially follow ISO norms for the establishment and management of voluntary certification schemes. They assign the functions of managing the schemes, developing the standards and auditing project designs against the standards to different organisations/groups. Both schemes develop their standards through expert

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[7] http://www.climate-standards.org/documents/, accessed 06/03/2013.

review and public consultation processes, and accredit auditors.[8]

The differences between them are associated with the assurances they provide on project design and implementation. The CCB Standards aim to identify projects that address climate change, support local communities and conserve biodiversity. CCBA validation thus enables project developers to present their projects as having additional benefits beyond climate change that may be of interest to investors. However, while the CCB Standards aim to identify projects using best practices to deliver robust and credible greenhouse gas reductions, the Standards do not validate the actual estimates of reduced emissions and thus carbon credits cannot be issued. The VCS, on the other hand, provides validation of the emissions estimates, but does not cover community and biodiversity issues to the same extent.

One (SCCP) of the 27 projects has been registered under the Plan Vivo scheme and one is undergoing validation (URP). The Plan Vivo scheme aims to support improved management by communities of their natural resources to generate climate, livelihood and ecosystem benefits. [9] Communities are expected to lead the project designs and write land management plans. Project designs include a methodology for calculating climate

[8] See http://www.climate-standards.org/ and http://v-c-s.org/

[9] http://www.planvivo.org/about-plan-vivo/, accessed 06/03/2013.

benefits and these are checked by a project coordinator. Communities enter into a payment for ecosystems services agreement with the project coordinator, who monitors the project and releases payments when agreed monitoring targets are met.

The Plan Vivo scheme is geared to maximise community involvement in design, implementation and monitoring, and to minimise costs in running the scheme. In terms of auditing, it appears less rigorous than the CCB Standards and the VCS, which may explain why it has not had greater uptake amongst REDD+ project developers working on small-scale projects with local communities (i.e. projects suited to the Plan Vivo approach). Nevertheless, there has been some uptake with eight approved projects and 10 in the pipeline listed on the Plan Vivo website, though these are not only REDD+ projects – afforestation and agroforestry, forest conservation, restoration and avoided deforestation are all eligible for the scheme. The Plan Vivo approach draws attention to the need for climate change negotiators to consider how to make REDD+ accessible to local communities, while at the same time providing robust estimates of climate benefits.

Verification is the process of assessing a project's performance in delivering climate benefits once the project activities are underway. The issuance of carbon credits is based on the results of the verification. Regarding verification of climate benefits and the issuance of credits, only a few projects have progressed to this point, but given that several years ago there were no REDD+ projects that had been issued

credits under voluntary schemes, this is not surprising. Credits have been issued for three projects (BCEP, SCCP, KCRP).

2.9.   Conclusion

Our review of 27 REDD+ project designs indicates that REDD+ projects can be found in all types of places and come in all sizes. This is a good thing. To maximise the lessons that REDD+ projects can provide as demonstrations, they should be located across different forest types and conditions, and address a wide range of deforestation drivers. They should also be developed for different tenure arrangements and for a variety of forest managers, from households and communities, to governments and concessionaires.

It is only the latter where REDD+, as a project intervention, does not seem to be popular. Within the 27 project designs, REDD+ projects are proposed for various types of conservation areas, for household and community-based forest management, for areas that have been degraded by previous development programmes or unsustainable use by local actors, and for areas where logging projects were previously terminated by the state, but there is no example of a REDD+ project to improve the management of carbon stocks in a timber concession. In countries with a poor record on logging practices, as part of their national REDD+ readiness processes governments should encourage REDD+ projects in logging concessions.

We have found that a variety of coalitions are shaping and driving REDD+ projects. Governments often play a role, but the coalitions tend to be led by organisations from outside the host countries. These outside partners often bring with them expertise critical to the development of the projects, and this presents important opportunities for capacity building. Governments should not just play the role of authorising REDD+ projects, they should require that project development includes capacity building activities for stakeholders within the country (government, NGO, civil society, private sector) on all aspects of REDD+, from reference emissions levels through to community and biodiversity safeguards.

Essentially all the project designs propose activities that have implications for local communities, which emphasises the fact that in developing countries, forests and their immediate surrounds should never be assumed as empty spaces. The process of engagement with local communities is critical to REDD+. While providing employment and other income generation opportunities can be important, project proponents should also consider having communities represented meaningfully in the project development/management teams. This will likely contribute to ensuring community interests are properly reflected in the project and to building local ownership of the project, thereby enhancing the likelihood of the project achieving its climate and other objectives.

Many of the REDD+ strategies set out in the 27 project designs could provide important biodiversity co-benefits, and if they pose any risks to biodiversity, it is mostly through offsite impacts that would be caused by a shifting of deforestation drivers from within to outside the project

site. The CCB Standards suggest ways in which this can be addressed. The project designs validated against the standards all set out a monitoring plan for onsite and offsite impacts, and their strategies are required to generate net positive biodiversity impacts. In some project designs, outside experts and local communities work together in conducting the biodiversity monitoring. This is potentially a strong approach as local people can see that their knowledge of biodiversity is valued, and this knowledge can improve the quality of the assessments.

Just as important lessons can be drawn from the CCBA for community and biodiversity safeguards, lessons can be drawn from the VCS on reference emissions levels and carbon stock monitoring. The Plan Vivo approach is also important as it draws attention to the need for climate change negotiators to consider how to make REDD+ accessible to local communities, while at the same time providing robust estimates of climate benefits.

ANNEX

REDD+

PROJECTS

Boden Creek Ecological Preserve

Progress bar

Distinctive features

The Boden Creek Ecological Preserve (BCEP) is a privately owned preserve covering 5,214 ha. Deforestation due mostly to conversion for export crops (banana and citrus) are projected to result in deforestation of ~40% of the Preserve over 20 years. The goal of the REDD Project is to protect BCEP as a carbon sink, maintain its biodiversity values, and develop eco-tourism to create local employment opportunities. The major project strategies are patrolling, eco-tourism and monitoring. The project has been validated against the CCB Standards and the VCS, and VCUs have been issued.

Project design snapshot

Location: Toledo District, Belize

Proponents: Boden Creek Ecological Preserve - BCEP (project owner), Forest Carbon Offsets LLC (project developer)

Start date: 2005
Accounting period: 24 years

Area, tenure and forest type
Project area: 5,213 ha

Project zone / reference area: Forest outside of the project area at the onset of the historical reference period in 1993

Land status: Private preserve

Forest type: Tropical evergreen broad-leaved lowland forest

Drivers and rates of deforestation and forest degradation
Drivers: Forest clearance for cattle, citrus & banana plantations; Extraction of valuable timber species
Rates: 2.3% annual national deforestation rate (use for carbon stock change

projection); Reference area 1993-2009, 1.1% annual average

Scope and strategy

Scope: Avoided deforestation and degradation

Strategy to reduce emissions and/or enhance carbon stocks: Ecotourism; Control access through regular patrols; Engagement with local communities for forest measurement & monitoring, patrols, etc.

Strategy to reduce emissions displacement: None. Minimal leakage expected.

Community engagement and participation

BCEP has engaged local stakeholders in designing the project with various onsite consultations. Members of the local communities are the primary employees of BCEP participating in permanent sample plot measuring, setting up remote large mammal camera traps, setting up acoustic recording devices, conducting forest patrols, educating other local community members about forest protection, and engaging in other knowledge transfer activities.

BCEP intends to employ and train local staff from Indian Creek Village and Golden Stream Village and other villages in the following roles: Rangers and patrols, Assisting forest carbon data collection, Assisting biodiversity data collection, Ecotourism services, Accounting, Personnel Management, and Maintenance. The project increases female labor force participation locally by focusing on hiring female head-of-households.

Financing

Project cost estimation: N.D.

Upfront financing: N.D.

Anticipated Mid / Long-term financing: Sale of carbon credits; MGM Innova acting as broker

Reference emissions level

Remote sensing:

Reference period: 1995 – 2004

Data sets: Primarily Landsat TM and ETM+

Interpretation: Forest, Grassland, Cropland, Wetland, Settlements, Aquaculture, Water and Clouds

Ground-based measurement:

Sampling design: Random sampling

Sample plots: 31 nested plot design. 4 m radius for trees measuring 5 cm to < 20 cm DBH, 14 m radius for trees > 20 cm to < 50 cm DBH, 20 m radius for trees > 50cm DBH

Carbon pools: AGLB: yes, BGLB: yes, DW: no, L: no, SOM: no, HWP: no

Allometrics / Expansion factors: Allometrics from Pearson et al. (2005). Separate equations used for "general", Cecropia species, and palms.

Without project scenario: Historical emissions projected as baseline

With project emissions/removals

Project scenario: Reduced emissions in accounting area by implementing strategies to avoid deforestation, from which carbon sequestered by new citrus plantings that would not take place with the project are subtracted.

Deduction for emissions displacement and management of non-permanence risk: No

Project emissions deduction: No

Methodology: VM0007 - REDD Methodology Modules

Climate benefits

Total: 1,442,957 tCO2e

Annual average: 60,124 tCO2e

Annual average per ha: 11.5 tCO2e

Monitoring

Climate benefits:

In the nested fixed area plots each individual tree inventoried was tagged and given a unique ID for future monitoring. Each plot will be revisited at maximum of every 5 years. All of the tagged trees will be re-assessed and the DBH and height measured. In order to improve the accuracy of estimated GHG emissions, deforestation rates within the reference area will be monitored continuously and all new published rates that are applicable to the project will be reviewed. Deforestation will be monitored on an annual basis and incorporated into the estimations of GHG emissions.

Social and biodiversity safeguards:

Social: Monitoring metric is employment of local community personnel. Monitoring data are payroll records, annual audits, & records

Biodiversity: Initial biodiversity metrics developed for bat species, medium-large mammals, and avian and mammalian listed IUCN species. Methods include use of remote acoustical detectors, camera traps & searches

Validation/Verification/Registration/Issuance of credits:

CCB Standards (2nd edition): Gold Level

VCS: Registered; VCUs issued

Links

CCBA documents, http://www.climate-standards.org/?s=boden+

VCS documents, https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=647&lat=16%2E2825159162&lon=%2D88%2E806873074&bp=1

Noel Kempff Mercado Climate Action Project

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Distinctive features

The Project bought and retired 3 logging concessions from companies within the expansion area of Noel Kempff Mercado National Park (NKMNP). The area considered eligible for REDD consists of over 600,000 ha of forest degraded by logging and planned for further logging or considered likely to be converted to agriculture by local communities. The Project aims to protect the existing carbon stocks, preserve the biodiversity in this UNESCO World Heritage site, and promote development of the local communities. The Projects main activities are retirement of the concessions and expansion of the NKMNP; community development, including provision of basic services, land titling, institution building and creating of income generation activities through community forestry and microfinance; and community involvement in natural resource management planning. American Electric Power, British Petroleum Amoco and Pacific Corporation agreed to fund the project over 30 years, in return for a guaranteed 51% of certified offsets delivered by the Project. The carbon benefits achieved between 1997-2005 were verified by SGS in 2005 apparently using standards based on those described in the CDM, but as of 2010 future validation of carbon benefits were considered in jeopardy as key milestones in the community development action program had not been reached.

Project design snapshot

Location: Verdasco Department, Santa Cruz Province, Bolivia

Proponents: The Nature Conservancy (TNC), Fundación Amigos de la Naturaleza (FAN), The Government of Bolivia
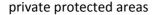
Start date: 1997
Accounting period: 1997-2027

Area, tenure and forest type
Project area: 642,458 ha

Project zone / reference area: 831,689 ha

Land status: Project owned: former logging concession areas and pre-existing

private protected areas

Forest type: Tropical evergreen broad-leaved lowland forest

Drivers and rates of deforestation and forest degradation

Drivers: Timber harvesting, Unplanned deforestation

Rates: N.D

Scope and strategy

Scope: Avoided deforestation and degradation

Strategy to reduce emissions and/or enhance carbon stocks: Purchase and retire logging concessions, closure of sawmills, official expansion of the park, community development.

Strategy to reduce emissions displacement: Emissions displacement monitoring, improved access to basic services, securing land titling, alternative employment, community forestry, ecotourism.

Community engagement and participation

Project includes assisting communities in creating an official indigenous organisation with legal status. Project developers helped communities to access government officials and prepare paperwork to group themselves into the official Central Indigena Bajo Paraguá (CIBAPA), a registered organisation with legal status representing the indigenous communities around the park. As a group with legal standing, CIBAPA is eligible to file for land tenure with the National Agrarian Reform Institute (INRA).

Financing

Project cost estimation: $11.5 million (between 1997-2006)

Upfront financing: $10,850,000

Anticipated Mid / Long-term financing: N.D

Reference emissions level

Remote sensing:

Reference period: 1997-2005

Data sets: LandSat: 1986, 1988, 1992, 1996, 1997, 2000, 2001, 2005; MODIS: 2001-2004

Interpretation: Highland inundated forest, Lowland inundated forest, Highland evergreen forest, Dwarf evergreen forest, Mixed woody-vine forest

Ground-based measurement:

Sampling design: Stratified systematic sampling

Sample plots: 625 permanent nested plots; inner plot radius 4 m for trees 5-20 cm DBH, outer plot radius 14 m for trees > 20 cm DBH

Carbon pools: Avoided degradation/Former concession areas. AGLB (trees), BGLB: no; DW: yes; L: no; SOM: no; HWP: no. Avoided deforestation areas. AGLB: yes (trees ≥ 5cm DBH, palm biomass, understory); BGLB: yes; DW: yes; L: yes; SOM: yes;
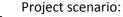
HWP: no.

Allometrics / Expansion factors: Allometrics based on Brown (1997) for moist tropical forests; Allometrics developed using destructive method for common species.

Without project scenario: Historical emissions projected as baseline.

With project emissions/removals
Project scenario:

Component A (Reducing Emissions from Deforestation): By implementing an economic development program and an extended protection scheme, the project is avoiding deforestation by communities inside the project area.

Component B (Reducing Emissions from Degradation): Cessation of logging in the former concessions that were incorporated into the project area avoids future timber extraction and collateral damage due to logging.

Deduction for emissions displacement and management of non-permanence risk: Yes. 17% of total climate benefits withheld.

Project emissions deduction: Yes – emissions from fuel for transport deducted

Methodology:

Component A: Baseline deforestation was modelled with a spatially explicit land use change model (GEOMOD), using Landsat imagery to estimate historic deforestation rates and modifying these rates based on monitoring from a reference area with comparable socioeconomic characteristics.

Component B: The baseline harvest was modelled using an advanced statistical model of the Bolivian timber market, simulating domestic/international timber supply and demand at different scales: national, regional, and project level.

Climate benefits
Total: 5,837,341 tCO2e

Annual average: 194,578 tCO2e/yr

Annual average per ha: 0.30 tCO2e/ha/yr

Monitoring
Climate benefits:
Monitoring the Baseline related to avoided deforestation: The avoided deforestation baseline will be re-evaluated every 5 years to capture any changes in institutional structure, local deforestation rates, and socioeconomic circumstances that might affect the estimated emissions for the remaining years of the project. A reference area was chosen adjacent to the Park to serve as a "control" for the estimated baseline. This area will be monitored over time using Landsat data and compared to the predicted baseline for the avoided deforestation component of NK-CAP.

Monitoring the Baseline related to avoided degradation: To estimate damage due to logging activities and to detect potential differences in regrowth rates over time between logged and unlogged areas, 102 survey plots were established in the Cerro

Pelao logging concession adjacent to the project area. Economic variables for the timber market model (e.g. timber prices, inflation rates) are being monitored annually to every 5 years.

Social and biodiversity safeguards:
Social: Organisational empowerment, capacity building, improvement of basic services, development of income generating activities. Baseline: Socioeconomic impact assessment from 2005.

Biodiversity: CCBA standard applied; monitoring of key species populations.

Validation/Verification/Registration/Issuance of credits:
Carbon benefits 1997-2005 verified by Societe Generale de Surveillance using standards based on CDM

Links
Noel Kempff Mercado Climate Action Project - A Case Study in Reducing Emissions from Deforestation and Degradation, http://www.conservationgateway.org/sites/default/files/FINAL%20NOEL%20KEMPFF.pdf

Combating Climate Change in Bolivia, http://www.nature.org/ourinitiatives/urgentissues/climatechange/placesweprotect/noel_kempff_fact_sheet_english.pdf

Reducing Emissions from Deforestation and Degradation (REDD) – A casebook of on-the ground experience, http://www.hedon.info/docs/REDD_Casebook-TNC-CI-WCS.pdf

Casebook of REDD Projects in Latin America, http://www.idesam.org.br/noticias/cop15/pdf/casebook-web.pdf

Oddar Meanchey Community Forestry REDD Project

Progress bar

Distinctive features

The Project works with local communities in Oddar Meanchey province to combat the drivers of deforestation, which range from illegal logging to planned conversion, and assist natural regeneration. The Project involves 13 Community Forestry Groups across 58 villages managing over 60,000 ha of forest. The key strategy of the Project is to secure forest management rights for communities and support them in developing and implementing forest management plans. The Project has been validated against the CCB Standards and the VCS.

Project design snapshot

Location: Oddar Meanchey Province, Cambodia

Proponents: Forestry Administration of the Royal Government of Cambodia, PACT, Children's Development Association, The Buddhist Monk's Association,
The Communities of Oddar Meanchey Province, Terra Global Capital, and others

Start date: January 2008
Accounting period: 30 years

Area, tenure and forest type
Project area: 67,853 ha

Project zone / reference area: (Oddar Meanchey Province and parts of Siem Reap province)

Land status: Community Forestry

Forest type: Lowland evergreen, semi-evergreen, and dry deciduous forests

Drivers and rates of deforestation and forest degradation
Drivers: Clearing for land sales, Conversion to cropland and settlements, Fuel wood, Forest fires, Illegal logging, Timber harvesting, Economic land concessions

Rates: Reference region: 2.9% (2008); Northwest provinces including Oddar Meanchey: 3% (2002-2006)

Scope and strategy

Scope: Avoided deforestation, Enhancement of carbon stocks

Strategy to reduce emissions and/or enhance carbon stocks: Community forest management rights and land-use plans, Protection against illegal logging, Assisted Natural Regeneration and Enrichment Planting, Fuel efficient stoves, Fire prevention, etc.

Strategy to reduce emissions displacement: Livelihood creation, reduce fuel wood need and Assisted Natural Regeneration (ANR)

Community engagement and participation

The project involves 13 Community Forestry Groups and 58 villages. A series of meetings was organised to involve the identified stakeholders in the project design process. The project development team communicated and shared project concepts with communities to discuss community forestry management issues and the guidelines for participating in a carbon project, the procedures and modalities of the REDD project, and existing problems that communities are facing. This information was used to formulate contractual agreements with local communities covering project participation, as well as in designing the annual work plans for technical and financial assistance. The project communities will be involved in an annual participatory monitoring exercise to assess the extent to which project activities are achieving the community and project goals.

Financing

Project cost estimation: Unclear

Upfront financing: Provided by John D. and Catherine T. MacArthur Foundation, Danida, DfID, NZAID, Clinton Foundation

Anticipated Mid / Long-term financing: Ranging from US$30 million to $60 million over 30 years, depending on market prices.

Reference emissions level

Remote sensing:
Reference period: 1990 – 2007

Data sets: Landsat 5 & 7: 1994, 2000, 2002, 2004, 2006, 2008

Interpretation: Grassland, Cropland, Wetlands, Settlement, Other land

Ground-based measurement:
Sampling design: Stratified sampling

Sample plots: 50mX50m permanent plots in forest; 40 non-permanent plots outside forest

Carbon pools: AGLB: yes (only trees), BGLB: yes, DW: yes, L: no, SOM: no, HWP: no

Allometrics / Expansion factors: N.D.

Without project scenario: Historical emissions projected as baseline

With project emissions/removals

Project scenario: Project activities have various levels of effectiveness in reducing deforestation rates.

Deduction for emissions displacement and management of non-permanence risk: Yes

Project emissions deduction: Yes - controlled burning, fuel, fertiliser

Methodology: VM006 - Methodology for Carbon Accounting in Project Activities that Reduce Emissions from Mosaic Deforestation and Degradation

Climate benefits
Total: 8,187,767tCO2e

Annual average: 272,926tCO2e/yr

Annual average per ha: 4.02tCO2e/ha/yr

Monitoring
Climate benefits:
Forest inventory plots will be re-measured every year during the crediting period. A monitoring plan consistent with both CCBS and VCS will be finalised upon validation of the VCS project document.

Social and biodiversity safeguards:
Social: A annual participatory monitoring exercises involving local communities planned.

Biodiversity: Annual and 5-yearly monitoring based on field inventory & sample survey planned.

Validation/Verification/Registration/Issuance of credits:
Validated against VCS and CCB Standards; VCS registered

Links
Project Description: VCS Version 3 (2012),
https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=904&lat=14%2E2461233241779&lon=103%2E724792743118&bp=1

Project Design Document (2012),
https://s3.amazonaws.com/CCBA/Projects/Oddar_Meanchey_REDD_Project/OMC+CCB+PD+V4+Sept+2012.pdf

Oddar Meanchey, Cambodia; Community Forestry REDD Project,
http://www.pactcambodia.org/Publications/CFP/Carbonbrochure.pdf

Designing Collaborative REDD Projects,
http://www.communityforestryinternational.org/publications/research_reports/REDD-Final.pdf

Bradley, A. and R.Obemdorf. 2005. Buddhism and the role of the Pagoda in community forestry development in Cambodia,
http://www.communityforestryinternational.org/publications/research_reports/Pagoda_Report.pdf

Monks Community Forest has been awarded the UNDP Equator Prize,

http://www.equatorinitiative.org/index.php?option=com_content&view=article&id
=602%3Amonkscommunityforestry-&catid=175&Itemid=652&lang=en

Sofala Community Carbon Project

Progress bar

Distinctive features

~9,500 ha are to be managed for REDD and carbon sequestration under the Sofala Community Carbon Project. Deforestation in the area is mostly caused by agricultural encroachment and charcoal manufacture, which are exacerbated by the growing population. Under the Project, REDD areas may be private land where a farmer owns part of the bush which his or her family have the right to clear under traditional law. The Project aims to establish and protect forest patches by working with households that have these land rights recognised by the State. The smallest REDD area is 2 ha, and the largest is 5,249 ha. The Project's strategy is to have all these areas protected under law and by community consensus; to develop plans with the community for all land-use activities; to generate new income sources; and to enrich the forest patches by planting native tree species. The Project has been validated against the CCB Standards and is a registered Plan Vivo project.

Project design snapshot

Location: Sofala province, Mozambique

Proponents:
Envirotrade Carbon Limited (ECL), Envirotrade Mozambique Limitada (subsidiary of ECL)

Start date: 2008
Accounting period: 100 years

Area, tenure and forest type
Project area: Project area: 511,392, REDD area: 9,599

Project zone / reference area: N.D.

Land status: Private land where a farmer owns some bush; largest bush areas owned communally

Forest type: Woodland mosaic including Miombo woodlands, Combretum woodlands, Riverine woodland and Dry forest

Drivers and rates of deforestation and forest degradation

Drivers: Clearance for agriculture; Charcoal production; Burning and logging by companies; Firewood collection, etc.

Rates: Part of project area: 2.4%, 1999-2007

Scope and strategy

Scope: Avoided deforestation and enhancement

Strategy to reduce emissions and/or enhance carbon stocks: Contracts between farmers and project for 9 mitigation activities on their land: 7 agro-forestry, 1 agriculture, 1 REDD (patrols, fire breaks, etc.)

Strategy to reduce emissions displacement: Sustainable land management, Sustainable charcoal making industry

Community engagement and participation

REDD activities related to timber utilisation and sustainable harvesting, agro-forestry, drip irrigation, bush meat, and non-timber forest products, are planned with appropriate communities. Community members sign contracts with the community association to patrol and make fire breaks in the forest management areas. Annual monitoring of these areas is carried out by community technicians. Plans for all land-use activities are developed with the community with support from project staff.

Financing

Project cost estimation: N.D.

Upfront financing:

Amount: N.D.

Providers: Carbon sales under Plan Vivo and investment from ECL

Anticipated Mid / Long-term financing:

Sale of carbon credits estimated at >$10,000,000

Reference emissions level

Remote sensing:

Reference period: 1999-2007

Data sets: SPOT satellite: 1999-2007

Interpretation: Degraded Miombo, Machamba, Miombo, Riverine, Savannah

Ground-based measurement:

Sampling design: N.D.

Sample plots: 87 plots, 0.25 - 1 ha

Carbon pools: AGLB: Yes, BGLB: Yes, DW: No, L: No, SOM: No, HWP: No

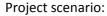Allometrics / Expansion factors: Local allometrics. Root:stem ratio derived from destructive sampling

Without project scenario:

A historic baseline approach was used to anticipate the business-as-usual scenario assuming that deforestation and unsustainable land use would continue unimpeded across the project region, based on the conservative assumption that the deforestation rates are constant in the future.

With project emissions/removals

Project scenario:

Since it is unlikely that project activities will completely prevent all deforestation, the calculated emission reductions are based on a 75% reduction in deforestation relative to the baseline scenario or 75% compliance with the activity. The 25% of credits held back against non compliance are defined as the "non compliance risk buffer". A 10% risk buffer is held back against carbon stock loss such as by bush fire and wind throw.

Deduction for emissions displacement and management of non-permanence risk: No (but considered)

Project emissions deduction: No (but considered)

Methodology: Own

Climate benefits

Total: 796,005 tCO2e (excluding agro-forestry)

Annual average: 7,960 tCO2e

Annual average per ha: 0.83

Monitoring

Climate benefits:

Annual monitoring of carbon stocks in the project zone and the presence of key indicator species by ground based inventories will be carried out by the University of Eduardo Mondlane. Annual visual inspection using satellite imagery: MODIS NDVI (Normalised Difference Vegetation Index) may be used for the project zone and surrounding landscape, to assess the integrity of woodland in the REDD management areas, and identify any possible leakage of forest degradation to areas outside the project zone. MODIS products such as MCD45A1 can be used to monitor fire management success. The project has access to radar imagery through a partnership with the University of Edinburgh which can be used to monitor vegetation type change.

Social and biodiversity safeguards:

Social: Community impact is monitored using indicators based on sustainable livelihoods framework through questionnaire survey and field observation.

Biodiversity: Monitoring of high conservation value zones, water availability and soil conservation.

Validation/Verification/Registration/Issuance of credits:

CCB Standards: Gold Level

Plan Vivo: Registered; 342,423 tCO2 Plan Vivo certificates issued

Links

Envirotrade website (project related document),
http://www.envirotrade.co.uk/html/projects_gorongosa.php

Rainforest Alliance Validation Assessment Report for: Sofala Community Carbon
Project in Mozambique, http://www.rainforest-
alliance.org/sites/default/files/climate_project/Envirotrade-Sofala-CCB-valid-
10_0.pdf

Forest Carbon Portal, http://www.forestcarbonportal.com/project/nhambita-
community-carbon-project

CITOLA website, http://www.citola.com/projects/sofala-community-carbon-project

Reducing carbon emissions from deforestation in the Ulu Masen Ecosystem, Aceh, Indonesia

Progress bar

Distinctive features

The Project is located in Aceh, one of Indonesia's poorest provinces, which suffered from many years of civil unrest and was severely impacted by the 2004 Indian Ocean tsunami. It is an initiative of the Provincial Government of Aceh, Fauna and Flora International, and Carbon Conservation, and covers ~750,000 ha of natural forest. The proponents identify illegal logging, renewed potential for unsustainable logging practices (they suggest that 6 inactive logging licenses in the project area could be reactivated), and conversion to plantations and farm land as the main likely drivers of future deforestation. Their key strategies to address these drivers are land reclassification; a range of activities to combat illegal logging, such as recruiting wardens, alternative livelihoods for the communities adjacent to the forests, and community agreements; and various forms of tree planting – reforestation, agro-forestry, mangrove restoration, fruit and coffee microplantations, orchards – and sustainable forestry. The Project was validated against an early version of the CCB Standards, but as of 2011, some reports suggest that the project has stalled.

Project design snapshot

Location: Aceh Province, Sumatra, Indonesia

Proponents: Provincial Government, Flora & Fauna International, Carbon Conservation Ltd

Start date: 2008
Accounting period: 30 years

Area, tenure and forest type
Project area: 750,000 ha

Project zone / reference area: N.D.

Land status: National forest land

Forest type: Lowland evergreen forest, Lowland broadleaf forest, Pine forest, Submontane forest, Montane broadleaf forest, etc.

Drivers and rates of deforestation and forest degradation
Drivers: Illegal & unsustainable logging, Land clearance, Oil palm plantation
Rates: Aceh: 0.86%, 1990-2000, Sumatra: 2.3%, 1985-1997

Scope and strategy
Scope: Avoided deforestation

Strategy to reduce emissions and/or enhance carbon stocks: Prevention of legal logging, e.g. though land re-classification, Reforestation, Agro-forestry, Mangrove restoration, Fruit & coffee microplantations, Orchards, Sustainable forestry

Strategy to reduce emissions displacement: Forest conservation, restoration & sustainable community forest management

Community engagement and participation
Government and civil society invited to contribute to the design and implementation of project activities and initial community consultations have begun. While there is potential for conflicts of forest resources within the project area, these can be avoided by involving communities and *Mukim* leaders in participatory land use planning processes, establishing jointly agreed boundaries and land use patterns, and developing a multi-stakeholder management structure. This process has been initiated by FFI. The participatory land use planning process has been completed in the district of Aceh Jaya.

Financing
Project cost estimation: $ 48.4 m (2007-2012)

Upfront financing: N.D.

Anticipated Mid / Long-term financing: Sale of VERs, etc.

Reference emissions level
Remote sensing:
Reference period: 1985 – 2000

Data sets: SPOT: 2006

Interpretation: 8 strata - Intact and disturbed differentiated according to elevation (0-500m, 500-1000m, 1000-1500m, >1500m)

Ground-based measurement: No; but plans to move to IPCC Tier 3 estimates by 2012

Sampling design: none

Sample plots: none

Carbon pools: AGLB: Yes, BGLB: Yes, DW: No, L: No, SOM: No, HWP: No

Allometrics / Expansion factors: Default values from literature used

Without project scenario:
Project proponents examined three deforestation scenarios: a low deforestation scenario (0.86% annual forest loss), a high deforestation scenario (2.3% annual forest loss) and a moderate rate (1.28% annual forest loss), and decided the

moderate rate was most appropriate. The model was derived using locally-derived, nuanced classes of forests that are built from legal status, threat, level of degradation and elevation.

With project emissions/removals

Project scenario: 85% of deforestation stopped through project activities by year 30.

Deduction for emissions displacement and management of non-permanence risk: Yes -20% of annual VERs withheld

Project emissions deduction: Yes - fuel for flights and vehicle use

Methodology: Own.

Climate benefits

Total: 101,095,427 tCO2e

Annual average: 3,369,848 tCO2e

Annual average per ha: 4.49 tCO2e

Monitoring

Climate benefits:

Radar imagery to be used to assess changes that have taken place over time as a result of forest felling, road building, or even landslides and natural tree falls. The project will equip and train the airborne monitoring teams. This will allow employment of 'Ultra Light' aircraft and high resolution photography in the assessment and monitoring of carbon stocks, both in the pilot areas and in surrounding forest blocks. Development of carbon leakage monitoring to include establishment of off-site representative permanent plots;

Social and biodiversity safeguards:

Social: N.D.

Biodiversity: N.D.

Validation/Verification/Registration/Issuance of credits:

CCB Standards (1st edition): Silver Level

VCS: Intends to apply

Links

Reducing Carbon Emissions from Deforestation in the Ulu Masen Ecosystem, Aceh, Indonesia -A Triple-Benefit Project Design Note for CCBA Audit- https://s3.amazonaws.com/CCBA/Projects/Reducing_Carbon_Emissions_from_Defo restation_in_the_Ulu_Masen_Ecosystem/Final_Ulu_Masen_CCBA_project_design_ note_Dec29.pdf

Forest Peoples Programme: ACEH: The Ulu Masen REDD+ Pilot Project, http://www.forestpeoples.org/sites/fpp/files/publication/2011/10/aceh-briefing-3.pdf

REDD+ project to reduce emissions from deforestation and increase sequestration through reforestation in mangrove forests, South Sumatra

Progress bar   FS

Distinctive features

The proposed Project targets an area within a coastal protected forest in OKI Regency that stills retain enough crown cover for it to be consider forest and thus eligible for REDD+. ~10,000 people inhabit the project site, and their residence predates the declaration of the protected forest by the Ministry of Forestry in 1986. Forest fires and illegal logging are thought to be the two main causes of forest loss. Deforestation associated with clearance for short-lived aquaculture ponds is considered a major problem. The proponents aim to address these drivers through monitoring and patrolling of the existing mangrove forests, establishing community institutions to prohibit illegal logging, tree planting on bare grounds and in woodlands by community teams, and introduction of silvi-fishery technology for enabling woodlands and aquaculture to coexist. A Japanese company, YL Building, the OKI Regency Bureau of Forestry and JACO CDM are behind the proposed project.

Project design snapshot

Location: Ogan Komering Ilir (OKI) Regency, South Sumatra Province, Indonesia

Proponents: YL Building Co., Ltd. (project proponent), Ogan Komering Ilir Regency (co-proponent)

Start date: 2014 (tentative)
Accounting period: 30 years

Area, tenure and forest type
Accounting area: 66,500 ha (not entirely clear)

Reference area: N.D.

Land status: Protected forest

Forest type: Mostly Mangrove forest. Also, Avicennia forest and Nypa fruticans Wurmb forest

Drivers of deforestation and forest degradation, and rates

Drivers: Fires, Illegal clearance/logging to construct aquaculture ponds

Rates: Project area 1989-2009, 0.72% annual average

Scope and strategy

Scope: Avoided deforestation and degradation, Enhancement of carbon stocks

Strategy to reduce emissions and/or enhance carbon stocks:

Monitoring and patrolling of illegal logging through awareness activities, community institutions, erecting of signs and new forest policy; Planting of trees in degraded forests and on bare land; Silvi-fishery for enabling woodlands and aquaculture to coexist will be introduced).

Strategy to reduce emissions displacement: Capacity building for communities

Community engagement and participation

A Kelompok (traditional organisation of people for specific work tasks by the village leader) shall be established in each individual village. The Kelompok led by the village chief shall provide equal, transparent opportunities for actual labor in the project. Kelompok will be involved in management of woodlands in protected forests, forest work and management of planted woodlands. Residents who own aquaculture ponds will be recruited for land development and the planting of mangrove forests following the conversion of existing ponds to silvi-fishery cultivation methods.

Financing

Project cost estimation: $10,846,000 required for initial investment in forestation activities

Upfront financing: YL Building Co. Ltd., Equity funds (uncertain)

Anticipated Mid / Long-term financing: Sale of carbon credits

Reference emissions level

Remote sensing:

Reference period: 1989-2009 or 2010

Data sets: Landsat 4 TM (1989), Landsat 5 TM (1995, 1997, 2004, 2009), Landsat 7 ETM (2000), Palsar (2007,2010)

Interpretation: Mangroves in water, Mangroves on soil, High vegetation cover, Low vegetation cover ,Bare land, Water, Bare land & Water, Unclassified

Ground-based measurement:

Sampling design: N.D.

Sample plots: 58 circular 25 m nested plots; species and DBH recorded

Carbon pools: AGLB: yes, BGLB: no, DW: no, L: no , SOM: no, HWP: no

Allometrics / Expansion factors: Chave et al. (2005)

Without project scenario: Historical emissions projected as baseline

With project emissions / removals estimation

Project scenario: Modelling of mangrove growth to estimate avoided emissions through improved forest management, and modelling of tree growth to estimate enhancement of carbon stocks through sequestration from tree planting.

Deduction for emissions displacement and management of non-permanence risk: 25% of total climate benefits placed in buffer

Project emissions deduction: N.D.

Methodology: Own. References include: AR-CDM (AR-AMS0003 and AR-AM0014), Offset and Credit Scheme (J-ver) R0003, REDD methodology (VCS VM0007)

Estimated climate benefits

Total: 12,726,145 - 14,195,522 tCO2e

Annual average: 424,204 - 473,184 tCO2e

Annual average per ha: 6.38 - 7.12 tCO2e

Monitoring

Climate benefits:
Frequency is every 2 years. Items to be monitored include number of planted trees, DBH, tree height, project sites, and degraded land. Remote sensing and PSPs to be used.

Social and biodiversity safeguards: N.D.

Validation/Verification/Registration/Issuance of credits:
N.D.

Links

YL Building Co., Ltd. Website, http://ylbldg.com/?page_id=10

Mangrove REDD+ Project, Sumatra, Indonesia (in Japanese),

http://www.redd-plus.jp/pdf/poster/p_yamamoto.pdf

Isangi Reduced Emissions from Degradation and Deforestation Project

Progress bar

Distinctive features

The proposed area to be committed to REDD+ covers over 250,000 ha of state-owned land within a logging concession in Oriental province in the DRC. The proponents state that the Project has received government endorsement and authorisation that the developer (Jadora LLC) and the concession rights holder (Safbios SPRL) have the rights to use carbon credits and the right to pursue this alternative revenue option. Canopy cover is almost 100% throughout and 92% of the forests are considered by the proponents to be HCV. 33 villages with a combined population above 100,000 people reside within the concession area. The forests provide the communities with protein sources, and materials for fuel, housing and construction. Subsistence agriculture is considered the most significant future deforestation driver. The Project proponents plan to work with communities to increase the fertility of crop land; develop alternative protein sources (e.g. small-scale aquaculture systems); distribute fuel efficient stoves; establish fuel wood plantations using native species; and provide various forms of community support on education, health and capacity. The Project is undergoing validation against the CCB Standards.

Project design snapshot

Location: Oriental province, DRC

Proponents: Jadora LLC, Safbois S.P.R.L

Start date: 2010
Accounting period: 21 years

Area, tenure and forest type
Project area: 261,500 ha

Project zone / reference area: 494,900 ha (leakage belt), 927,100 ha (reference region)

Land status: Logging Concession

Forest type: Intact primary forest: Dry and wet forests

Drivers and rates of deforestation and forest degradation

Drivers: Subsistence agriculture, Selective logging

Rates: ~1.1%, 1999-2010

Scope and strategy

Scope: Avoided deforestation and degradation; Enhancement of carbon stocks

Strategy to reduce emissions and/or enhance carbon stocks: Agricultural intensification to increase yield, Microfinance, Cessation of commercial logging, Assisted natural regeneration

Strategy to reduce emissions displacement: Introduce alternate agricultural techniques, Distribute fuel-efficient wood/ charcoal stoves

Community engagement and participation

Project proponent will hire and train staff from local communities to fill employment positions related to the project. Local people have been recruited and trained as forest evaluators, monitors and protectors with on-the-job conservation and development education. The proponent seeks to create employment opportunities and promotes capacity building efforts that include marginalised segments of society, such as women.

Financing

Project cost estimation: N.D.

Upfront financing: own funds

Anticipated Mid / Long-term financing: Sale of carbon credits

Reference emissions level

Remote sensing:

Reference period: 1990 – 2010

Data sets: Landsat, SPOT, RapidEye

Interpretation: Wet Forest, Upland Forest, Woodland, Cropland, Settlements, Water

Ground-based measurement:

Sampling design: Systematic sampling

Sample plots: 548 nested circular PSPs

Carbon pools: AGLB: yes (only trees), BGLB: yes, DW: yes (only lying), L: no, SOM: no, HWP: no

Allometrics / Expansion factors: Allometric models of live wood for African trees (Djomo et al. 2010) using DBH

Without project scenario: Spatial modelling based on distance from key features was used to project future deforestation sites. Emission estimates from degradation were based on planned future selective logging. Forest scarcity factor not considered relevant to project area.

With project emissions/removals
Project scenario: Net emissions from land use change in the project scenario were obtained by multiplying net baseline land cover transitions by 75%, the mean effectiveness of project activities, and subtracting reductions from assisted natural regeneration.

Deduction for emissions displacement and management of non-permanence risk:

The most likely form of leakage is increased agricultural activities in surrounding areas. Leakage emissions were calculated by subtracting the net conversion of upland forest to cropland in the leakage area under project conditions multiplied by its emission factor from the sum of project scenario net conversion of upland forest to cropland in the leakage area multiplied by its emission factor.

Project emissions deduction: Yes

Methodology: CCBA, VCS methodology VM0006

Climate benefits
Total: 17,036,564 tCO2e
Annual average: 811,265tCO2e/yr
Annual average per ha: 3.1 tCO2e/ha/yr

Monitoring
Climate benefits:
Tracking of the rate of deforestation and changes in LULC will be conducted. Woody live and dead biomass in intact forest will be measured every three years. Rates of deforestation in the project area and leakage belt, methane emissions from livestock, and assisted natural regeneration will be measured annually. The project baseline deforestation rate will be reassessed and submitted every ten years for third party verification. Teams of local foresters have been trained to conduct the monitoring. One team per 2-4 villages will monitor where farming is occurring. Village surveys will be conducted to determine implementation of alternative livelihoods. These surveys will be conducted annually.

Social and biodiversity safeguards:
Social: Informal and formal consultative conversations with villagers; Yearly review using Sustainable Livelihoods Framework
Biodiversity: Identify animal tracks, signs and scat, the actual presence of animals, and the number of observed snares and traps; Market surveys (bush meat trade)

Validation/Verification/Registration/Issuance of credits:
CCB Standards: Under validation

Links
Jadra website, http://www.jadorallc.com/isangi_project.html

Umiam Sub-watershed REDD+ Project, East Khasi Hills District Meghalaya, India

Progress bar

Distinctive features

The Project lies in an area of the central plateau upland region of the State of Meghalya where sub-tropical pine forest, grassland and savannahs, and sacred groves are found. Most of the forests within the project areas are owned by local communities under customary land tenure arrangements that are legally recognised by the government. The proponent reports a high annual rate of deforestation of ~1% and associates this with firewood collection, animal grazing and fires during the dry season. The Project aims to support communities to undertake assisted natural regeneration and reforestation activities; develop alternative income generating opportunities; establish women-administered micro-finance institutions; build community capacity on climate resilient farming; and conserve rare, endemic and endangered species found in the area. The primary target groups are low income families and landless labourers living in and around the forests. The Project is funded by the Macarthur Foundation and the Ford Foundation, and hopes to secure further funding to establish a community forestry federation and a network of community organisers, etc. The Project was submitted to Plan Vivo for validation.

Project design snapshot

Location: East Khasi Hills District, Megahalaya, India

Proponents: Community Forestry International

Start date: N.D.
Accounting period: 30 years

Area, tenure and forest type
Project area: 8,379 ha

Project zone / reference area: N.D.

Land status: Community forest, Clan forest, Private forest

Forest type: Sub-tropical pine forest, Grassland and savannas, Sacred Groves

Drivers and rates of deforestation and forest degradation
Drivers: Fuelwood collection, Grazing, Fire, Stone quarrying
Rates: District: 5.6%, 2000-2005

Scope and strategy

Scope: Avoided deforestation (and degradation?), Afforestation

Strategy to reduce emissions and/or enhance carbon stocks: Regulations, IGAs, fuel efficient stoves, habitat protection and restoration, resilient farming sytems, NTFPs, Eco-tourism, etc.

Strategy to reduce leakage: N.D.

Community engagement and participation

The target groups expected to benefit are (1) low income families and landless laborers living in and around the forests, through increased production of NTFPs, fuelwood plantations, and medicinal plants, (2) women household members, who will be part of self-help groups who receive capital for IGAs, (3) landless laborers and small marginal farmers, who will be the target groups for IGAs, (4) members of clan and private individuals, who will be part of the forest conservation and restoration strategy, and (5) administrative heads of territorial units known as Dorbars.

Financing

Project cost estimation: N.D.

Upfront financing: MacArthur Foundation, Ford Foundation

Anticipated Mid / Long-term financing: Sale of carbon credits

Reference emissions level

Remote sensing:
A proper carbon baseline is yet to be developed.

Reference period: A proper carbon baseline is yet to be developed. For rough estimate, 2000-2005 used

Ground-based measurement:
A proper carbon baseline is yet to be developed.

Without project scenario: A proper carbon baseline is yet to be developed. Rough estimate based on 2000-2005 deforestation rates is 20,924 tCO2e/yr.

With project emissions/removals

Project scenario: Project activities reduce deforestation by 60%.

Deduction for emissions displacement: Yes-10%

Deduction for emissions displacement and management of non-permanence risk: Yes-10%

Methodology: A carbon baseline is yet to be developed.

Climate benefits

Total: 412,824 tCO2e (rough estimate)

Annual average: 13,761 tCO2e

(rough estimate)

Annual average per ha: Afforestation included

Monitoring
<u>Climate benefits:</u> N.D.

<u>Social and biodiversity safeguards:</u>
Social: N.D.
Biodiversity:N.D.

Validation/Verification/Registration/Issuance of credits:
Submitted to Plan Vivo on May 16, 2011

Links
Community Forestry International: Umiam Sub-Watershed REDD+ Project, Meghalaya, India, http://www.cseindia.org/userfiles/watershed_redd.pdf

Poffenberger, M. (2012). Land Tenure and Forest Carbon in India, in *Lessons about Land Tenure, Forest Governance and REDD+.* Naughton-Treves, L. and C. Day. eds. http://www.nelson.wisc.edu/ltc/docs/Lessons-about-Land-Tenure-Forest-Governance-and-REDD.pdf

Down to Earth 31 May, 2011 'Soon: India's first REDD project'

http://www.downtoearth.org.in/content/soon-india-s-first-redd-project

Umiam Sub-Watershed Ecoservices Project (Planet Action website) http://www.planet-action.org/web/85-project-detail.php?projectID=8780

Berau Forest Carbon Program

Distinctive features

The Project is a district-wide initiative in East Kalimantan involving the forestry department at central and provincial levels, the Berau REDD Working Group and The Nature Conservancy. By 2015, the Project aims to bring at least 800,000 ha under effective management, avoid emissions of 10 million tCO_2, protect critical watersheds and areas of high biodiversity value, and contribute to the economic development of communities living near the forests. To achieve these outcomes, the Project's strategy includes supporting concessionaires to improve their forest management, supporting policy and piloting incentive agreements to improve the management of protection forests, redirecting oil palm development to degraded lands, and compensating concessionaires for setting aside HCV areas for protection within their concessions. The Project aims to apply a district-wide accounting framework, though little information on the development of carbon scenarios (with – without Project scenarios) is available.

Project design snapshot

Location: East Kalimantan, Indonesia

Proponents: Ministry of Forestry, East Kalimantan Province, Berau District, TNC, USAID, RAFT

Start date: 2010
Accounting period: Demonstration phase, 2010-2015

Area, tenure and forest type
Project area: 2.2 million ha (entire district); aim to bring 800,000 ha under management

Project zone / reference area: N.D.

Land status: State Forest including protected area, timber, mining and oil palm concessions and settlement area

Forest type: Lowland Rainforest

Drivers and rates of deforestation and forest degradation
Drivers: Legal and illegal logging, Clearing for oil palm and timber plantations and coal mining

Rates: N.D.

Scope and strategy

Scope: Avoided deforestation and degradation

Strategy to reduce emissions and/or enhance carbon stocks: Improvement of forest management within timber concessions; Incentives for improved management of protection forest; Redirecting oil palm development to degraded lands; Paying for environmental services

Strategy to reduce emissions displacement: District-wide carbon accounting framework; Legal frame to resolve land tenure issues; Supporting spatial and natural resources planning and decision-making; Alternative livelihoods programs.

Community engagement and participation

The Berau Forest Carbon Program will build on site-level experiences, and work with a range of stakeholders to create a more systematic approach across Berau. These efforts will include:
(1) Establishing governance structures and consultative mechanisms to include communities in overall program decisions;
(2) Strengthening community institutions to facilitate effective participation;
(3) Investing in alternative livelihoods programs in target areas to support low-carbon development strategies.

Financing

Project cost estimation: $ 50 million for demonstration phase

Upfront financing: N.D.

Anticipated Mid / Long-term financing: Trust fund to collect and manage program funding. VERs to be bundled for marketing

Reference emissions level

Methodology being developed by TNC, ICRAF, Winrock International and others. Aims to develop a district-wide carbon accounting framework that captures emissions from a range of strategies and land types.

Remote sensing: N.D.

Ground-based measurement: N.D.

Without project scenario: Modeling by Winrock International predicted a 10-fold increase in forest loss in Berau over the course of a 10-year period.

With project emissions/removals

Project scenario: Carbon stock enhancement and emissions reduction by at least 10 million CO2 over 5 year period or approximately 10% of the expected BAU.

Deduction for emissions displacement and management of non-permanence risk: N.D.

Project emissions deduction: N.D.

Methodology: Under development.

Climate benefits

Total: 10,000,000 tCO2e

Annual average: 2,000,000 tCO2e

Annual average per ha: 2.5 tCO2e

(During demonstration phase, 2010-2015)

Monitoring N.D.

Climate benefits: N.D.

Social and biodiversity safeguards: N.D.

Social: N.D.

Biodiversity: N.D.

Validation/Verification/Registration/Issuance of credits:

N.D.

Links

Berau Forest Carbon Program,
http://www.law.harvard.edu/programs/about/pifs/symposia/fcfs/2010-fcfs-briefing-materials/fishbein_forest_carbon.pdf

Overview of Berau Forest Carbon Program,
http://www2.cifor.org/carbofor/publications/REDDworkshop/09.Berau-forest-carbon-program.pdf

Community Approaches and Safeguards of Berau Forest Carbon Program,
http://www2.cifor.org/carbofor/publications/REDDworkshop/09.Berau-forest-carbon-program.pdf

Berau Forest Carbon Program (BFCP),
http://www.iges.or.jp/en/fc/pdf/activity_201003/Indonesia/04_BFCP.pdf

Halitina RED Project

Progress bar

Distinctive features

The project covers over 1 million ha and is located inside the indigenous territories of the Paresi people, state of Mato Grosso, Brazil. The land is owned by the Federal State of Brazil, but the Paresi have the exclusive right to use the land. ~1,600 people live in the Project area. The major deforestation driver identified by the proponents is pressure from soy farmers on the Paresi to have them lease tracts of their land for large-scale soy farming operations. Paving of the MT-255 road, which passes through the Utiariti and Paresi territories, and population growth are expected to increase deforestation pressure. An unusual feature of the Project is that it is owned and controlled by Associação Halitinã, a Brazilian NGO created in 1992 by the indigenous community of the Paresi ethnicity. Project coordination is being provided by Mundus Carbo, and financing by a Japanese company (Kanematsu Corp.). To mitigate deforestation drivers, the Project plans to prevent the conversion to soy farms and use traditional and modern methods to manage and prevent fires. The proponents anticipate that the Paresi will earn twice as much from carbon sales as they would from land leasing. The proponents plan to submit their design to the VCS for validation.

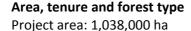## Project design snapshot

Location: State of Mato Grosso, Brazil

Proponents: Associasao Halitina, Mundus Carbo, Kanematsu Corporation

Start date: not fixed
Accounting period: 30 years

Area, tenure and forest type
Project area: 1,038,000 ha

Project zone / reference area: The reference region is a contiguous area including the project area. The leakage belt is defined as other discrete Indigenous Territories inside the reference region

Land status: Indigenous reserves

Forest type: Less dense cerrado, Veredas, Palmerais, Cerrado rupestre and parque cerrado, Dirt grassland, Clean grassland

Drivers and rates of deforestation and forest degradation
Drivers: Large-scale soy farming, Population increase, Slash and burn agriculture,

Road paving

Rates: Indigenous reserves in the State of Mato Grosso: 4%, since 1997

Scope and strategy

Scope: Avoided deforestation

Strategy to reduce emissions and/or enhance carbon stocks: Prevent conversion to soy, Indigenous fire brigade, Improving efficiency and yield of subsistence agriculture, Assisted natural regeneration of previously burned areas, Control of illegal activities, Implementation of a socioeconomic program for improving living standards

Strategy to reduce leakage: None

Community engagement and participation

The project is expected to directly employ 20 people.

Financing

Project cost estimation: Opportunity cost of soy leasing - US$ 223,000/year

Upfront financing: N.D.

Anticipated Mid / Long-term financing: Sale of carbon credits

Reference emissions level

Remote sensing:

Reference period: 1987 – 2007

Data sets: Landsat 5

Interpretation: 6 strata - Dense Arborous Forest, Open Arborous Forest, Herbaceous-shrub, Naturally exposed soil, Cropland, Pasture

Ground-based measurement:

Sampling design: Systematic sampling

Sample plots: Circular plots of 12.61 radius, set at 1 km intervals

Carbon pools: AGLB: yes, BGLB: yes, DW: no, L: no, SOM: no, HWP: no

Allometrics / Expansion factors: Not specified

Without project scenario: Historical emissions projected as baseline

With project emissions/removals

Project scenario: Deforestation within the indigenous territories is stopped

Deduction for emissions displacement and management of non-permanence risk: No

Project emissions deduction: Yes-emissions from fuel use

Methodology: VM0015 - Methodology for Avoided Unplanned Deforestation

Climate benefits

Total: 18,752,460 tCO2e

Annual average: 625,082 tCO2e

Annual average per ha: 0.6 tCO2e

Monitoring

Climate benefits:

Land cover and land use change and the risk of leakage will be monitored annually using Landsat 5 TM images.

Social and biodiversity safeguards:

Social: The number of fires and the total burned area in the project area will be monitored daily using the real-time fire monitoring system from INPE.

Biodiversity: N.D.

Validation/Verification/Registration/Issuance of credits:

VCS: Intends to apply

Links

VCS (Halitina RED Project Version 1.0) March 8th 2010, http://gec.jp/gec/jp/Activities/cdm-fs/2009/200901Kanematsu_jBrazil_vcspd.pdf (En)

http://gec.jp/gec/jp/Activities/cdm/sympo/2010/t2-1_kanematsu.pdf (Jp)

FY2009 CDM/JI Feasibility Study Report Summary 'Halitina' REDD project (En), http://gec.jp/gec/en/Activities/cdm-fs/2009/200901Kanematsu_eBrazil_rep.pdf

Report of the study on emissions from deforestation and degradation(REDD) in Mato Grosso, Brazil, March 2010,   http://gec.jp/gec/jp/Activities/cdm-fs/2009/200901Kanematsu_jBrazil_rep.pdf

METI Project to promote the spread of technology to combat climate change, 2010: Report of the Brazil Halitina REDD+ project feasibility study (Jp)) http://www.meti.go.jp/meti_lib/report/2011fy/E001721.pdf

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Juma Sustainable Development Reserve Project

Progress bar

Distinctive features

The project proponent, Amazonas Sustainable Foundation, was created in partnership with the Government of the State of Amazonas to trade the environmental services provided by the State's protected areas and to invest all of these funds in the implementation of the protected areas. The Juma Reserve RED Project includes all of the Juma Reserve, which covers over 580,000 ha of Amazonian forest and is located in the municipality of Novo Aripuanã, in the southern region of the State of Amazonas. The proponents suggest that the municipality is at high risk from deforestation, due to the paving of highways, which experience in other parts of the country suggests will led to conversion of forests to pasture and agricultural fields. The strategy to protect the forest and its carbon stocks focuses on development and implementation of the Reserve and its Management Plan, and the generation of funds from carbon credits. The activities anticipated under the under the Reserve Management Plan include strengthening community institutions for forest monitoring, activities to enhance the sustainable production of forest products by local communities, establishment of education centres to share information and provide training related to forest conservation, and provide direct payments to the communities for environmental services (households receive a monthly payment) and quality-of-life improvements such as clean water and healthcare. The Project was validated against the CCB Standards.

Project design snapshot

Location: Municipality of Novo Aripuana, State of Amazonas, Brazil

Proponents: Amazonas Sustainable Foundation

Start date: 2008
Accounting period: 42 years

Area, tenure and forest type
Project area: 329,483 ha

Project zone / reference area: Juma Reserve (589,612 ha) divided into carbon credit area and excluded areas

Land status: Reserve

Forest type: Submontane Ombrophyllous Dense Forest, Lowland Ombrophyllous Dense Forest, Ombrophyllous Dense Alluvial Forest

Drivers and rates of deforestation and forest degradation

Drivers: Small scale agriculture for domestic consumption by the local communities, Illegal timber extraction along road

Rates: N.D. for project area

Scope and strategy

Scope: Avoided deforestation and degradation

Strategy to reduce emissions and/or enhance carbon stocks: Establishment of a Protected Area for Sustainable Use; Management Plan to include environmental monitoring, income generation, community development, & scientific research & education

Strategy to reduce emissions displacement: Project expected to result in positive leakage because forest protection under the Project is expected to reduce deforestation in surrounding areas

Community engagement and participation

Participation by all types of local residents, involved in many lines of work (fishermen, extractivists, farmers, ranchers, etc.) as well as by informal community associations (mothers, professors, artisans, etc.), throughout the process of creating the Juma Sustainable Development Reserve.

Local communities and stakeholders will be involved in the development and implementation of the Reserve's management plan, and in the management decisions regarding the Juma RED Project through its Deliberative Council.

Financing

Project cost estimation: US$105,471 (2005-2007), US$469,175 (2008-2011)

Upfront financing: Amount: US$23 million initial endowment. Providers: Gov. of the State of Amazonas and private investors

Anticipated Mid / Long-term financing: Sale of carbon benefits (US$189 million by 2050)

Reference emissions level

<u>Remote sensing:</u>
Reference period: N.D.

Data sets: As used for SimAmazonia I model

Interpretation: Alluvial forest, Dense forest

<u>Ground-based measurement:</u>
Sampling design: No sampling conducted by project proponent. Instead, data from the RADAMBRASIL Project, which established 13 sample plots inside the Juma Project boundaries, used.

Sample plots: See RADAMBRASIL Project

Carbon pools: AGLB: yes, BGLB: yes, DW: yes, L: yes , SOM: no, HWP: no

Allometrics / Expansion factors: Higuchi et al. (1998)

<u>Without project scenario:</u> Impacts of paving of highways, growth in cattle and agricultural production, population growth, migration, etc., modelled. 62%

deforestation in the Project area by 2050 considered most likely scenario.

With project emissions/removals

Project scenario: Project activities will stop deforestation in the Project area.

Deduction for emissions displacement and management of non-permanence risk: No leakage expected. 10% of carbon stocks in the Project area to be kept as a non-permanence buffer.

Project emissions deduction: No

Methodology: References for estimating carbon stocks - MCT (2006) & Nogueira et al. (2008); SimAmazonia I model used to project deforestation rates.

Climate benefits

Total: 189,767,028 tCO2e

Annual average: 4,518,263tCO2e

Annual average per ha: 13.7 tCO2e

Monitoring

Climate benefits:

Baseline scenario will be monitored through assessment of driver variables and assumptions of SimAmazonia I; Monitoring of land-use and land cover change through the integration of (1) remote sensing analysis for identification of deforestation locations and pressures (based on PRODES, INPE), and (2) *in situ* actions to enforce the law and prevent deforestation and illegal logging inside the project area; Monitoring of carbon stocks and non-CO2 emissions by satellite by the National Institute for Space Research(INPE); Monitoring of the carbon dynamic and forest carbon stocks, participatory monitoring and involving the communities in mapping the threatened areas; Monitoring of large natural disturbances; Deforestation monitoring in surrounding zone of the project (leakage belt).

Social and biodiversity safeguards:

Social: N.D.

Biodiversity: N.D

Validation/Verification/Registration/Issuance of credits:

CCB Standards (first edition): Gold Level

Links

The Juma Sustainable Development Reserve Project,

https://s3.amazonaws.com/CCBA/Projects/The_Juma_Sustainable_Development_Reserve_Project-Reducing_Greenhouse_Gas_Emissions_from_Deforestation_in_the_State_of_Amazonas_Brazil/PDD_Juma_Reserve_RED_Project_v5_0.pdf

Juma Sustainable Development Reserve, http://www.theredddesk.org/sites/default/files/resources/pdf/2010/Book-Juma-English_new1.pdf

FAS website, http://www.fas-amazonas.org/en/secao/juma-redd-project/juma-redd-project

About Juma: Marriot Newsletter, http://www.fas-

amazonas.org/pt/useruploads/files/marriott_newsletter_july_2009.pdf

Juma's Rainforest Report August 2009, http://www.fas-amazonas.org/pt/useruploads/files/newsletter_juma_august_2009_final.pdf

REDD-Monitor 20th May 2010, 'The Carbon Hunters', http://www.redd-monitor.org/2010/05/20/new-frontline-video-the-carbon-hunters/#more-4667

Planet Ark Nov. 25 2009, 'Amazon Forest Schemes Await Strong Climate Pact', http://planetark.org/wen/55628

REDD+ in the Amazon: the Juma Sustainable Development Reserve, http://www.ids.ac.uk/files/dmfile/LHcasestudy12_REDDBrazil.pdf

Rimba Raya Biodiversity Reserve REDD Project

Distinctive features

The Project covers over 90,000 ha of tropical peat swamp forest – the Rimba Raya concession - on the southern coast of Borneo in the Seruyan District in Central Kalimantan province. Roughly half of this area is committed to REDD+. Vegetation classes range from swamp to dipterocarp and kerangas forest. The proponents suggest that all of the area is at risk of deforestation because of planned conversion to establish oil palm plantations. The overarching goal of the project is to utilise funds from the sale of carbon credits generated by the Rimba Raya project to engage the surrounding communities in park-wide conservation efforts, thereby creating a physical and social buffer to the park and providing effective protection to significant carbon stocks and the park's unique biodiversity. Its climate objectives are to secure carbon stocks in the project area and to have a "positive leakage" effect by providing a buffer to reduce forest loss in the adjacent Tanjung Puting National Park. To achieve these outcomes, the proponents proposed establishing the Rimba Raya Reserve, setting up guard posts, creating a fire response system, enrichment planting in degraded forests, a community-based, cash crop agro-forestry project, and other activities. The Project design has been validated against the CCB and VCS standards and the Project is VCS registered. Approval of the Project faced unforeseen hurdles, but appears now to be moving forward.

Project design snapshot

Location: Central Kalimantan, Indonesia

Proponents: PT Rimba Raya Conservation, Infinite-EARTH, Ltd.

Start date: 2008
Accounting period: 30 years

Area, tenure and forest type

Project area: 47,237 ha (but must be lower because government later reduced total project area to 40,000 ha)

Project zone / reference area: 91,215 ha

Land status: State Forest; planned but undevelopped oil palm concession area

Forest type: Mixed freshwater swamp, Peat swamp forest, Lowland dipterocarp forest, Kerangas forest, Marshy swamp

Drivers and rates of deforestation and forest degradation

Drivers: Planned deforestation; government policy and palm oil plantation conversion

Rates: Project region: 4.29 %/yr conversion for oil palm, 2003-2008

Central Kalimantan Peatlands: 5.4 %, 2002-2005

Scope and strategy

Scope: Avoided deforestation, Enhancement of carbon stocks

Strategy to reduce emissions and/or enhance carbon stocks: Establishment of reserve area including prevention of forest fire, rehabilitation of vegetation and agro-forestry program; Community development focusing on basic human needs; Livelihood creation, including use of microfinance

Strategy to reduce emissions displacement: Community programs and ecosystem restoration; Negotiation with and allocation of deforested land to displaced oil palm companies; Monitoring of oil palm companies and community

Community engagement and participation

Village heads in Project Zone communities were consulted during several social surveys and presentations. Evidence of their approval is their signatures on "PT RIMBA RAYA CONSERVATION PROJECT COMMUNITY SUPPORT MEMO".

Project proponents have created a process framework designed to disseminate information about project development and implementation, support community participation in all aspects of the project, and offer opportunities for capacity-building.

The Rimba Raya project will invest in a strategy to provide training and other educational programs with the goal of increasing local capacity to fill more skilled and permanent positions within the project organisation.

Financing

Project cost estimation: $2.5 million

Upfront financing: $500,000

Anticipated Mid / Long-term financing: A European bank will secure the VERs at $1/VER, with the option of purchasing at $4/VER. $25 million over 30 years expected from credit sales.

Reference emissions level

Remote sensing:
Reference period: 2000 – 2008

Data sets: Landsat ETM+

Interpretation: Peat swamp forest (lightly degraded), Peat swamp forest (highly degraded), Peat shrubland (< 20 % tree cover), Kerangas forest, Kerangas open scrub, Low sparse vegetation cover, Seasonally inundated wetlands, Open water

Ground-based measurement:
Sampling design: Systematic sampling

Sample plots: 28 250m X 10m plots for trees > 20 cm DBH; 2 50 X 10 m subplots for trees 10-20 cm DBH. Tree diameter, height and canopy recorded.

Carbon pools: AGLB: yes, BGLB: no, DW: no, L: no, SOM: yes (peat), HWP: yes

Allometrics / Expansion factors: Allometrics based on Brown et al. (2005) and Slaymaker(2003); Destructive sampling to verify equation

Without project scenario: Net emissions from planned conversion to palm oil projected (based on estimated emissions from timber, burning of remainder of biomass and drainage, and on estimated sequestration by replacement vegetation)

With project emissions/removals
Project scenario: All emissions from conversion of forest for palm oil stopped

Deduction for emissions displacement and management of non-permanence risk: 10% non-permanence buffer

Project emissions deduction: No

Methodology: VM0004 - Methodology for Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests

Climate benefits
Total: 104,886,254 tCO2e

Annual average: 3,496,208 tCO2e

Annual average per ha: 74.0 tCO2e

Monitoring
Climate benefits:
Monitoring patrols at guard posts, major waterways and project access points; Land cover change monitoring using satellite imagery such as Landsat, ALOS, Quickbird or Ikonos satellite data; Fire monitoring using Fire Information for Resource Management System (FIRMS) delivery of MODIS; Random sample of biomass plots resurveyed every 5 years; Project boundary and stratification monitored; Leakage monitoring for five years beyond the date at which deforestation was projected to occur.

Social and biodiversity safeguards:
Social:
Monitoring activities to measure the project's impact on community livelihoods. Specific interventions will initially be chosen with reference to the UN Millennium Development Goals and adjusted to meet local needs in a participatory fashion, with target communities helping to identify the appropriate principles, criteria, interventions, and indicators for their area

Biodiversity:
A full biodiversity monitoring plan to be developed within 12 months of validation against the Climate, Community and Biodiversity Standards. In addition to the development of a monitoring plan, Phase II of the Biodiversity Assessment will focus on: (i) the refinement of ecosystem mapping in the project zone through a combination of remote sensing and field surveys; (ii) confirmation of species considered potentially or likely present, in particular species of concern under High Conservation Value (HCV); (iii) systematic avifaunal survey of nearby Lake Sebuluh, (iv) follow-up work for any other HCVs requiring more detailed study.

Validation/Verification/Registration/Issuance of credits:
CCB Standards (2nd edition): Gold Level

VCS: Registered

Links

The Rimba Raya Biodiversity Reserve REDD Project. Avoided (Planned) Deforestation in Central Kalimantan (Borneo) Indonesia. Project Design Document, https://s3.amazonaws.com/CCBA/Projects/Rimba_Raya_Project/CCBA_PDD_2011_05.15_Final%5B1%5D.pdf

VCS Project Database, https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=674&lat=%2D2%2E78051067417254&lon=112%2E170133504944&bp=1

InfiniteEARTH website, http://www.infinite-earth.com/projects-details.html

STOP Planet Action Update May 5,2009, http://www.planet-action.org/automne_modules_files/polyProjects/public/r3081_93_ofi_-_orangutan_-spot_planet_action_update.pdf

Oil & Gas Eurasia 24-08-2010, http://www.oilandgaseurasia.com/news/p/0/news/8459

Purus Project

Distinctive features

The Purus Project is located in the Southwestern Brazilian State of Acre and covers ~35,000 ha, over which the proponents claim to hold clear and exclusive property and carbon rights. An agreement was reached between the proponents, the property holders – Moura and Rosa – and the local communities on the proposed project. 18 communities live within the Project area and mostly practice subsistence agriculture and raise cattle. These activities, combined with road paving and the desire of the property owner to conduct a livestock project, are seen as the major threats to the forests. The overarching objective of the Purus Project is to generate sustainable economic opportunities for the local communities and to implement social projects, while mitigating deforestation and preserving biodiversity. One of the proposed activities is to grant each family residing on the property and who join the Purus Project one hundred hectares of land, subject to a Concession Agreement of Use, for a period of five years. At the end of the fifth year, if the resident has fulfilled commitments with the Purus Project, the one hundred hectares will be transferred to the family's name by a deed and the family will receive payments for environmental services as a result. The proponents state that most communities have agreed to join the Project. The Project was validated against the CCB and VCS standards and is VCS registered.

Project design snapshot

Location: State of Acre, Brazil

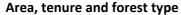**Proponents:** CarbonCo, LLC/Freitas International Group, LLC/Moura & Rosa Investments, LTDA

Start date: 2011
Accounting period: 30 years

Area, tenure and forest type

Project area: 34,702 ha (project property)

Project zone / reference area: N.D.

Land status: Privately-owned land

Forest type: Intact primary forest: Open forest with palm and bamboo, Open alluvial forest with palm

Drivers and rates of deforestation and forest degradation
Drivers: Subsistence agriculture, Cattle breeding, Road paving

Rates: 1.45% (reference region, 2000-2010)

Scope and strategy
Scope: Avoided deforestation and (possibly) enhancement of carbon stocks

Strategy to reduce emissions and/or enhance carbon stocks: Patrols; Agricultural extension training; Secure community land rights; Reforestation; Ecotourism, etc.

Strategy to reduce emissions displacement: Purchasing an additional, adjacent parcel of land; State of Acre's PES scheme; Agricultural extension trainings.

Community engagement and participation
Project Proponents engaged stakeholders during the Project planning process and formalised a process for handling unresolved conflicts and grievances throughout Project implementation. The communities will be given equal opportunity to fill all employment positions. At the end of the fifth year, the community will start to receive payments for ecosystem services as a result of their assistance in achieving the social and environmental goals of the Project. Carbon revenue will also finance community improvements, including social assistance, construction of a primary school, the purchase and operation of a school bus boat, and construction of a health center.

Financing
Project cost estimation: From $325,000 to over $650,000

Upfront financing: Existing funding by Carbonfund.org (the parent company of CarbonCo); Potential in-kind donations and grants

Anticipated Mid / Long-term financing: Sale of carbon credits

Reference emissions level
Remote sensing:
Reference period: 2000-2010

Datasets:

Interpretation: 2 strata- open forest with bamboo and open forest with palm; open alluvial forest with palm

Ground-based measurement:
Sampling design: stratified random sampling

Sample plots: 30 clusters. Clusters of five 23m radius circular plots ≈ 0.83 ha

Carbon pools: AGLB: yes, BGLB: no, DW: yes, L: no, SOM: no, HWP: no

Allometrics / Expansion factors: Brown (1997)

Without project scenario:

With project emissions/removals
Project scenario: Deforestation drivers effectively mitigated.

Deduction for emissions displacement: Yes.

Project emissions deduction:Yes- biomass burning (ex ante)

Methodology: VM0007 - REDD Methodology Modules

Climate benefits

Total: N.D.

Annual average: N.D.

Annual average per ha: N.D.

Monitoring

Climate benefits:

Project Proponents have a climate impact monitoring plan in place which identifies the types of measurements, sampling method, and frequency of measurements.

Social and biodiversity safeguards:

Social: A Participatory Rural Appraisal was conducted by CarbonCo, Carbon Securities, and Moura & Rosa.

Biodiversity: The full monitoring plan will monitor forest cover and habitat availability, and the diversity, distribution, and populations of medium-to-large mammals with wildlife camera traps.

Validation/Verification/Registration/Issuance of credits:

CCB Standards: Gold Level (2nd edition)

VCS: Registered

Links

CCB documents, http://www.climate-standards.org/?s=purus

VCS documents, https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a= 1&t=1

Suruí Forest Carbon Project

Progress bar

Distinctive features

The Suruí Forest Carbon Project covers ~32,000 ha of the Sete de Stembro Indigenous Territory, which is located in the Brazilian Amazon. The area is mostly covered by tropical rain forest (open and dense sub-montane forest). The proponent is the Indigenous Association of the Paiter-Suruí people, who total about 1,200 in the project area, divided between 4 clans. Deforestation is mostly the result of the Paiter-Suruí people allowing loggers, settlers and small farmers to enter the area, to secure cash. Subsidises for large-scale ranching is an underlying driver of deforestation in the region. The proposed project activities are diverse, and include support to the Paiter-Suruí people to conduct surveillance of their land, agroforestry and other activities to improve food security through sustainable production systems, strengthening of the organisations of the Paiter-Suruí to build their automony, and creation of a fund to implement the Project. The Project was validated against the CCB Standards and is aiming to be validated against the VCS.

Project design snapshot

Location: The States of Rondônia and Mato Grosso, Brazil

Proponents: Metareilá Association of the Suruí Indigenous People

Start date: 2009
Accounting period: 30 years

Area, tenure and forest type
Project area: 31,994.2 ha

Project zone / reference area: Area of the Sete de Setembro Indigenous Land (TISS) (247,845 h) Leakage belt (208,038.9ha) is within the TISS.

Land status: Indigenous territory

Forest type: Open sub-montane rain forest with Palms and Lianas; Dense sub-montane Ombrophyllous Forest

Drivers and rates of deforestation and forest degradation
Drivers: Cattle ranching; Logging; Population growth

Rates: Reference region: 0.07%, 2000-2009

Scope and strategy

Scope: Avoided deforestation and degradation; Enhancement of carbon stocks

Strategy to reduce emissions and/or enhance carbon stocks: Forest protection; Livelihood activities to ensure sustainable natural resource use; Strengthening of indigenous people's institutions

Strategy to reduce emissions displacement: Alternative and sustainable sources of income for the local people; Reforestation activities; Establishment of leakage management area

Community engagement and participation

The project includes a free, prior and informed consent process with communities of the TISS, informing the Paiter-Suruí of planned activities and potential impacts and consulting with them about their concerns, suggestions and needs. The process was conducted in three steps during 2009. The first step consisted of meetings and discussions between the Suruí themselves to reach minimum consensus regarding the possibility of development and implementation of the Project. The second stage consisted of meetings among indigenous leaders, representatives of local associations and other project partner institutions. The third stage consisted of field activities with visits and community meetings in the villages, providing information about the project and discussing the technical concepts. At the end of this process, a memorandum of understanding was signed between the four clans.

Local stakeholders will be informed of an open forum to receive and incorporate criticism, comments, and questions and to resolve conflicts related to the implementation and management of project activities.

Financing

Project cost estimation: R$ 4,582,442 (2009-2014)

Upfront financing: N.D.

Anticipated Mid / Long-term financing: Public funds; Sale of carbon credits

Reference emissions level

Remote sensing:
Reference period: 1991 – 2009

Data sets: Landsat 5 (2001,2003, 2004, 2005, 2006, 2007, 2008, 2009)

Interpretation: 3 strata - Ombrophyllous Forest in degradation, Anthropic Vegetation in Equilibrium, Non-forest
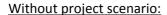
Ground-based measurement:
Sampling design: Stratified systematic sampling

Sample plots: 9 permanent clusters and 13 temporary clusters of sample plots; Each cluster consists of 4 10 X 250 m plots. Trees, palms and lianas - DBH over 10cm, height of palm trees, indigenous names of plants for permanent plots were recorded.

Carbon pools: AGLB: yes, BGLB: yes, DW: no, L: no, SOM: no, HWP: no

Allometrics / Expansion factors: Allometric equations for trees from Nogueira et. al. (2008) and palms from Saldarriaga et. al. (1988).

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Without project scenario:
For projection of deforestation in the baseline scenario, approach "c" of VM0015 methodology was chosen to build a (non-spatial) system dynamics model. Modelling was based on demographics, groups of productive agents among the Surui, economic dynamics, subsistence farming, and vegetation dynamics.

With project emissions/removals
Project scenario: Reduced emissions in accounting area by mapping risks, threats and vulnerability of Indigenous Lands, re-establishing and rehabilitating demarcating lines, constructing bases for surveillance etc., and enhancement of carbon stocks by promoting reforestation and agroforestry systems and providing technical assistance for local production etc.

Deduction for emissions displacement: No

Project emissions deduction: No

Methodology: VM0015 - Methodology for Avoided Unplanned Deforestation

Climate benefits
Total: 6,822,851.2 tCO2e

Annual average: 227,428 tCO2e/yr

Annual average per ha: 7.11 tCO2e/yr/ha

Monitoring
Climate benefits:
The Project will use LANDSAT 5 TM to generate annual deforestation data throughout the reference region. The 36 PSPs will be remeasured. The baseline will be updated based on monitoring of agents, drivers and underlying causes of deforestation as part of project surveillance.

Social and biodiversity safeguards:
Social:
The methodology used to define the expected impacts of the Project on the Surui communities, as well as the selection of indicators and building a plan to monitor these indicators is based on the "Manual for Social Impact Assessment of Land-based Carbon Projects." This methodology aims to use participatory analysis tools for with and without project scenarios, definition of impacts and preparation of a comprehensive plan for monitoring, including indicators, frequency analysis and monitoring, among others. The monitoring of variables in order to verify that the project is actually generating positive benefits to communities and to allow an assessment regarding possible negative impacts will be done every four years, through workshops with direct participation of the Surui and analysis of indicators from socioeconomic surveys, made directly in the field

Biodiversity:
Monitoring will be conducted of the species used by the local communities, including the synergetic fauna (mammals, birds and fish) and use of timber and non-timber forest products, and of species of "special interest", i.e. endangered or critically endangered, endemic species and species that cause economic losses to communities (generate conflict).

Validation/Verification/Registration/Issuance of credits:

CCB Standards: Gold Level (Mar 30, 2012)

VCS: Under validation

Links

Idesam Website,   http://www.idesam.org.br/ingles/projetos/redd.php

Associação Metareilá do Povo Indigena Surui (2010). Free, Prior and Informed Consent Surui Carbon Project,   http://www.forest-trends.org/documents/files/doc_2693.pdf

Thiel, A. (2012). The Surui become the first indigenous tribe to earn carbon credits under internationally recognized standards, Forest Trends - Recent News, http://www.forest-trends.org/announcements.php?id=232

Surui: Carbon finance and the protection of indigenous peoples' forests in the Amazon, http://www.forest-trends.org/documents/files/doc_2599.pdf

Latin American and Caribbean Network of Environmental Funds (2011). Case Studies 'Funbio,Brazil- the Surui Carbon Fund, http://toolkit.conservationfinance.org/sites/default/files/documents/redlac-capacity-building/3-roles-environmental-funds-redd.pdf

Leuser Ecosystem REDD Project

Distinctive features

The Leuser Ecosystem is located in the province of Aceh and has a total area of 2,280,000 ha, most of which is forested. The proponents consider it the last place in Southeast Asia that is of sufficient size and quality to maintain viable populations of rare and charismatic species such as tigers, orangutans, rhinos, elephants, and clouded leopard. The Leuser Ecosystem was declared to be a Strategic Area - an area that is of national importance, especially for economic and environmental reasons. It is illegal to undertake any activities inside the Leuser Ecosystem that are not directly related to either the protection or restoration of the ecosystem. The proponents identify poorly controlled infrastructure development, mining, conversion, settlement, encroachment and illegal logging to be the major threats to the forest. The activities to address these drivers are not well articulated. Sustainable timber plantations, community agro-forestry, renewable energy, and ecotourism are proposed as low carbon investment opportunities. Electric power generation and community forestry are considered high priorities.

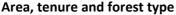# Project design snapshot

Location: Aceh province, Indonesia

Proponents: Global Eco Rescue, Government of Aceh

Start date: N.D.
Accounting period: 30 years

Area, tenure and forest type
Project area: Project area: 2,280,000 ha   Accounting area: Not specified

Project zone / reference area: N.D.

Land status: Declared to be a Strategic Area of national importance, especially for economic and environmental reasons. The Governor of Aceh established a special body (BPKEL) to manage the Leuser Ecosystem.

Forest type: N.D.

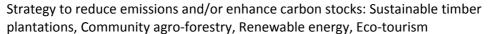**Drivers and rates of deforestation and forest degradation**
Drivers: Poorly controlled infrastructure development; Mining; Palm oil; Settlement expansion; Smallholder encroachment; Illegal logging.

Rates: Mixed data given. 1 figure provided is 2%/yr, another is 5,500 ha/y for 2000 - 2009 (=0.24%/yr).

Scope and strategy

Scope: N.D.

Strategy to reduce emissions and/or enhance carbon stocks: Sustainable timber plantations, Community agro-forestry, Renewable energy, Eco-tourism

Strategy to reduce emissions displacement: Establishment of nurseries and tree plantations.

Community engagement and participation

N.D.

Financing

Project cost estimation: N.D.

Upfront financing: N.D.

Anticipated Mid / Long-term financing: Sale of carbon credits

Reference emissions level

Remote sensing: N.D.

Reference period: N.D.

Data sets: N.D.

Interpretation: N.D.

Ground-based measurement: N.D.

Sampling design: N.D.

Sample plots: N.D.

Carbon pools: Allometrics / Expansion factors: N.D.

Without project scenario:

N.D.

With project emissions/removals

Project scenario: Not clearly stated

Deduction for emissions displacement and management of non-permanence risk: 10-30% of credits placed in buffer.

Project emissions deduction: N.D.

Methodology: Methodologies proposed: Methodology for Estimating Reductions of GHG Emissions from Mosaic Deforestation; Methodology for Estimating Reductions of GHG Emissions from Frontier Deforestation; Terrestrial Carbon Group's Three Filters approach for BAU projection

Climate benefits

Total: N.D.(180 - 240,000,000 tCO2e, rough estimate)

Annual average: (6 - 8,000,000 tCO2e, rough estimate)

Annual average per ha: (2.6 - 3.5, rough estimate)

Monitoring

Climate benefits: N.D.

Social and biodiversity safeguards:

Social: A local Acehnese company, Mitra Koalisi, has conducted a comprehensive Social and Community Assessment. The intention of the study is to fulfill the requirements of the CCB Standards and to guide project decisions concerning community consultation, benefit-sharing and grievance mechanisms.

Biodiversity: N.D.

Validation/Verification/Registration/Issuance of credits:

Intends to apply to CCBA and VCS.

Links

Leuser Public Private REDD Project,
http://www.gcftaskforce.org/documents/May_Aceh/Day_3/Global%20Eco%20Rescue%20Presentation%20(May%2020%202010).pdf

Forest Land Use and Climate Change in North Sulawesi in the Poigar Forest

Distinctive features

This REDD project covers one forest management unit (KPH) in North Sulawesi. Since 1999, the Indonesian government has been seeking to decentralise and professionalise forest management, as well as to enhance the economic value of forest utilisation, by dividing the national forest estate into KPH. The Poigar KPH was one of the original 14 KPH models developed by the Indonesian government. It comprises protection forest, limited production forest and production forest. The proponents include international organisations and a project team created by provincial decree. The proponents suggest that encroachment by local communities to establish plantations is the main cause of deforestation. The goal of the Project is to address deforestation over 20,000 ha of lowland and upland intermediate forests by involving local communities in sustainable development management practices through REDD financing. The proposed activities include reforestation of degraded land by local communities and improvement of forest management.

Project design snapshot

Location: Bolaang Mongondow and Minahasa Selatan Districts, North Sulawesi Province, Indonesia
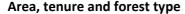
Proponents: Province of North Sulawesi, Green Synergie, Office National des Forets

Start date: N.D.
Accounting period: 30 years

Area, tenure and forest type
Project area: 19,800 ha (accounting area)

Project zone / reference area: N.D. (total project area = accounting area plus deforested areas inside KPH = total 35, 000 ha.

Land status: State-owned; Model KPH (forest management unit) site. Use status: Protection Forest – 1,541 ha, Limited Production Forest – 15,660 ha, Production Forest – 17,790 ha.

Forest type: Lowland and upland intermediate forests (Consists of natural forests with minor disturbance associated with traditional use and limited timber extraction, natural forests with timber extraction resulting in large canopy gaps, and indigenous tree species in agroforestry areas)

Drivers and rates of deforestation and forest degradation
Drivers: Forests cleared by local communities for small scale plantations

Rates: 2% (period unclear)

Scope and strategy

Scope: Avoided deforestation and degradation

Strategy to reduce emissions and/or enhance carbon stocks: Reforestation; Improvement of forest management over 20,000 ha of forests by involving communities in sustainable management practices; Restoration of degraded forests; Creation of biological corridor.

Strategy to reduce emissions displacement: Included the Project within the Forest Management Unit (KPH); Develop ecotourism and other sustainable economic activities.

Community engagement and participation

Local communities will be involved in project design, in collaboration with all levels of authority. Due to the establishment of the KPH, a strong network of all local communities concerned with the forest has been developed and socialised on REDD initiatives.

Financing

Project cost estimation: N.D.

Upfront financing: Amount: Estimated budget, €8-10 million

Providers: First phase submitted for funding to French Global Environmental Facility (FFEM).

Anticipated Mid / Long-term financing: Potential Benefits from carbon over 30 years: 20M€ to 100M€

Reference emissions level

Remote sensing: under development
Reference period: under development
Data sets:
Interpretation:

Ground-based measurement: under development
Sampling design:
Sample plots:
Carbon pools:
Allometrics / Expansion factors:
Without project scenario: N.D.

With project emissions/removals

Project scenario: N.D.

Deduction for emissions displacement and management of non-permanence risk: N.D.

Project emissions deduction: N.D.

Methodology: N.D.

Climate benefits

Total: 5,000,000 tCO2e

Annual average: 170,000 tCO2e

Annual average per ha: 8.59 tCO2e

Monitoring

Climate benefits:

N.D.

Social and biodiversity safeguards:

Social: N.D.

Biodiversity: N.D.

Validation/Verification/Registration/Issuance of credits:

N.D.

Links

ONF International: REDD in North Sulawesi KPH Poigar Project, http://www.planet-action.org/automne_modules_files/polyProjects/public/r3089_93_redd_-_dp_poigar_onfi.pdf

ONF International (2009). Forest land use and climate change in North Sulawesi, http://www.planet-action.org/automne_modules_files/polyProjects/public/r4049_93_analysis_brief_flucc_sulut.pdf

Budongo-Bugoma Landscape REDD+ Project

Progress bar

Distinctive features

A basic feasibility study of the proposed Project has been conducted, but its geographical scope and activities are still to be decided. The Budongo-Bugoma landscape contains patches of mainly degraded tropical high forest and woodland under various forms of tenure. An average household may own 1-5 ha, though this is generally not officially registered or surveyed. Expected profits from woodlands are low and there are strong benefits from conversion to private tenure and agriculture. The project would mainly focus on private forest patches. A key element of the project strategy would be the formation of networks among forest owners in partnership with the Jane Goodall Institute. Building on the forest owner network, the project may support acquiring land titles for forest owners and improved agricultural practices, and promote woodlot establishment, agroforestry and forest-based enterprises.

Project design snapshot
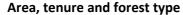
Location: Hoima, Kibaale, Kyenjojo districts, Uganda

Proponents: Jane Goodall Institute (lead organisation at feasibility study stage)

Start date: Assumed to be 2011 for purpose of calculations
Accounting period: 30 years

Area, tenure and forest type

Project area: Not yet fixed, but calculations are for project area of 27,000 ha

Project zone / reference area: N.D.

Land status: Customary tenure is the most common tenure type in the project landscape; In the Budongo-Bugoma landscape, an average household may own 1-5 hectares (but some own significantly more). Land is generally not officially registered or even properly surveyed.

 Forest type: Medium-altitude, moist, semi-deciduous forests (patches of mainly degraded tropical high forest and woodland)

Drivers and rates of deforestation and forest degradation
Drivers: Deforestation drivers: Conversion to agriculture for commercial production and subsistence farming. Degradation drivers: Unsustainable timber harvesting.

Rates: Hoima, Kibaale and Kyenjojo distrcts: 4.5%, 2000-2005, 2.5%, 1990-2005

Scope and strategy

Scope: Avoided deforestation and degradation; Enhancement of carbon stocks.

Strategy to reduce emissions and/or enhance carbon stocks: Improve agricultural practices; Support registration of private forests, community forests and communal land associations; Diversify income sources for farmers by supporting forest-based enterprises; Promote agroforestry and establishment of woodlots for firewood; Organise forest patches and owners into networks for implementing project activities; Build governance and administrative capacity of local and community institutions.

Strategy to reduce leakage: None.

Community engagement and participation

A key ingredient will be the formation of networks among forest owners in partnership with the Jane Goodall Institute. The project may support acquiring land titles for forest owners. Next steps outlined in the feasibility assessment: A first step could be to map the landscape of potential participants, including NGOs, government institutions, community organisations, and even key individual landholders. A thorough consultation of community members and landholders should be conducted early on to determine sufficient and sustainable interest in this type of project.

Financing

Project cost estimation: N.D.

Upfront financing: Providers: American Electric Power (Indirectly: UNEP/GEF, NORAD)

Anticipated Mid / Long-term financing: Sale of carbon credits

Reference emissions level

Remote sensing: Not conducted

Reference period: Not decided (1990-2005 and 2000-2005 considered appropriate)

Data sets: N.D.

Interpretation: N.D.

Ground-based measurement: Not conducted

Sampling design: N.D.

Sample plots: N.D.

Carbon pools: AGLB: yes, BGLB: no, DW: no, L: no, SOM: no, HWP: no   Deadwood and harvested wood products will considered later

Allometrics / Expansion factors: N.D.

Without project scenario: Historical emissions projected and adjusted using forest scarcity factor

With project emissions/removals

Project scenario: It is assumed that project activities would only be 60% effective at preventing deforestation initially and would gradually reach 80% effectiveness after 5 years and thereafter.

Deduction for emissions displacement and management of non-permanence risk: 30%, due to avoided deforestation: 20% activity shifting by local farmers, 10% displaced timber harvest (30% discount of net benefits applied for non-permanence risks)

Project emissions deduction: No (Considered negligible)

Methodology: To be decided

Climate benefits
Total: 3,010,000 tCO2e

Annual average: 100,333 tCO2e

Annual average per ha: 3.7 tCO2e

Monitoring
Climate benefits:
N.D.

Social and biodiversity safeguards:
Social: N.D.
Biodiversity: N.D.

Validation/Verification/Registration/Issuance of credits:
CCBS: considered applicable

VCS: considered applicable

Plan vivo: considered applicable

Links
Budongo-Bugoma Landscape REDD+ Project: Feasibility Assessment, http://www.forest-trends.org/documents/files/doc_2549.pdf

A. Plumptre et.al.(2010) Biodiversity surveys of Bugoma forest reserve, smaller central forest reserves, and corridor forests south of Bugoma, http://www.zora.uzh.ch/57958/1/20110124_WCS-GEF-AR_Biodiversity_surveys_report-final.pdf

Merang REDD Pilot Project

Progress bar

Distinctive features

The Project site covers approximately 24,000 ha within the Merang peat swamp forest area, the last contiguous peat swamp forest in South Sumatra province. The Ministry of Forestry is the executing agency, and the district and provincial forestry agencies, with support from the German government, are responsible for implementation. The Regent of Musi Banyuasin District passed decrees approving the Project and establishing a Forest Management Unit (KPH) that includes the project area. The Project area is a former production forest and the forest has mostly been degraded by fire, illegal logging and canal digging. Conversion to plantations is thought to pose a threat to the forests. The new KPH will be responsible for seedling production, village nursery development, reforestation by local communities and hydrological restoration by canal blocking. The KPH and the community will be trained on integrated fire management. The Project aims to generate payments for environmental services, but it is unclear whether it is aiming for independent validation of its environmental services claims.

Project design snapshot

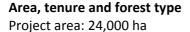**Location:** South Sumatra Province, Indonesia

Proponents: Ministry of Forestry of Indonesia, District Forestry Agency of the Musi Banyuasin District, Provincial Forestry Agency of South Sumatera

Start date: 2008
Accounting period: 4 years

Area, tenure and forest type
Project area: 24,000 ha

Project zone / reference area: N.D.

Land status: Production Forest Management Unit (KPHP)

Forest type: Peat swamp forest - mostly degraded: shrubs, bushes, and tree cover < 10% , ~ 8,931 ha (37%); degraded primary forest and secondary forest ~ 15,161 ha (63 %)

Drivers and rates of deforestation and forest degradation
Drivers: Fire; Logging (both legal and illegal logging) ; Canal digging for log transportation

Rates: N.D.

Scope and strategy

Scope: Avoided deforestation and degradation; Stock enhancement through reforestation

Strategy to reduce emissions and/or enhance carbon stocks: Rehabilitation and development of management structure of peat lands area; Fire management and illegal activity measures through community participation and sustainable natural resource management.

Strategy to reduce leakage: N.D.

Community engagement and participation

Targets and activities of the Community Development components consist of:
1. Facilitate the establishment of the Community Forest Rangers (CFRs) or Kelompok Masyarakat Peduli Hutan (KMPH); recruited from local village communities;
2. Enhance KMPH members capacity and support institutional strengthening;
3. Introduce alternative IGAs and facilitate the establishment of groups' savings and loan schemes to function as embryo for village micro finance service units;
4. Promote and encourage active participation of local communities in forest protection and rehabilitation to enter into the REDD+ compensation mechanism.

Financing

Project cost estimation: N.D.

Upfront financing: German Federal Government's Climate Initiative (1.4 million Euro grant)

Anticipated Mid / Long-term financing: Sale of carbon credits

Reference emissions level
Remote sensing:
Reference period: N.D.

Data sets: Satellite-based land cover information from 1989-2007

Interpretation: 8 strata

Ground-based measurement:
Sampling design: Random stratified sampling

Sample plots: 45 nested rectangular / square plots: 2mX2m, litter and undergrowth; 5mX5m, sapling 2cm>DBH<10cm; 10mX10m, poles 10cm>DBH 20cm; 20mX20m, trees 20cm>DBH<35cm; 20mX125m, trees DBH>35cm

Others: Peat depth survey, 125 locations

Carbon pools: AGLB: yes, BGLB: yes, DW: yes, L: yes, SOM: yes, HWP: no

Allometrics / Expansion factors: Allometrics from Brown (1997) and Cairns et al. (1997); Destructive sampling.

Without project scenario: Historical emissions appear to be projected as baseline

With project emissions/removals

Project scenario: N.D.

Deduction for emissions displacement and management of non-permanence risk: N.D.

Project emissions deduction: N.D.

Methodology: Own.

Climate benefits
Total: N.D.

Annual average: 540,000 tCO2e

Annual average per ha: 22.5 tCO2e

Monitoring
Climate benefits:
Improved of carbon stock estimate methodology using locally derived equations, etc.; Landscape-scale land cover assessment using remote sensing; Plot measurement.

Social and biodiversity safeguards:
Social: Monitoring of illegal logging activities was conducted using field surveys as well as remote sensing. Local communities have been involved in the direct monitoring of illegal logging on a regular basis.

Biodiversity: A number of biodiversity sectors were measured, monitored and documented. Local species have been identified, and seedlings produced and used in rehabilitation areas.

Validation/Verification/Registration/Issuance of credits:
N.D.

Links
Merang REDD Pilot Project (MRPP) Summary of Results and Achievements, http://www.redd-indonesia.org/images/abook_file/Final_Report_compOct2011_3.pdf

MRPP presentation file August 2010, http://www.asiaforests.org/media/document/afp9/WG2%20-%20Karl-Heinz%20Steinmann%20-%20GTZ.pdf

Tier 3 Biomass Assessment for Baseline Emission in Merang Peat Swamp Forest, http://www.forestsclimatechange.org/fileadmin/tropical-workshop/Posters/10_Solichin_Tier%203%20carbon%20stock%20assessment.pdf

Merang REDD Pilot Project (MRPP) Community Development, http://forclime.org/merang/CD%20Eng%20Jan11%5E.pdf

April Salumei REDD Project

Progress bar

Distinctive features

The April Salumei REDD Project is located in East Sepik and is one of 5 REDD+ demonstration activities planned by the PNG Forestry Authority. The Project area of over 170,000 ha mostly comprises swamp associated forests, lowland and hill forests, and lower and higher montane forests. Land within the Project area is under customary tenure, but the rights to the timber had been transferred from the customary owners to the State under a Forest Management Agreement (FMA). The FMA was revoked by the High Court after the Department of Environment and Conservation raised concerns that logging was planned in an environmentally sensitive area. The goal of the Project is to use REDD+ payments to prevent logging of the Project area and to assist the development of sustainable projects for local communities. The Project does not use an historical emissions baseline, but instead bases its reference level on the likely removal of logs under the FMA. The Project has been validated against the CCB Standards and is aiming for validation against the VCS.

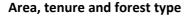## Project design snapshot

Location: East Sepik province, PNG

Proponents: Rainforest Project Management Limited (RPM) (under the Pacific Forest Alliance)

Start date: 2009
Accounting period: 25 years

Area, tenure and forest type
Project area: 150,620 ha

Project zone / reference area: 15,520km^2

Land status: Traditional and customary ownership by tribal groups and clans

Forest type: Tropical Rainforest (swamp forests, lower montane forest, woodlands)

Drivers and rates of deforestation and forest degradation
Drivers: Logging; Shifting agriculture; Agriculture projects, especially rubber, cocoa and coconut plantations

Rates: National estimate for tropical forests: 1.41%, 2002

Scope and strategy

Scope: Avoided deforestation and degradation

Strategy to reduce emissions and/or enhance carbon stocks: Prevent commercial logging; Development activities - fund for local projects; Upgrade education and health services; Improve transportation and communications

Strategy to reduce leakage: None

Community engagement and participation
Each of the 4 landowner companies will have a Community Steward, Biodiversity Steward and Climate Steward trained and employed by the project to monitor and report the respective project data and activities to their landowner group.

The April Salumei project will provide employment opportunities for all members of the community. A specific role of the community steward will be to annually survey all community groups to ensure they have been represented and are aware of the ongoing activities of the project. The Project Developer and Project Superintendent will encourage the Community Steward in each area to be selected from the local "Women's Group" and role specific training will be provided if an employee is identified as having a skill deficiency in a particular area.

Landowners will receive 60% of income from carbon credit sales.

Financing
Project cost estimation: N.D.

Upfront financing: N.D.

Anticipated Mid / Long-term financing: Sale of carbon credits

Reference emissions level
Remote sensing:
Reference period: No specified

Data sets: N.D.

Interpretation: None. Tier 1 default used

Ground-based measurement: Not yet conducted
Sampling design: N.D.

Sample plots: The approach of the "tool to estimate the amount of monitoring plots in a CDM A/R activity" will be applied. This includes a preliminary measurement plot established in the main strata of the project area, and sampling on 30 temporary plots established in each stratum in order to obtain preliminary data for each stratum.

Carbon pools: AGLB: yes, BGLB: yes, DW: no, L: no, SOM: no, HWP: no

Allometrics / Expansion factors: None. Tier 1 default used

Without project scenario: All 150,000 ha of project area will be deforested within 25 years

With project emissions/removals
Project scenario: Prevent the planned commercial logging of the project area and to assist the development of sustainable projects for local communities by the

development of infrastructure, accessibility and communications

Deduction for emissions displacement and management of non-permanence risk: No.

Project emissions deduction: Intention to calculate project emissions later. 10% of credits set aside for potential project emissions.

Methodology: Own. Reference: IPCC GPG using Tier 1 default.

Climate benefits
Total: 88,597,230 tCO2e
Annual average: 3,543,889 tCO2e
Annual average per ha: 23.5 tCO2e

Monitoring
Climate benefits:
The essential approach to monitor leakage in this project is to demonstrate that the area of land acquired and/or allocated for legal commercial timber harvesting by Government Agencies does not increase as a result of the project activity.

Social and biodiversity safeguards:
Social:

Demographic growth, Road expansion in project or buffer area/Road improvement in project or buffer area/ Road use expansion, new settlements in project or buffer area etc.

Biodiversity:

An annual survey will be undertaken by the project through a suitably qualified third party such as WWF to assess the changes both positive and negative in the biodiversity of the area. This will include particular attention to species with High Conservation Values (HCV) and occurrence of invasive species and native species generally.

Validation/Verification/Registration/Issuance of credits:
CCB Standards (2nd edition): Gold Level

VCS: Intends to apply

Links
Climate Community and Biodiversity Standards Project Design Document. https://s3.amazonaws.com/CCBA/Projects/April_Salumei_Sustainable_Forest_Management_Project/April+Salumei+PDD+Validated+-+June+2011.pdf

Consolidated Carbon Projects website

REDD+ desk website, http://www.theredddesk.org/countries/papua_new_guinea/info/activity/april_salumei_sustainable_forest_management_project_east_sepik

Kamula Doso Improved Forest Management Carbon Project

Progress bar

Distinctive features

The proposed project area consists of 790,000 ha of mostly lowland primary forest in the Middle Fly District, Western Province. The project comprises all of the area under the Kamula Doso Forest Management Agreement (FMA), under which the customary landowners had transferred the timber rights over the area to the State. The National Court has ruled that the FMA is not a valid agreement. The project developer proposes protecting the carbon stocks in the FMA area from logging, and states that Tumu Timbers, a landowner company, is now representing all the customary landowners in the development of the carbon project. The project has attracted controversy and the government has distanced itself from it.

Project design snapshot

Location: Middle Fly District, Western Province, PNG

Proponents: Project proponent: Tumu Timber Development Limited
Project developer: Nupan (PNG) Trading Corporation Ltd

Start date: 2011 used in calculations as first year of payments from climate benefits (project had not started as of Feb. 2013)
Accounting period: 80 years (but carbon benefits estimated for 40 years)

Area, tenure and forest type
Project area: (Accounting area: 666,211 ha)

Project zone / reference area: Total area of the Kamula Doso FMA, 791,200 ha

Land status: Under customary ownership of local clans through 52 incorporated land groups

Forest type: Mixed tropical lowland forests (Medium Crowned Forest, Dry Evergreen Forest, Mixed Swamp Forest)

Drivers and rates of deforestation and forest degradation
Drivers: Selective logging project planned for the area.
Rates: N.D.

Scope and strategy

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Scope: Avoided deforestation and degradation

Strategy to reduce emissions and/or enhance carbon stocks: Avoid a selective logging project; Use carbon finance to provide community benefits

Strategy to reduce emissions displacement: Promotion of the project to influence government and public perception of forest preservation

Community engagement and participation

A Project Transition Board will be established in Phase 1 to function as an intermediary facilitator. The Project Board will comprise key community and external stakeholders.

During Phase 2 a permanent Community Development Organisation (CDO) will be identified/established by the Transition Board. The CDO and its Board will be composed of key stakeholders, experts and administrators who will be tasked to organise the resources generated by the carbon credits. Strategic decision-making responsibility will remain with the community decision-makers and the Tumu Timber Board. Tumu Timbers is owned by the 52 Kamula Doso ILGs.

The project proponent will recruit from the local communities to fill a number of roles to undertake a) forest inventory, b) biodiversity assessment and monitoring and c) forest protection.

Financing

Project cost estimation: $2,670,000 (2008-2013)

Upfront financing: N.D.

Anticipated Mid / Long-term financing: Sale of carbon credits

Reference emissions level

Remote sensing:
Reference period: N.D.

Data sets: Not used.

Interpretation: No stratification. Mean carbon stock / ha extracted from pervious forest inventory data and applied over whole accounting area.

Ground-based measurement:
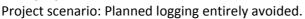Sampling design: Planned.

Sample plots:

Carbon pools: AGLB: yes, BGLB: no, DW: yes, L: no, SOM: no, HWP: yes

Allometrics / Expansion factors: N.D.

Without project scenario:
Stock change calculated from dead wood created during timber harvest and from wood product conversion and retirement, less regrowth in land parcels harvested in prior years.

With project emissions/removals

Project scenario: Planned logging entirely avoided.

Deduction for emissions displacement and management of non-permanence risk: Considered insignificant

Project emissions deduction: VCS National Carbon Stock leakage factor of 30 % used

Methodology: VCS IFM LtPF Methodology

Climate benefits
Total: 134,940,667 tCO2e (40 years)
Annual average: 3,373,516.7 tCO2e
Annual average per ha: 5.1 tCO2e

Monitoring
Climate benefits:
Project carbon stock changes and GHG emissions estimates updated every 3 years from monitoring data and subject to re-verification under the VCS. Market leakage monitored through analysis of official timber production volumes and through timber production activity in Western province.

Social and biodiversity safeguards:
Social: Long-term monitoring of the project's community impacts should be owned by the community.

Biodiversity: Select, inventory and monitor biodiversity components and services provided by comparing several indicators (species numbers, incidence of target species and ecosystem health parameters) in the project area and in adjacent harvested forests.

Validation/Verification/Registration/Issuance of credits:
CCB Standards: Undergoing validation
VCS: Seeking validation

Links
Project Design Document for Validation at CCBA Kamula Doso Improved Forest Management Carbon project, https://s3.amazonaws.com/CCBA/Projects/Kamula_Doso_Improved_Forest_Management_Carbon_Project/KD_CCB_PDD_final_v1_1.pdf

CarbonoWontok.org,   http://www.carbonowontok.org/

The Economist (Jun 6th 2009). Papua New Guinea and carbon trading: Money grows on trees, http://www.economist.com/node/13724646

Forest Carbon Portal website, http://www.forestcarbonportal.com/project/kamula-doso-improved-forest-management-carbon-project

REDD monitor: REDD Projects in PNG "Legally Untenable"
http://www.forestcarbonportal.com/project/kamula-doso-improved-forest-management-carbon-project

Kalimantan Forests and Climate Partnership

Progress bar

Distinctive features

The KFCP is a demonstration activity under the Indonesia-Australia Forest Carbon Partnership, which was established in June 2008. The Australian government initially set aside 30 million AUD for the KFCP. The KFCP targets 120,000 hectares of tropical peat land in Central Kalimantan that was severly degraded by the ill-fated Ex-Mega Rice Project, which sought to transform Central Kalimantan's peat forests into rice fields. The KFCP aims to reduce emissions over the project area through a variety of protection and restoration activities, some of which would be linked to incentive-based payments to forest-dependent communities, and develop approaches to carbon measurement that can be linked with national systems. The rehabilitation of peat swamps is expected to include canal damming, promoting of natural and assisted regeneration, and managing fire. Progress reported by the proponents includes village agreements with 9 participating villages and progress on methodologies to gauge the success of peat land rehabilitation programs. However, the value of the KFCP was challenged by the leader of the Australian Green Party at a Senate Committee hearing in 2012 on the basis that it had performed well below expectations in achieving its objectives.

Project design snapshot

Location: Northern part of Ex Mega Rice Project, Central Kalimantan, Indonesia

Proponents: Governments of Indonesia and Australia

Start date: 2008?
Accounting period: N.D.

Area, tenure and forest type
Project area: Project area: 120,000 ha (accounting area not specified)
Project zone / reference area: N.D.
Land status: Mostly Production Forest under the Ministry of Forestry
Forest type: Logged-over and degraded forest on peat dome

Drivers and rates of deforestation and forest degradation
Drivers: Fire for agriculture to claim land; Illegal logging and gold mining
Rates: N.D.

Scope and strategy

Scope: Avoided deforestation and degradation; Enhancement of carbon stocks (?)

Strategy to reduce emissions and/or enhance carbon stocks: Reduce deforestation and degradation of peat swamps by engaging villagers and identifying livelihood alternatives, and rehabilitating peat swamp forests through damming canals, promoting natural regeneration in degraded areas and natural or artificial regeneration in deforested areas, and managing fire and land use.

Strategy to reduce emissions displacement: No countermeasures specified, but monitoring of GHGs and land use change around project area planned

Community engagement and participation

The KFCP will work with communities to identify livelihood alternatives that are in keeping with the overarching goal of reducing emissions; and are also financially rewarding, sustainable, and sensitive to gender and social inequality. Implementing partners (IP) will focus on helping communities and government work together to resolve land tenure issues and will identify and try to defuse potential causes of conflict. Principles for community engagement have been established.

Many important milestones have been achieved, including reaching Village Agreements with nine participating villages to work with KFCP to achieve REDD+ outcomes and so gain access to benefits. More than two million tree seedlings of native peat swamp forest species have been produced in village nurseries and planted by communities to support the reforestation program. A livelihoods improvement program has helped rubber farmers increase the quality and price of their latex and is expanding to include other sustainable activities. The project has established capacity building programs and other initiatives that engage local communities, and has also completed designs for canal blocking

Financing

Project cost estimation: AUD 60 million for initial onsite interventions

Upfront financing: Amount: AUD 31.4 million, 2008 - 2012

Providers: Gov. of Australia

Anticipated Mid / Long-term financing: Australia Govt. aimed to raise an additional AUD 70 million from public & private sources

Reference emissions level

Remote sensing: under development
Data sets: Lidar will be used to monitor changes in peat depth
Interpretation:

Ground-based measurement: under development

Without project scenario**:** under development

With project emissions/removals: under development

Climate benefits

N.D.

Monitoring

Climate benefits:

For the KFCP, the two key parameters to be monitored are:

1. Change in forest cover which includes change in forest area and reduction in forest cover; and

2. Change in carbon stocks and emissions of non-CO2 gases.

Permanence – The KFCP will measure and monitor forest carbon stocks over the life of the KFCP demonstration activity.

Additionality –The KFCP will collect information for the site-specific REL prior to commencing interventions. The KFCP will attempt to monitor changes in emission levels against the site-specific REL over the life of the project to assess whether interventions have resulted in reduced emissions and show additionality.

Leakage – The KFCP will measure and monitor GHG for the KFCP site, and monitor a regional area directly surrounding the site such as adjacent districts or the Ex-Mega Rice Project Area. As well as carbon accounting and monitoring, the KFCP will also look to monitor changes in land use behaviour in the areas immediately surrounding the site to collect information and report any changes as a result of REDD activities.

Social and biodiversity safeguards:
N.D.

Validation/Verification/Registration/Issuance of credits:
N.D.

Links
KFCP design document,
http://www.ausaid.gov.au/countries/eastasia/indonesia/Documents/iafcp-kalimantan-design-doc-pd.pdf

AusAID website,
http://www.ausaid.gov.au/Publications/Pages/7610_8464_9778_3906_689.aspx

Forest Peoples Programm (2011). Central Kalimantan: REDD+ and the Kalimantan Forest Carbon Parthership (KFCP)
http://www.forestpeoples.org/sites/fpp/files/publication/2011/10/central-kalimantan-briefing-2.pdf

Indonesia-Australia Forest Carbon Partnership (IAFCP) Annexes,
http://www.ausaid.gov.au/countries/eastasia/indonesia/Documents/iafcp-ipr-annexes.pdf

KFCP Socio-Economic Baseline Report (2009),
http://www.iafcp.or.id/uploads/20121128120700.CARE__Final_Baseline_Report_and_Exec_Summary_Nov_2009.pdf

E. Olbrei and S. Howes (2012). A very real and practical contribution? Lessons from the Kalimantan Forests and Climate Partnership,
http://devpolicy.anu.edu.au/pdf/papers/DP_16_-_A_very_real_and_practical_contribution.pdf

A. D. Kaspar (April 18, 2012). REDD Alert in Kalimantan as AusAid Initiative Stumbles, http://www.thejakartaglobe.com/news/redd-alert-in-kalimantan-as-ausaid-initiative-stumbles/512397#Scene_1

Mongabay.com (March 27, 2012). Australia-led peat conversation project in Borneo failing to deliver on hype
http://news.mongabay.com/2012/0327-kfcp_australia.html

Mawas Peatlands Conservation Project

Progress bar

Distinctive features

The Mawas Peatlands Conservation Project covers 240,000 hectares of peat swamp forest in the northern part of the Ex-Mega Rice Project area in Central Kalimantan. The proponent, the Borneo Orangutan Survival Foundation, aims to propose the Project together with the Central Kalimantan government and have it recognised as an official demonstration activity. The proponent expects further degradation of the area from illegal logging and the construction of canals, peat drainage, wildfires and conversion to plantations. The strategy proposed to deal with these drivers includes cooperative work agreements with communities that choose to participate in the Project, training on fire fighting, programmes to build alternative local livelihoods, and monitoring of carbon stocks (eventually by local actors). The proponent reports that with funding from the Dutch government, some programmes involving communities in land rehabilitation have already been conducted and, based on an agreement with Shell Canada, carbon accounting work has been undertaken. The methodologies were apparently reviewed in 2009 by Rainforest Alliance. Based on Presidential Instruction, the Mawas area is to be designated as a conservation area, but the proponent states that local communities will continue to have access to traditional lands.

Project design snapshot

Location: Split between Kabupaten Kapuas and Kabupaten Barito Salatan, Central Kalimantan, Indonesia
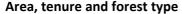
Proponents: The Borneo Orangutan Survival Foundation

Start date: 2003 (avoided deforestation component); 2005 (avoided fire component)
Accounting period: 30 years

Area, tenure and forest type
Project area: ～100,000 ha (accounting area); total area: 240,000 hectares

Project zone / reference area: N.D.

Land status: State-owned forest land to be designated as a conservation area

Forest type: Peat swanp forest

Drivers and rates of deforestation and forest degradation
Drivers: Illegal logging and construction of canals; Peat drainage; Wildfires; Plantations

Rates: Project area: 2.6%, 1997-2000; 8.9%, 2000-2003

Scope and strategy

Scope: Avoided deforestation and degradation

Strategy to reduce emissions and/or enhance carbon stocks: Develop economic activities with local communities in exchange for them foregoing land conversion and intensive logging: Avoid land use change and fire; Protect critical habitat or endangered species

Strategy to reduce emissions displacement: None. Leakage not expected.

Community engagement and participation

Participation in the Mawas programs is voluntary. Areas of traditional land use will be determined by participatory mapping. Programs will be customised to each community based on the local needs, abilities and traditions. Every effort will be made to work cooperatively with the communities.

Financing

Project cost estimation: N.D.

Upfront financing: Providers: The Dutch Royal Gov., Shell Canada, BOS International, German Embassy Micro Fund

Anticipated Mid / Long-term financing: Sale of carbon credits

Reference emissions level

Remote sensing:
Reference period: 1997 – 2003
Data sets: Radar imagery: 1997, 2000, 2003

Interpretation: Avoided deforestation component: Proposed HTI plantations, proposed oil palm plantations. Avoided fire component: Intact peat swamp forest, Degraded peat swamp forest, Bare soils/burned areas

Ground-based measurement: planned
Sampling design:

Sample plots:

Carbon pools: AGLB: , BGLB: , DW: , L: , SOM: , HWP:

Allometrics / Expansion factors:

Without project scenario:
A linear extrapolation of the regional rate of degradation was applied as the baseline scenario as 5.8% per year. Areas degraded and degraded areas burnt were modelled using distance from rivers, roads, etc.

With project emissions/removals

Project scenario: Avoidance of proposed HTI and oil palm plantations, and prevention and control of fires by local communities.

Deduction for emissions displacement and management of non-permanence risk: No. Leakage from activity shifting considered unlikely as this is not an agricultural area.

Project emissions deduction: Yes- vehicle fossil fuel combustion

Methodology: Own. Two new methodologies, 'Baseline and monitoring methodology for conservation projects that avoid land use conversion in peat swamp forests' and 'Baseline methodology for conservation projects that prevent or reduce anthropogenically-induced fire in peat swamp forests' are proposed.

Climate benefits

Total: 125,075,520 tCO2e
Annual average: 4,169,184 tCO2e
Annual average per ha: 41.7 tCO2e

Monitoring

Climate benefits:

Changes in the project boundary will be monitored via high resolution aerial imagery collection and analysis and/or field survey. Stratified sampling will be used for more efficient sampling of the project area.

Social and biodiversity safeguards:

N.D.

Validation/Verification/Registration/Issuance of credits:

N.D.

Links

Brief Summary of Mawas Conservation Program Initiatives, http://forestclimatecenter.org/redd/2008-11-14%20Brief%20Summary%20of%20Mawas%20Conservation%20Program%20Initiatives%20(by%20BOS%20Foundation).pdf

Summary of Draft Project Design Document for Mawas Peatlands Conservation Project, http://forestclimatecenter.org/redd/2008-04-24%20Summary%20of%20DRAFT%20Project%20Design%20Document%20for%20Mawas%20Peatlands%20Conservation%20Projects%20(by%20BOS).pdf

Biocorridor Martin Sagrado REDD+ Project

Distinctive features

The Project proponent, Pur Projet, is a private organisation based in Paris. The objectives of creating the "Biocorridor Martin Sagrado" project area are to protect forests with high conservation value while also improving the quality of life of the communities that live in the area. The project area encompasses around 300,000 ha and consists of three concessions with conservation purposes. The concessions are for 40 years and are renewable. Without the Project, the proponent expects deforestation from subsistence agriculture, mostly due to the migration of farmers from the highlands taking advantage of Peru's land tenure law, which allows people to own land by occupying it for five years. Development activities, especially logging, commercial agriculture, mining, gas and oil operations, and infrastructure construction, are also thought to pose threats to the forest. To combat these drivers, the Project aims to formalise the Project area through the attribution, registration, and maintenance of concessions, conduct controls and surveillance, provide education and training on conservation, develop business opportunities, including agroforestry for the local communities and provide an alternative energy to fuel wood. Pur Projet has committed to purchasing the REDD credits generated by Project at a price not less than US$ 1 per tonne of CO_2. The Project has been validated against the CCB and VCS standards and is VCS registered.

Project design snapshot

Location: San Martin province, Peru
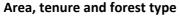
Proponents: Pur Projet (project developer)
Fundación Amazonía Viva (local implementing organization)
ONF International (technical partner)

Start date: 2010
Accounting period: 80 years (crediting period:40 years)

Area, tenure and forest type
Project area: 295,654 ha

Project zone / reference area: 1,668,333 ha of reference region (Mariscal Caceres and Huallaga provinces)

Land status: National Forest Estate (3 concessions with conservation purposes)

Forest type: Tropical Wet forest, Subtropical Wet forest (in transition to sub-tropical

very wet forest)

Drivers and rates of deforestation and forest degradation

Drivers: Subsistence agriculture;

Development activities (logging, commercial agriculture, mining, gas and oil operations and infrastructure construction).

Rates: Reference region 2000-2010, 0.6% annual average

Scope and strategy

Scope: Avoided deforestation and degradation; Enhancement of carbon stocks

Strategy to reduce emissions and/or enhance carbon stocks: Sustainable forest management, agro-forestry, non-timber activities, community-based ecotourism infrastructure, microcredit and communication walkways development

Strategy to reduce emissions displacement: Minimal leakage expected. Leakage is mitigated by implementing specific project activities that either increase livelihoods or reduce the need for land, or sales of timber related activities. These include Participatory Land Use Plans, agricultural organic intensification, and increasing the efficiency of wood-stoves.

Community engagement and participation

ACOPAGRO and APAHUI members, and communities in the Huayabamba river basin were consulted on project design and objectives, and were included in the decision process. New micro-finance groups will be created to help manage non-timber forest product enterprises. Training, technical support, and funding for forest-based livelihood activities (such as the sustainable extraction of non-timber forest products) and the extension and adoption of more productive and sustainable agricultural practices will be provided. The project will provide 30 full time jobs opportunities to the communities.

Financing

Project cost estimation: $2,097,734 (2010-2014)

Upfront financing: Own funds

Anticipated Mid / Long-term financing: Sale of carbon credits

Reference emissions level

Remote sensing:

Reference period: 2001-2010

Data sets: Landsat 7 ETM+, Landsat 5, SPOT 5

Interpretation: 7 strata – Water; Amazonian Moist Forests; Andean Moist Forests; Andean Dry Forests; Floodplain Forests; Bare soils and cropland; Settlements; Non-Forest vegetation

Ground-based measurement:

Sampling design: Stratified random sampling

Sample plots: 78 500 m2 circular plots. Diameter of all trees above 5 cm DBH recorded; Height of palms Recorded.

Carbon pools: AGLB: yes, BGLB: yes, DW: yes, L: no, SOM: no, HWP: no

Allometrics / Expansion factors: Allometric equations follow Nogueira et al. (2008),

Higuchi et al. (1998), Arévalo et al. (2003).

Without project scenario:
Historical emissions projected as baseline

With project emissions/removals
Project scenario: Project activities assumed to have various levels of effectiveness in reducing deforestation. The effectiveness of all activities on deforestation is assumed to be 87.7%.

Deduction for emissions displacement and management of non-permanence risk: Yes - about 15% of total climate benefits

Project emissions deduction: No

Methodology: VM0015 - Methodology for Avoided Unplanned Deforestation

Climate benefits
Total: 8,788,871 tCO2e

Annual average: 219,722 tCO2e

Annual average per ha: 0.8 tCO2e

Monitoring
Climate benefits:
Leakage monitoring: Only activity shifting leakage within the leakage belt can be monitored.

Social and biodiversity safeguards:
Social:
The surveys will cover a range of issues including income, land tenure, and employment, education, social capital, and resource availability and will be used to quantitatively measure socio-economic changes in the project communities. Special attention will be given to High Conservation Value (HCV) areas specific to meeting community needs, such as areas with high concentrations of medicinal trees, trees for seedlings or other important non-timber forest products, along with traditional spirit forests and areas where rare or threatened wildlife have been sighted. Many HCV areas have already been identified and marked by GPS.

Biodiversity:
The proposed participatory biodiversity monitoring methodology draws on the systems articulated by Finn Danielsen (Danielsen, Finn et al. "A simple system for monitoring biodiversity in protected areas of a developing country" Biodiversity and Conservation (9:1671-1705), 2000). The main elements of the biodiversity monitoring system include: standardised recording of routine observations, fixed point photography, line transect surveys, focus group discussions.

Validation/Verification/Registration/Issuance of credits:
CCB Standards (2nd edition): Validated – Second Edition Gold Level (Feb 25, 2013)

VCS: Registered

Links

VCS documents,
https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=958&lat=-7.159058&lon=-77.105852&bp=1

CCBA documents, http://www.climate-standards.org/?s=Sagrado

The Kasigau Corridor REDD Project Phase Ⅰ - Rukinga Sanctuary

Progress bar

Distinctive features

The Kasigau Corridor REDD Project is located in SE Kenya. Phase I covers all the land known as Rukinga Sanctuary which includes a little over 30,000 ha. This land is privately owned under leasehold from the Government of Kenya to Rukinga Ranching Co. Ltd. The land cover consists of montane and dyland forest, savannah grassland and agricultural crops (maize). The major shareholder of Rukinga Ranching Co. Ltd. is BenBo International, an offshore trust established by a principal investor of the Project proponent, Wildlife Works. The land has been protected by Wildlife Works as a forest habitat since 1998. The Project aims to provide financial sustainability to the conservation project, create alternative livelihoods for people in the surrounding areas to reduce the pressure on forests, provide educational outreach, etc. The baseline scenario presented for this project is rapid deforestation due to unplanned slash and burn agricultural expansion by subsistence immigrants. The Project has been validated against the CCB Standards and registered by the VCS and VCUs issued. Building on the Project, the proponent launched the Kasigau Corridor REDD Project - Phase II: The Community Ranches which covers about 170,000 ha of the surrounding area. This latter project is also validated against the CCB Standards and registered by VCS and has VCUs issued.

Project design snapshot
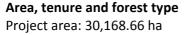
Location: Coast Province, Kenya

Proponents: Wildlife Works (WW)

Start date: 2005
Accounting period: 30 years

Area, tenure and forest type
Project area: 30,168.66 ha

Project zone / reference area: 329,021.66 ha

Land status: Privately owned under leasehold

Forest type: Montane forest, Dryland forest, Savannah grassland

Drivers and rates of deforestation and forest degradation
Drivers: Clearing by subsistence farmers
Rates: Project zone: 2.77%, 1995-1999

Scope and strategy

Scope: Avoided deforestation

Strategy to reduce emissions and/or enhance carbon stocks: Alternative livelihoods; Organic clothing/greenhouse; Dryland farming; Ecotourism; etc.

Strategy to reduce emissions displacement: Land titling; Alternative livelihoods; Extension of protection area; Fuelwood provision

Community engagement and participation

WW has over ten years of close working relationship with the communities in the project zone. We employ over 100 local people in a range of activities that we will continue and in some cases expand with carbon financing. Such activities include an organic clothing factory, an organic greenhouse, a dryland farming scheme, and a school construction and bursary scheme.

Before we began our project in 1998 we sought the permission of the local community and local authorities. At the community meetings held during the CCB Audit at the Grand Tsavo Hotel, Maungu on October 15th 2009, 89 members of the community voluntarily came out in support of our project.

Financing

Project cost estimation: N.D.

Upfront financing: Received start-up funding of $50 million from BNP Paribas in the form of an option pledge to buy VERs over a 5 year period.

Anticipated Mid / Long-term financing: Sale of carbon credits; Issued offset credits under the VCS on Feb., 2011.

Reference emissions level

Remote sensing:
Reference period: 1987 – 2004

Data sets: Landsat 5,7

Interpretation: 9 strata - Agriculture, Dryland forest(5 types), Grasland, High montane forest, Low montane forest

Ground-based measurement:
Sampling design: Systematic random sampling

Sample plots: 115 25m radius circle for large and small trees in Dryland Forest; 8m radius circle for large and small trees in Montane Forest; 15m radius circle for shrubs in Dryland forest; 4m radius circle for shrubs in Montane Forest; 1m x 1m x 4 square plots at each tree plot location for grasses.

Carbon pools: AGLB: yes, BGLB: yes, DW: yes, L: no, SOM: yes, HWP: no

Allometrics / Expansion factors: Allometrics developed using destructive method for common species; Average used for less common species.

Without project scenario:
Historical emissions projected and adjusted for population growth

With project emissions/removals

119

Project scenario: Prevent any further deforestation of the project area and surrounding area.

Deduction for emissions displacement and management of non-permanence risk: No. We have an aggressive strategy to prevent leakage from project activities and as a result we feel it is unnecessary for us to take any deductions due to leakage.

Project emissions deduction: No. Were estimated but will be offset by tree planting

Methodology: VM0009 Methodology for Avoided Deforestation

Climate benefits: N.D.
Total:
Annual average:
Annual average per ha:

Monitoring
Climate benefits:
WW commits to expanding on the carbon inventory work using a fixed permanent plot methodology and the use of Landsat satellite imagery to create a full detailed monitoring plan.

Social and biodiversity safeguards:
Social: WW initiated the process of the independent audit of the community influence conducted in August 2007 and with adequate financial support from the carbon project WW anticipates being able to develop a streamlined version of the comprehensive report that could be executed by an independent group on a regular basis.

Biodiversity: WW has its own permanent teams of rangers who patrol daily on foot checking for the presence of wildlife and for evidence of illegal activities, such as snaring, wood harvesting, illegal grazing or charcoal production.

Validation/Verification/Registration/Issuance of credits:
CCB Standards: Gold Level

VCS: Registered; VCUs issued

Links
CCBA documents,   http://www.climate-standards.org/?s=Kasigau

Kasigau Corridor, Kenya- An African REDD Project, http://www.iisd.org/pdf/2010/12_REDDII_Nairogi_KasigauCorridor.pdf

VCS documents, https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=1&t=1

Madre de Dios Amazon REDD Project

Progress bar

Distinctive features

The Project is located in the Peruvian Amazon and is divided between two logging concessions that are spread over almost 100,000 ha of mostly low hill, highly dissected rainforests. The REDD+ activity consists of sustainable forest management in two timber concessions that are certified against Forest Stewardship Council standards. The Project is being organised by the concession holders with support from project developers. The proposed activities include supporting the economic development of the native community that resides in the project zone through environmentally friendly development projects. Without the Project, the proponents argue that the concession holders will not be able to maintain sufficient presence to stop degradation of the forests by migrants looking for land, which they expect will come in increasing numbers because of the construction of the inter-oceanic road that will join Brazil with Peruvian ports in the Pacific Ocean. The Project has been validated against the CCB and VCS standards and is VCS registered.

Project design snapshot

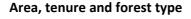**Location:** Madre de Dios department, Peru

Proponents: Greenoxx NGO (project developer), CCB standards and Maderyja (project owners)

Start date: 2009
Accounting period: 38 years

Area, tenure and forest type
Project area: 97,817 ha

Project zone / reference area: 307,693 ha

Land status: 2 timber concessions

Forest type: Tropical wet forest, Subtropical wet forest

Drivers and rates of deforestation and forest degradation
Drivers: Road construction; Migration resulting in forest clearance by farmers; Illegal logging
Rates: N.D.

Scope and strategy

Scope: Avoided deforestation

Strategy to reduce emissions and/or enhance carbon stocks: With the additional revenue from the sale of carbon credits, conduct the necessary activities to preserve the area under sustainable forest management according to the FSC standards, including strengthening the control and care of the environment to meet the increased pressure on the forests that can be anticipated with the completion of the inter-oceanic road

Strategy to reduce emissions displacement: Generate alternative livelihoods for those local families who cannot conduct their traditional livelihood activities.

Community engagement and participation

The 2 concessions have created committees on community relationships to provide the necessary transparency for all timber concession activities. Actions to strengthen the role of the Belgium Native Community in the implementation of the project objectives include supporting the development and implementation of productive and environmentally friendly projects in the sectors of the Iñapari District.

Financing

Project cost estimation: N.D.

Upfront financing: N.D.

Anticipated Mid / Long-term financing: Carbon credits. The first 40,000 tons of CO_2 were sold in May 2010, at a price of US$ 7 per carbon certificate.

Reference emissions level

Remote sensing:
Reference period: 2000-2008

Data sets: Landsat 5 & 7: 2000, 2005, 2008

Interpretation: 4 strata (Hill forests, Terrace forests, Bamboos, Tree Swamps)

Ground-based measurement:
Sampling design: Systematic sampling design

Sample plots: 142 10×500m wide plots, subdivided in 20 registry units of 25×10m. Trees 10 cm DBH above measured. Parameters - DBH, species , bole height, total height, bole quality.

Carbon pools: AGLB: yes, BGLB: yes, DW: no, L: no, SOM: no, HWP: no

Allometrics / Expansion factors: Allometrics from Winrock, Fragi (1985), Pearson et al. (2005), Brown (1997), Cairns et al. (1997)

Without project scenario:
Deforestation rates were projected over the life of the project using a linear relationship between population density and deforestation rates. Spatially explicit modelling of future deforestation was conducted using the following drivers: Inter oceanic road; Secondary roads of first order; Secondary roads of second order; Roads of third order; Navigable rivers.

With project emissions/removals

Project scenario: With the additional revenue from the sale of carbon credits, all the necessary activities to preserve the area under sustainable forest management according to the FSC standards will be funded.

Deduction for emissions displacement and management of non-permanence risk: Yes- based on LK-ASU methodology

Project emissions deduction: Yes - emissions from fuel use

Methodology: VM0007 - REDD Methodology Modules

Climate benefits

Total: 25,072,135tCO2e

Annual average: 659,793tCO2e

Annual average per ha: 6.75tCO2e

Monitoring

Climate benefits:
Monitoring of deforestation, degradation, areas of increased carbon stocks, project emissions

Social and biodiversity safeguards:
Social: N.D.
Biodiversity: N.D.

Validation/Verification/Registration/Issuance of credits:

CCB Standards: Gold Level

VCS: Registered

Links

VCS documents, https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=844&lat=-11.177661&lon=-69.830391&bp=1

CCBA documents, http://www.climate-standards.org/?s=madre

Madre de Dios Amazon REDD Project, http://www.greenoxx.com/downloads/summary.pdf

Forest Carbon Portal website, http://www.forestcarbonportal.com/project/madre-de-dios-amazon-redd-project

Greenoxx website, http://www.greenoxx.com/en/news.asp

Markit website, http://mer.markit.com/br-reg/public/index.jsp?q=madre%20de%20dios&s=ci

Live journal website, http://madrededios.livejournal.com/1259.html

A. Burger (Oct. 16, 2012) Pioneering REDD+ Project Looks to Pave Sustainable Development Pathway in Peru's Amazon http://globalwarmingisreal.com/2012/10/16/pioneering-redd-project-looks-to-pave-sustainable-development-pathway-in-perus-amazon/

Pax Natura REDD Project

Progress bar

Distinctive features

The Project aims to recruit 12,000 ha of privately owned forest held by ~100 farm owners in the Central Volcanic Range Forest Reserve in Cartago and Limon provinces, Costa Rica. The forest areas hold tropical wet forest and montane rainforest. The proponents state that forestry is the main land use of farms in the project area and argue that given the limited alternative sources of revenue for inhabitants, an injection of resources tied to forest conservation can be expected to induce forest owners to relinquish the idea of converting forest land to cropland or pasture. The Project strategy is to protect the forests for 10 years under a PES system. The intention is to bring all recruited forests under FSC certification. To participate in the programs, farmers will receive support to develop and implement forest management plans, and will agree to surrender the rights to avoid emissions in return for annual payments for their environmental services. The Project appears to have been organised without reliance on an international developer. The Project has been validated against the CCA standards.

Project design snapshot

Location: Cartago and Limon provinces, Costa Rica

Proponents: National Biodiversity Institute(INBio), National Forestry Financing Fund (FONAFIFO), Foundation for the Development of the Central Volcanic Range (FUNDECOR)

Start date: 2009
Accounting period: 10 years

Area, tenure and forest type
Project area: 12,000 ha

Project zone / reference area: N.D.

Land status: Privately owned forest (>50 small owners)

Forest type: Tropical wet forest, Premontane rainforest, Lower montane rainforest, Tropical wet forest, Wet forest

Drivers and rates of deforestation and forest degradation
Drivers: Conversion for pasture

Rates: Annual rate of 3.9% projected, 2009-2019

Scope and strategy

Scope: Avoided deforestation

Strategy to reduce emissions and/or enhance carbon stocks: Sustainable natural forest management, Forest protection, Commercial reforestation

Strategy to reduce emissions displacement: None.

Community engagement and participation

The two closest large centers of population outside the project area are Guácimo and Pococí. Since the aquifers that supply these two communities are inside the project area, social impact analysis will focus on water quality.

The areas participating in the project will be under FSC forest certification, which requires that up-to-date information be available and readily accessible for consultation by stakeholders and the general public. As the project's executing agency, FUNDECOR will also make this information available to the public on its web site: http://www.fundecortechnology.org/fundecor/Inicio.html.

Financing

Project cost estimation: $10 million
Upfront financing: N.D.
Anticipated Mid / Long-term financing: Sale of carbon credits

Reference emissions level

Remote sensing:
Reference period: 1996 – 2005 (?)

Data sets: Landsat 2005

Interpretation: 6 strata – Very humid tropical forest, Premontane very humid forest, Very humid tropical forest transition to premontane, Premontane rain forest, Low montane pluvial forest, Montane pluvial forest

Ground-based measurement:
Sampling design: (No indication of ground-based measurement within the project area)

Sample plots:

Carbon pools: AGLB: yes (woody vegetation), BGLB: no, DW: no, L: no, SOM: no, HWP: no

Allometrics / Expansion factors: Ortiz (1997)

Without project scenario:
Econometric model developed by Tattenbach et al (2006) predicts forest loss of 9,750 ha from 2009-2019.

With project emissions/removals

Project scenario: 12,000 hectares of privately-owned forest lands will be protected for 10 years under a payment for environmental services (PES) mechanism.

Deduction for emissions displacement and management of non-permanence risk: No

Project emissions deduction: No

Methodology: Own: Econometric model developed by Tattenbach et al (2006) used to project future deforestation scenario

Climate benefits

Total: 2,276,526 tCO2e

Annual average: 227,652.6 tCO2e

Annual average per ha: 19 tCO2e

Monitoring

Climate benefits:

Variables monitored: Change in land use and above-ground biomass; Changes in tropical forest dynamics that may increase carbon emissions due to increased tree mortality caused by water stress.

Social and biodiversity safeguards:

Social: The following strategy will be used to monitor benefits received by the communities: Establish a baseline for PES-income in the area (pre-project); Monitor PES income in the area; and monitor water quality at the outlets that supply the communities in the project area.

Biodiversity: Ongoing implementation of actions to prevent land-use changes and to protect water resources and biodiversity will be monitored.

Validation/Verification/Registration/Issuance of credits:

CCB Standards: Gold Level

FSC: Holds valid group certificate

Links

Mitigation of Greenhouse Gas Emissions through

Avoided Deforestation of Tropical Rainforests on Privately-owned Lands in High Conservation Value Areas of Costa Rica, https://s3.amazonaws.com/CCBA/Projects/Avoided_Deforestation_Through_the_P ayment_of_Environmental_Services_in_Rainforests_Located_on_Private_lands_in_ the_Conservation_Area_of_the_Central_Volcanic_Mountain_Range_of_Costa_Rica /English.pdf

Pax Natura Foundation: A Proposal for Carbon Dioxide Sequestration through Tropical Forest Preservation, http://www.paxnatura.org/PESprojectDescription.pdf

Paraguay Forest Conservation Project, San Rafael

Progress bar

Distinctive features

The proponent, Swire Pacific Offshore Ltd, states that the project zone, consisting of the forest of San Rafael, represents one of the most extensive remaining patches of relict Atlantic Forest in Paraguay. The Project area is relatively small at just over 1,000 ha. The Project concentrates on the La Amistad small-holder community, established in 1997. Originally, the area of La Amistad was a single holding used for logging. It was then acquired by the National Institute for Rural Development and Lands and subdivided into 82 parcels, which, according to the proponent, effectively removes any legal restriction on the small-holder in the use of the land. The main land-use change at La Amistad is conversion of 329 ha of the modified primary (high) forest to agriculture. Swire Pacific Offshore aims to produce emissions offsets through the Project to meet its commitment to carbon neutrality under its corporate social responsibility programme. Its strategy to counter deforestation is to pay community members to retain and improve the quality of forest on their land and to provide incentives for community participation in forest protection as a leakage mitigation measure. Extension services and technical support for sustainable forest management and enhanced agricultural output are also proposed. The Project has been validated against the CCB and VCS standards and is VCS registered.

Project design snapshot

Location: Itapua and Caazapa Departments, Paraguay

Proponents: Swire Pacific Offshore Ltd (SPO)

Start date: 2010
Accounting period: 20 years

Area, tenure and forest type

Project area: 1,182 ha
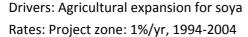
Project zone / reference area: 69,304 ha

Land status: Reserve Area for Protected Forest Areas under public domain

Forest type: Upper Parana Atlantic Forest, Pampas grasslands, Moist semi evergreen area

Drivers and rates of deforestation and forest degradation

Drivers: Agricultural expansion for soya

Rates: Project zone: 1%/yr, 1994-2004

Scope and strategy

Scope: Avoided deforestation

Strategy to reduce emissions and/or enhance carbon stocks: PES system; Sustainable forest management; Enhance agricultural output

Strategy to reduce emissions displacement: Establish a sustainably managed community reserve

Community engagement and participation

The participation of La Amistad community members is integral to the project strategy. Orientation on the REDD concept is part of the training, which falls into three categories: (1) Carbon monitoring, (2) Sustainable agricultural systems, (3) Sustainable forest management. The timing avoids placing too much load on community members and also allows time for contributions to the community forest area.

Financing

Project cost estimation: $ 84,200/yr   Total: $ 1.68 million

Upfront financing: amount: N.D. providers: SPO (for first 5 years)

Anticipated Mid / Long-term financing: SPO (VCUs transferred to SPO)

Reference emissions level

Remote sensing:

Reference period: 1997 – 2009

Data sets: Landsat

Interpretation: 5 strata - Modified primary forest, Low forest, Secondary forest, Natural grassland and man-made pasture, Cultivated land, Water

Ground-based measurement:

Sampling design:

Sample plots: Modified primary forest: 230 temporary 2000 m^2 plots; Secondary forest: 1 10,000 m^2 plot;   Soil and humus: Samples from transects at depths of 0-10cm, 11-20cm, 21-30cm.

Carbon pools: AGLB: yes (trees ≥ 5cm DBH, palms and woody stems), BGLB: yes, DW: yes, L: no, SOM: yes, HWP: no

Allometrics / Expansion factors: Allometric from Brown et al. (1996)

Without project scenario:

Historical emissions projected as baseline

With project emissions/removals

Project scenario: 75% take-up rate of the PES scheme, leading to the protection of 224 of the remaining 299 ha of high forest in the community area.

Deduction for emissions displacement and management of non-permanence risk:

Yes-10%

Project emissions deduction: No

Methodology: Own References: IPCC GPG; VCS guidelines for risk and non-permanence

Climate benefits
Total: 120,490 tCO2e
Annual average: 6,024.5 tCO2e
Annual average per ha: 5.10 tCO2e

Monitoring
Climate benefits:
The monitoring plan will include: annual assessments of land use change separating the project area (La Amistad), the leakage area (western San Rafael) and the reference area (the San Rafael forest bloc); measurement of carbon stocks using a permanent plot array; and monitoring on the Guyra Paraguay reforestation plots with new permanent sample plots on reforestation areas in La Amistad.

Social and biodiversity safeguards:
Social:
Establish a baseline in the first six months of the project, using quantifiable measurements of socio-economic indicators under an appropriate methodology; Re-measure annually, to demonstrate and quantify benefits; Be fully reviewed at 5 year intervals. Key elements to be monitored are: Degree of participation of community members in project-related activity; The level of project-related revenue streams into the community, their distribution and their proportion relative to other income sources; Use of project-generated revenues for general community benefit, 'quality of life' indicator scores and the role of project-generated revenues in reaching those scores.

Biodiversity:
Guyra Paraguay maintains a biodiversity data-base for San Rafael, regularly updated and using the standard Important Bird Area (IBA) monitoring methodology. This acts as the on-going monitoring system, using species of special conservation concern as indicators. In effect, the formal assessments of biodiversity values and threat levels included in the HCV (High Conservation Value), IBA and Rapid Ecological Assessment methodologies give both a base-line and an objective, measurable system for monitoring both temporally at a given site and spatially between sites. The monitoring system will therefore comprise reiterations of the three analyses at 5 year intervals.

Validation/Verification/Registration/Issuance of credits:
CCB Standards (2nd edition): Gold Level

VCS: Registered

Links

The Paraguay Forest Conservation Project PDD,
https://s3.amazonaws.com/CCBA/Projects/The_Paraguay_Forest_Conservation_Project/Guyra+Paraguay+CCB+Exh+10.pdf

Wold Land Trust website (Aug. 2012),
http://www.worldlandtrust.org/news/2012/08/deforestation-its-climate-change-impacts

International Guidebook of Environmental Finance Tools: A Sectoral Approach (2012) UNDP,pp.24-
http://www.undp.org/content/dam/undp/library/Environment%20and%20Energy/Environmental%20Finance/Chapter%206.pdf

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