

**REDD at the Community Level:  
Community Engagement and Carbon Conservation  
in Indonesia's Forests**

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## Abstract

Cutting back greenhouse gas emissions from deforestation and forest degradation will be a vital step in solving the global climate crisis. Monetizing the value of standing forests through Reduced Emissions from avoided Deforestation and forest Degradation, or REDD, could be crucial to forest conservation, befitting both the climate, communities, and biodiversity. These projects, currently being developed for the voluntary carbon market, are impacting some of the last remaining forests around the world, which are used by over 1 billion forest-dependent people. In this thesis I identify 12 indicators from community forest management literature that tend to predict success in conservation goals, and use these factors to analyze 23 REDD projects developing in Indonesia. I find that most REDD projects in Indonesia are likely to fail to conserve carbon, based on these indicators. Nonetheless, most projects do not ignore communities; this thesis also explores the mechanisms by which these projects attempt to provide alternative livelihoods and incentives for community members, and looks at the challenges created by that model. Finally, I explore four groupings of REDD projects in Indonesia, based on their community engagement mechanisms, and discuss the overall likelihood for conservation success in Indonesia.

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## Acronyms

- **REDD:** Reduced Emissions from Avoided Deforestation and forest Degradation
- **CCBA:** Climate Community and Biodiversity Alliance
- **CCBS:** Climate Community and Biodiversity Standards
- **CDM:** Clean Development Mechanism
- **CFM:** Community Forest Management
- **VCS:** Voluntary Carbon Standard
- **VCS AFLOU:** Voluntary Carbon Standard Agriculture, Forestry and Other Land Use (Certification type)

## **Chapter 1: Introduction**

This thesis aims to create a theoretical framework to help predict if REDD projects in Indonesia will be successful in achieving their conservation goals. Until recently, scholarship has been focused on what *might* happen with REDD projects (Wertz-Kanounnikoff, 2009; Agrawal and Angelson 2009), but only now are actual planning documents becoming available, documents that provide realistic insight into how REDD will developed in the future. These planning documents can provide a source of information, as yet poorly accessed, on help understand how projects will develop. In this thesis, I aim to use those project planning documents, as well as interviews with project developers, to understand how directly impacted communities will be engaged in REDD projects. I will use the literature on community-based forest management to identify a set of indicators that help predict success in achieving conservation goals based on project planning data, and will apply that framework to existing REDD projects. I will ask the question, should we predict that REDD projects in their planned form will or will not be successful in their goal of conserving carbon? I hypothesize that we would predict that REDD projects will fail in their goal to conserve carbon.

### **Communities and Conservation: Towards Success Indicators for REDD**

The role of communities in conservation has been a topic of heated debate ever since Garret Hardin posited that common pool resource use would necessarily result in resource degradation, and that only state-established institutional arrangements-- central government and private property-- would be able to sustain the commons (Hardin 1968). This line of thinking supported the development of exclusionary national parks, where people were denied access to national

park land, regardless of their traditional or historical relationship to that land. Hardin's work inspired common property rights theorists to search for alternative explanations. These theorists (Ostrom 1990, Wade 1988) have studied how communities organize and develop institutions for management of the commons. This research has found that while community-based institutions for governing the commons have sometimes failed to conserve resources, so have other types of institutions (Dietz et al 2003). Research has found that common pool resources can be successfully conserved, but that this depends on the conditions of the resource, the user group, and outside pressures (Agrawal 2007).

If REDD projects can be considered a form of Community Forest Management (CFM), then it should follow that prior research on the conditions of successful CFM should be able to help predict if REDD projects will or will not be successful in their conservation goals. I argue that REDD project management must be considered a problem of Community Forest Management (CFM). Simply defined, CFM combines two things: a type of resource (forests) and a class of owner/manager (communities) (Chhatre and Agrawal 2008). Community forests are often contrasted with forests under open access, government, or private ownership, but the complex reality is that forest management often combines different elements of different management structures. This is particularly true in a country like Indonesia, which has a history of weak institutional oversight of natural resource management, and where these institutions have changed dramatically recent history (Barr, 2010). In these situations, formal laws and regulations may exist to manage forests, but at the forest level, communities often continue to manage their forests as they have done for generations. Therefore, even in forests that are legally owned by the government or by private property owners, actual management is done by the communities.

Such is the case with REDD; forest concessions may be legally owned by the government, but are actually managed at the community level. These communities often still use traditional land management practices that existed long before the government took legal ownership. Therefore the land is under de facto management by the community, even where projects where communities do not have legal rights. Except in areas where there are absolutely no forest users, REDD projects that aim to conserve carbon must – by necessity – address the fact that the forest is a vital component of local livelihoods. These projects can either forcefully remove forest users from the project area-- an option which can be very costly, and can put the project developer at risk of vocal criticism from activists-- or they can choose to engage the community. Once the decision has been made to engage the community, as has been the case in all projects surveyed, REDD projects can be considered through the lens of community forest management. At this point, one of the selling points of REDD projects – over other sources of carbon credits – is that they come with co-benefits for the community and for biodiversity, which means that it is likely that most projects will not continue down the route of excluding communities from the forest (Hamilton, 2009).

### **Towards developing CFM Sustainability Indicators**

Assuming the premise that most REDD projects can be considered community forest management problems, it becomes interesting to see what characteristics of CFM might to predict successful conservation outcomes. A survey of the scholarship identified four main clusters of characteristics that are relevant to successful governance of the commons (Agrawal 2001, Agrawal and Angelsen, 2009), summarized below:



*Characteristics of the Resource System:* Resource system characteristics are biophysical factors including

- resource size
- clarity of physical boundaries (are there rivers, roads, etc)
- value of the resource (how much do people rely on the resource?)
- ease of monitoring
- overlap of user group and resource location

Research has found that common property arrangements are more likely to be sustainable when the resource system is relatively large (between 5,000 and 10,000 ha) (Chhatre and Agrawal, 2009). Information on forests larger than that has not been collected. Although this may be large for a community forest, it is relatively small for a national park or conservation area, including most REDD projects. Better conservation results are predicted when the boundaries of the system are well defined (Wade 1988, Ostrom 1990)—for example, when the boundaries are rivers instead of arbitrary points in a forest. There are also likely to be better results when there is fair allocation of resources (Baland and Platteau, 1996). High levels of dependence on the resource (Wade 1988) tends to lead to better conservation results. Finally, overlap between user group location and resource location (Wade 1988, Baland and Platteau 1996) leads to better resource management.

*Characteristics of the User Group:* User group characteristics include variables such as

- group size
- heterogeneity (are the users of the same ethnic group, socio-economic class, etc?)
- interdependence (how much do group members depend on each other?)
- technical capacity of the managing community
- institutional capacity of the managing community
- economic capacity of the managing community.

Research has found that a greater level of interdependence among resource users tends to result in better forest management (Ostrom 1990, Wade 1988). The availability of resources to undertake monitoring-- for example, resources to pay forest guards or purchase technological tools like GPS-- can help improve conservation results (Agrawal, 2009). Increased heterogeneity within a group tends to lead to poorer conservation results, with characteristics such as gender, indigenous status, ethnicity, class and income being particularly relevant (Larson, 2003), . Groups that are relatively well-off and small-to-medium sized (Wade 1988, Baland and Platteau 1996), also tend to have better forest management results.

*Characteristics of Institutions:* Studies of CFM have shown that resource management is enhanced by certain institutional characteristics, such as

- tenure security
- ability of local groups to devise management rules
- use of local knowledge
- understandable and locally enforceable rules
- supportive national legislation

Research has found that tenure security enables communities to think long term about managing the land, and develop institutions that facilitate long term sustainable management. The ability of local groups to devise rules that include sanctioning, conflict resolution, and accountability mechanisms tends to lead to improved conservation outcomes, as does the ability to exclude others (Ostrom 1990, Wade 1988, Baland and Platteau 1996). Local knowledge is necessary for designing and enforcing effective rules (Gibson et al, 2005; Chhatre and Agrawal 2008). These rules also need to be easily understood and locally enforceable (Ostrom 1990, Wade 1988, Baland and Platteau 1996). National-level legislation that supports and enables local

management has also been shown to be important in facilitating the success of these projects (Agrawal and Ostrom 2001; Ribot et al 2006).

*Characteristics of the External Environment:* All projects occur within a wider context, broadly defined by demographic, cultural, technological, and market related factors. Key factors include

- wider market context
- presence of external sanctioning institutions
- appropriate levels of external aid

Research has found that market pressures and population levels/changes are key causal factors in deforestation (Angleson and Kaimowitz, 1999), with higher levels of volatility predicting more negative impacts (Bray *et al*, 2004). Common property management is likely to be best when the central government does not undermine local authority (Wade 1988, Ostrom 1990), when there are supportive external sanctioning institutions (Baland and Platteau 1996), there are appropriate levels of external aid to compensate for conservation activities (Baland and Platteau 1996), and there are nested levels of appropriation, provision, enforcement, and governance (Ostrom 1990).

In order to generate indicators that can be used to help predict success in conserving carbon, I summarized the literature on CFM, and identified which indicators were mentioned the most often, and which were most strongly correlated with conservation success. This work resulted in the 12 variables summarized below:

*Figure 3: Key Factors Predicting Success in CFM*

<b>Characteristics Group</b>	<b>Factors Predicting Success in CFM</b>
<b>Resource System</b>	Medium to Large Forest
	Clear of project boundaries
	High reliance on the resource
<b>User Group</b>	Small-to-medium sized community

	Members of group are highly dependent on each other
	Relatively well-off
<b>Institutional Arrangements</b>	Locally designed and accepted rules
	Users have legal rights to the land
	Rules that are easy to understand and enforce
<b>External Environment</b>	Stable Government
	Stable Market Price for the Resource

### **Understanding the realities of REDD**

Using these variables provides a lens through which to understand REDD projects developing in Indonesia. Only projects in Indonesia were selected for this project, for a number of reasons. First, using examples from only one country provides a standard political and economic baseline, which makes it easier to compare the impact of different variables. Also, Indonesia has the highest rate of deforestation in the world, and therefore is considered by many to be the “ground zero” for the development of mechanisms to halt deforestation. As of 2009, Indonesia was home to over half of the REDD projects being developed internationally. At the same time, forests in Indonesia are vital to the livelihoods of thousands of communities, and have been so for uncounted generations. Therefore, Indonesia provides the largest sample size, both in terms of number of hectares protected, as well as number of people impacted, in the world. Indonesia, then, offers the best case study for understanding how communities are and will be impacted by REDD projects.

#### *Research Results:*

Analysis of REDD projects through the lens of CFM indicators resulted in a bleak picture for those who are interested in halting climate change through REDD. What I found was that REDD projects tended to fall into the following patterns:

- Resource System: REDD projects in Indonesia tended to be extremely large, far larger than forests generally studied in the CFM literature. The physical characteristics tended to vary widely, but only in a few cases were the boundaries tied to physical landmarks or traditional forest boundaries.
- User Group: Because the forests tended to be so large, the communities who use the forest tend to be extremely diverse-- ethnically, historically, and in terms of wealth. In many cases communities may not traditionally have worked together to manage the forest, and are not dependent on each other. In most cases, however, communities were highly dependent on the forest.
- Institutional Arrangements: Here, again, there are substantial differences in how projects engage communities in decision making. The majority of projects tend, however, to follow a model of community consultation, instead of starting with the community in building management rules based off off traditional practices. In these cases, communities are still engaged in the projects, but through passive mechanisms, as discussed below.
- External environment: A history of political instability in Indonesia has made laws governing forest management at the forest level extremely unstable, which has been augmented by a lack of funds and corruption that has only made the law less reliable. At the same time, the international market for REDD offsets remains under negotiation, and it is still unclear how much REDD credits will trade for, and what the market for those credits will be.

Using the CFM success indicators as a guide, one would predict that the majority of REDD projects in Indonesia will be unsuccessful at conserving carbon. Of course, community engagement is only one component of overall project success; the development of the international market, prices of other forest commodities, etc, will also play a role in overall success. Nonetheless, from a community engagement perspective, research results agree with the hypothesis. There is hope, however, in that a small minority of projects are prioritizing community engagement, and are using the lessons of community based forest management and working to prioritize community members an integral to the REDD project planning process.

Despite the fact that communities were not engaged as decision makers in most projects, all projects included some form of community involvement as a core component project development. This engagement tended to be more “passive”, and included giving of gifts to the community, the provision of schools and health clinics, the giving of cash payments, and job creation activities. This is a marked departure from older methods of forest conservation, which involved restricting community access to the forest, and punishing those people that broke those rules. More details about specific community engagement mechanisms and passive benefits sharing are detailed in chapter four.

## **Overview**

In this thesis, I will explore REDD project development in Indonesia through the lens of indicators defined by the CFM literature. In chapter two, I will provide background on carbon trading and the development of REDD. I will also focus in on community involvement in REDD, and why many projects have not followed the model of simply removing people from project

areas. In chapter three, I will explore all 23 projects surveyed, through the lens of CFM indicators. In chapter four, I will explore the more indirect, or passive, mechanisms that projects are using to engage communities. In chapter 5, I will conclude by identifying four major trends in community engagement in REDD projects, and look at their potential for failure or success in carbon conservation. I will also look at the potential challenges that these projects will face in the future.

## **Chapter 2: REDD in Context: Conservation, Communities and the Market**

### *The Global Climate Crisis in the Context of Community Rights*

Human-caused increases in atmospheric CO<sub>2</sub> and other gases are leading to an increase in global temperatures, resulting in increasingly severe weather patterns around the globe. According to the Intergovernmental Panel on Climate Change (IPCC), we must reduce carbon dioxide emissions to stabilize carbon levels at 350 parts per million from the current—and steadily increasing—387 ppm in order to support ecosystems functions as they exist now (IPCC, 2007). To do this, it is necessary to curtail emissions from deforestation and forest degradation, which account for 15 to 20 percent of all annual greenhouse gas emissions (CIFOR, 2009). When forests are destroyed or degraded, we lose a valuable carbon sink: recent studies have suggested that just under five billion of the 32 billion tons of carbon dioxide emitted annually through human activity are absorbed by forests (CIFOR, 2009).

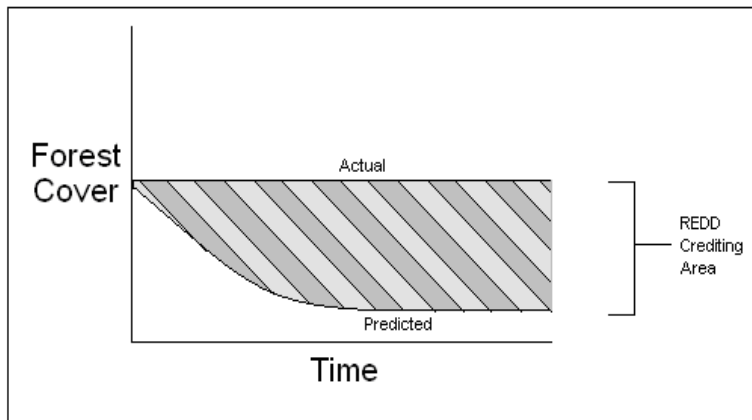
The public acknowledgment of the climate crisis has resulted in a rush to come up with solutions. One of the most prominent attempts at a solution has been the development of a global market for carbon. In a carbon market, companies or governments set limits or *caps* on the amount of carbon dioxide that they allow to be emitted. Companies (or other entities) are issued emission permits and are required to hold an equivalent number of *allowances* (or *carbon credits*) which represent the right to emit a specific amount. The total amount of allowances and credits cannot exceed the cap, limiting total emissions to that level. Companies that want to emit more than allowed must buy credits from those who pollute less. The buying and selling of these allowances is referred to as carbon trading. The carbon market promises to help ease the



financial pain of reducing global carbon dioxide emissions by having poor countries reduce or avoid emissions and sell the resulting carbon credits to polluters in rich countries. These traded emission credits are known as “carbon offsets”. Similar types of markets have been developed for a number of different pollutants, most prominently sulfur dioxide in the Midwestern United States, which succeeded in curtailing acid rain in the United States.

Reduced Emissions from Avoided Deforestation or forest Degradation, or REDD for short, is an important part of the carbon market's answer to how to deal with forest-related emissions. Simply put, REDD allows countries to get paid (either through a crediting/offset system, or through a fund) for avoiding emissions that would have occurred if forests were either clear cut or degraded (see Figure 1). REDD is not the first type of forest carbon project to exist on the market— credits from tree planting projects, known as afforestation/reforestation projects, have been traded for the last twenty years (Hamilton, 2009). REDD, on the other hand, allows for financial rewards for keeping existing forests standing. Although the actually amount of carbon stored through REDD can be much harder to calculate, preserving existing forests also means preserving the rich biodiversity and important livelihood benefits that standing forests provide. The development of the market assumes that it is cheaper for developing countries to maintain their forests than to for developed countries to install technology which would decrease pollution, which means it would make financial sense for countries to purchase credits from REDD projects than to put money into reducing emissions from their factories. REDD has gained considerable interest in recent years because the poorest countries are often those with the most tropical forests, and therefore stand to make a great deal of money on the forest carbon market.

*Figure 1: Quantifying REDD credits- A Simplified Graph*



Although understanding forests in terms of their carbon emissions is important, it is not enough. According to the World Bank, there are 1.2 billion people who depend on the forests for their livelihoods (CIFOR, 2009). More than half a billion people rely on forest to provide “substantial livelihoods benefits” (World Bank, 2004). Less than 10% of that forest, however, is legally owned by communities or indigenous peoples (Sunderlin, 2008). Often, governments do not challenge a community’s use of the land until they have an opportunity to profit off of it (RRI, 2009). These are also communities who have customary rules for forest management, often based on complex and site-specific variables that have evolved over generations (Cotula, 2009). While the rights of indigenous communities to these forests have been enshrined in the United Nations- Declaration on the Rights of Indigenous Peoples, these rights are rarely respected on the ground. Forests also hold wealth in terms of plant and animal biodiversity, as well as ecosystem services.

### *The Forest Carbon Market*

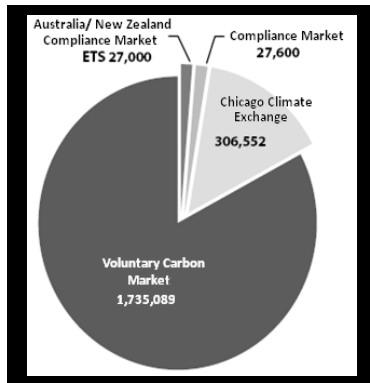
Credits from forest carbon have, up to now, only been a very small in the overall carbon market. However, this market is being developed rapidly as the potential for cheap carbon saving measures are being developed in tropical forests (Hamilton, 2010, Wertz-Kanounnikoff, 2009).

The carbon market can be is divided into two broad categories:

- *Compliance Market:* Compliance markets are created and regulated by mandatory regional, national, and international carbon reduction regimes, such as the Kyoto Protocol and the European Union's Emissions Trading Scheme. In 2008, 4146 metric tons of CO<sub>2</sub> were traded on the compliance market, with the market value of US\$117,582 million (Hamilton, 2009). The compliance market currently accepts credits from tree planting (afforestation and reforestation), but it does not accept credits from REDD. It is highly likely that REDD will be included in any future international emissions reductions schemes. If and when that happens, demand for REDD credits is likely to increase dramatically.
- *The Voluntary Market:* The voluntary carbon market functions outside of the compliance market, enabling companies and individuals to purchase carbon offsets on a voluntary basis. Purchasers of credits in this market are motivated by a personal desire to reduce emissions, or to improve their public image. This market sold 123.4 metric tons of CO<sub>2</sub> in 2008, with a market value of US \$704.8 million. The voluntary market accepts credits from all forms of forest carbon projects, including REDD. The voluntary market for forest carbon has existed since the early 1990s, when environmental non-profits and corporations initiated partnerships to conserve and plant forests with the aim of balancing

greenhouse gas emissions. The voluntary carbon market has actually been far more important than the compliance market in terms of the sale of forest credits (See Figure 2).

*Figure 2: Total area Affected by Different Certifications-Including Afforestation and Reforestation, REDD, etc. (in Hectares) (Edited from Hamilton, 2010)*



### *REDD in the Forest Carbon Marketplace*

While REDD is still a relatively new part of the forest carbon market globally—the first project is due to be fully certified in November 2010 (pers. com. Todd Lemons, Infinite Earth)—demand for REDD credits is strong, as gauged by pre-sale of REDD credits (Hamilton, 2010). As of 2009, there were 44 REDD projects being developed internationally (Wertz-Kanounnikoff, 2009), and the number is steadily growing. The primary motivation for the purchase of offsets in the voluntary market is public relations and commitments that companies have made to corporate social responsibility (Hamilton, 2010). Private companies dominate the market for voluntary carbon credits, currently purchasing 66% of the overall credits (Hamilton, 2010). Individual and NGO purchases of carbon credits – for offsetting flights, for instance – amounts to only 1-2% of all carbon sales. A survey by leading players in the carbon market reported that around 90% of respondents view avoided deforestation and native tree reforestation projects as the most

desirable forestry projects, followed by agro-forestry (81%) and peat land conservation (75%) (Hamilton, 2010). These projects were cited as being the most interesting because they cost far less than installing carbon sequestering technology at the emissions source, and also protected ecosystems that are critical for biodiversity conservation.

*Forest Carbon Certifications:*

In order for a REDD project to generate tradeable credits, projects must adhere to standards set by an recognized certifying group. In the early years of the forest carbon market, there were 10 standard setters vying to make their certification standard the most important in the market (Kollmuss, 2009). These included certifications developed by NGOs (the World Wildlife Fund, for example), as well as private industry. This initial period of competition is over, and in terms of market share, two certifications are dominating the international carbon market for forest carbon (Hamilton, 2010):

- *Voluntary Carbon Standard- Agriculture Forestry and Other Land Use (VCS-AFOLU):* The VCS-AFLOU standard allows for credits from afforestation and reforestation, agricultural land management, improved forest management, and reduced emissions from deforestation and degradation (REDD). The VCS-AFLOU does not address community involvement, and does not consider co-benefits, like community livelihoods and biodiversity. The VCS-AFOLU does not take into account international leakage or market shifting, although it does address those concerns within a country.
- *Climate Community and Biodiversity Alliance Standard (CCBS):* The CCBS is a project design standard that does not actually issue credits, but instead offers rules and guidance for project design and development to ensure local community and biodiversity benefits.

This standard – developed through a partnership of non-governmental organizations, corporations, and research institutions – focuses exclusively on land based projects, including forestry projects. About 30% of the projects that use the CCBS are developed as CDM projects, and about 70% are looking to sell their offsets in the voluntary market (Kollmuss, 2009).

*Overarching guidance: Voluntary Certifications*

In terms of the voluntary market, the VCS-AFLOU and the CCBS are the most widely used standards in developing tropical countries. They are also among the most lucrative standards, with VCS certified credits getting between \$10-\$20/ton and credits certified by both the VCS & CCBS getting even more. This is driven, in part, by the expectation that VCS certificated credits will be accepted into a future compliance market, at least in the United States (pers com, Kyle Holland, Scientific Certification Systems). As such, their minimum standards provide the best road map available for how REDD projects will be developed.

There are no standards for community engagement in the VCS. The VCS-AFLOU standard is based exclusively on carbon storage above and below ground. The Climate, Community, and Biodiversity Association standard, however, provides certification, based on the following criteria:

- *Net Positive Community Impacts*: The project must generate net positive impacts on the social and economic well-being of communities and ensure that costs and benefits are equitably shared among community members and constituent groups during the project lifetime.

- *Off-site Stakeholder Impacts:* The project proponents must evaluate and mitigate any possible social and economic impacts that could result in the decreased social and economic well-being of the main stakeholders living outside the project zone resulting from project activities. Project activities should at least ‘do no harm’ to the well-being of off-site stakeholders.
- *Community Impact Monitoring:* The project proponents must have an initial monitoring plan to quantify and document changes in social and economic well-being resulting from the project activities (for communities and other stakeholders). The monitoring plan must indicate which communities and other stakeholders will be monitored, and identify the types of measurements, the sampling method, and the frequency of measurement. (CCBA Standards, 2009)

In order to achieve the CCBA “Gold Standard”, the highest level of standards available through the CCBA, projects must:

- “Demonstrate that the project zone is in a low human development country OR in an administrative area of a medium or high human development country in which at least 50% of the population of that area is below the national poverty line.
- Demonstrate that at least 50% of households within the lowest category of well-being (e. g., poorest quartile) of the community are likely to benefit substantially from the project.
- Demonstrate that any barriers or risks that might prevent benefits going to poorer households have been identified and addressed in order to increase the probable flow of benefits to poorer households.

- Demonstrate that measures have been taken to identify any poorer and more vulnerable households and individuals whose well-being or poverty may be negatively affected by the project, and that the project design includes measures to avoid any such impacts. Where negative impacts are unavoidable, demonstrate that they will be effectively mitigated.
- Demonstrate that community impact monitoring will be able to identify positive and negative impacts on poorer and more vulnerable groups. The monitoring of social impact ... must take a differentiated approach that can identify positive and negative impacts on poorer households and individuals and other disadvantaged groups, including women.”  
(CCBA, 2009)

It is important to note that in none of these examples are specific methodologies for how to engage communities spelled out explicitly; the guidance provided above is the most detailed available in terms of community involvement.

*Communities and REDD: Who owns the forests and the carbon?*

While looking at the complexities of the world carbon market, it can become easy to lose track of the fact that credits traded actually represent real forests, where real people live. A long history of community involvement in conservation has preceded the development of REDD. Much of the world does not traditionally manage land in the manner that the West has adopted, characterized by private ownership and the right of an individual or corporation to exclude individuals from a given piece of land. Customary systems of land management are very diverse; often resources are held by clans, families, or other collective entities on the basis of diverse blends of group to individual rights. These access systems often cater for multiple resource uses



and users, and boundaries between landholdings are often blurred and overlapping (Cotula, 2009). Since the colonial era, the state has exerted control over the land and disregarded the traditional management structures that existed, generating profit for those in power. This has undermined local economies and has resulted in vast overuse of environmental resources, including deforestation and degradation, overgrazing, and overdrawn aquifers (Cotula, 2009).

After the colonial era, land ownership shifted into the hands of the national governments. Currently, governments own over 75% of the world's forests (RRI, 2009). Although ownership changed, the government's attitudes towards the land often did not. In areas where the government has interests in developing the land, communities are not allowed access, and face widespread poverty, human rights abuses, inequity and political exclusion (RRI, 2009). This includes national parks; communities have often been excluded from conservation areas because it is believed that they will degrade them. In areas where the governments were not interested in developing the land, however, many communities have continued to manage their resources much as they have done traditionally, often unaware of the changes in legal land ownership. As governments reach deeper into their forests, forest dependent communities have become increasingly active in fighting for access to their land. It is estimated that two-thirds of ongoing violent conflicts today are driven by contested claims to land and resources (Alden-Wiley, 2009).

In terms of REDD, the conflict over land ownership is magnified because REDD benefits in the voluntary market flow to the individual community or company who owns the land (subject, of course, to government taxation). In areas where there is legal community ownership, the profits could be far greater than the cash value from traditional livelihoods. To complicate matters

further, land ownership does not, necessarily, correlate directly with carbon ownership. Carbon rights are a form of property right that commoditizes the carbon itself, and allows for trading. Until very recently, forest products were not valued for their carbon, and so no rights were assigned to carbon ownership.

In interviews, almost all REDD project developers acknowledged that communities must play a key role in project development to ensure its success, if only from the perspective of carbon conservation and business management (Griffiths, 2008; Hamilton, 2010; RRI, 2009). From the climate perspective there are a number of key reasons cited by project proponents for why communities must be involved-- leakage, permanence, and brand quality:

- 1) Leakage is when forest destruction that is prevented in a REDD project area is moved to another area, and therefore fails to conserve carbon overall. For example, if a community is told that they are not allowed to cut down a forest to build a farm, they will simply cut down another forest where access is not limited—thereby negating any carbon sequestered in the original forest. Involving communities in creating sustainable livelihoods options that they accept can help ensure that they will not need to continue deforestation to sustain their livelihoods.
- 2) Another concern is permanence, where forest that is supposed to be conserved is actually destroyed over time. Even under the best management practices, an unexpected carbon release may happen. Droughts, pest, or fire have the potential to revert yearlong carbon uptake within weeks or months (Schlamadinger *et al.* 2007). When industries offset their emissions through REDD offset credits, and the REDD credits are not permanent, the emissions from those companies may actually add to overall CO<sub>2</sub> emissions. While much

of the threats to permanence come from nature, there is also risk associated with ineffective project management. For instance, if communities do not have incentives to maintain the carbon in the forest, they are likely to continue their usual practices, until they are punished in some way. This form of restrictive management requires strict monitoring and enforcement- forest management features often absent in the developing world (Agrawal and Angelsen, 2009).

- 3) Brand quality: Ensuring that communities are not impoverished by REDD is also important from a marketing perspective. Since consumers of voluntary credits are not required to purchase these credits, they tend to be more interested in the overall social and environmental impacts of their purchases. In looking at websites that cater to selling credits to individual people interested in purchasing offsets ([terrapass.org](http://terrapass.org), [carbonfund.org](http://carbonfund.org)), it is clear that, while carbon offsetting is the primary goal, purchasers tend to want to think of themselves as people who are improving the world overall. This provides incentive for project developers to ensure that their projects do not destroy communities or hurt biodiversity.

## **Chapter 3**

### **Community Based Projects**

In this chapter, I will look at 23 REDD projects currently being developed in Indonesia, and at the ways in which they are planning on engaging communities, using the frame work of CFM indicators discussed in chapter one. In the next chapter, I will look at what I term “passive” benefits sharing, where projects give incentives to communities, instead of involving them as decision makers in project development.

#### ***Understanding Project Level Community Engagement***

Until recently, information on REDD projects was difficult to find. Many projects are just beginning to get off the ground, and project developers are not willing to share information before their projects are fully developed. Nonetheless, it is still possible to collect information on specific projects. While there is no international database of REDD projects, summaries have been developed by research organizations—in particular the Center for International Forestry Research (CIFOR)—and international funding institutions, such as the World Bank (Wertz-Kanounnikoff, 2009). Some more developed projects have websites that provide basic information ([www.merang-redd.org](http://www.merang-redd.org), etc). Other projects have project design documents – necessary for the Voluntary Carbon Standard certification process—that are available through the websites of their funders or NGO partners. The CCBA website contains project design documents for projects that are relatively far along in seeking certification—as of April 2010, there were 45 projects internationally that had project reports listed. Aside from these sources, project documents are only available by contacting project developers, and conducting interviews, as I did with 17 project developers. For more detailed information on the research process, see Annex 1.

**Chart 1: Community Engagement in Projects**

Project Name	Project Sponsor	Location	Project Certifier	Project Size	Number of People Impacted	Land Tenure Situation	Development of Rules	Technical Capacity	Community Characteristics/Heterogeneity	Institutional Arrangements
<b>Berau Indonesia Climate Action Project (3) (4)</b>	TNC/Indonesian government, Indonesian government, Norad, AusAid, USAid	East Kalimantan (Berau Province)	[not stated, looking towards compliance market]	Large- 2.2 million ha, with the goal of 800,000 ha utilized for carbon	107 villages within project area, 25 targeted as part of the project	Little legal land tenure	Management rules developed by provincial level government. Participation from community members is planned, but has not occurred yet.	Plans are being developed.	Communities are very diverse, from nomadic indigenous peoples to migrant farmers. Communities generally have never interacted.	This project is designed to be a project of the Indonesian government, facilitated, but not managed, by The Nature Conservancy.
<b>Danau Sentarum Lakes Plain Peat Swamp Forest (11)</b>	Flora and Fauna International	Danau Sentarum Area, Kapuas Hulu, West Kalimantan	[To Be Determined]	Large- 500,000ha (146,400 ha with "strong additionally")	[no numbers available]	No legal land ownership; project activities include mapping of traditional forest lands, and agreements with communities based on traditional land use.	Multistakeholder forest management units are being developed to determine rules and management practices. Agreements are to be based on customary rights and laws, including mapping of traditional land ownership.			NGO
<b>Forest Land Use and Climate Change (FLUCC) (12)</b>	ONF International	Poigar Forest, North Sulawesi		Small: Project Area: 35,000 ha, Crediting Area: 19,800 ha	1600 farmers are inside the forest area, 68,000 people are in the influence area	No legal ownership, but highly dependent on the forest				Privately owned project.
<b>Gunung Halimun Salak (16)</b>	Japan International Cooperation Agency, US - Agency for International Development	West Java		Small: 40,000 ha	314 village, 600,000 people living in it	The national park designation means the local people do not have legal land rights. However 314 settlements have been identified and around 8000 ha of land are being claimed				

						as owned by shifting cultivators.				
<b>Harapan Rainforest Project (17)</b>	Birdlife International, birdlife Indonesia, the Royal Society for the protection of birds	Kampar Peninsula, Riau	VCS/ CCBA	Medium: 101,000ha	8 indigenous family groups (guguk); 33,000 people who live on the outskirts (according to Scale Up)	No legal land rights. Preliminary surveys show that communities make use of almost the entire peninsula.	Project developers are developing management rules for the forest.	Communities are being trained to work as forest wardens.	Communities within project area are relatively homogenous. They still follow a semi-nomadic lifestyle harvesting fruits, rattan, and honey.	There is strong and organized community level opposition to this project (REDD-monitor).
<b>Heart of Borneo Project (14) (24)</b>	WWF	West Kalimantan, East Kalimantan, Sarawak	Developed for the compliance market	Large: 22,000,000 ha	9-11 core groups of indigenous peoples		[To Be Determined]			
<b>Jayapura/Unurum Guay (14) (24)</b>	WWF	Jayapura, Papua	Developed for the compliance market	Large: 217,634 ha	5 core villages	No legal land rights; the majority of affected people are indigenous	[To Be Determined]			
<b>Kalimantan Forest Carbon Partnership (8) (9) (10)</b>	AusAid & Indonesian government	Central Kalimantan	[To Be Determined]	Medium-120,000 ha (of peat land)	10,000 people (14 villages)	No legal land tenure. There is possible interest in supporting "Village Forests"- <i>Hutan Desa</i> - but that is not certain yet.	Uncertain, although stated goals include strengthen community and rights. The government plays the primary role in rule making	Rules are being developed by the national government, with consultation of communities. As of now, ten village facilitators have carried out preliminary consultations with community leaders.	In the north, the people are rubber tappers, and in the south, they are primarily farmers. Income levels are low, but are generally evenly distributed throughout the area.	Bilateral agreement between Indonesia and Australia is supposed to be worth \$30 million.

<b>Katigan Conservation Area (18) (19) (20)</b>	Starling Resources, PT. Rimba Makmur Utama, Yayasan Puter, Clinton Climate Initiative, Norwegian Agency for Development Cooperation (NORAD)	Kabupaten Katingan and Kotawaringan Timur, Central Kalimantan	VCS/CCBA- aims to sell credits in 2011	Large: 217,0000 ha	30 villages, 20,0000 people live in the area	No legal land rights.	Participatory development of rules is being facilitated by village-level NGO facilitators who live in the community. The project is developing Free Prior and Informed Consent models of decision making.	Communities may or may not be directly involved in monitoring conservation in the park. This is to be determined.	(Information not available)	
<b>Lesuer National Park (5) (6)</b>	Global Ecosystem Rescue, Provincial Government of Aceh	Aceh	VCS/CCBA, looking towards compliance	Large: 2,700,000 ha	10,000 people (75 villages)	No legal land tenure- primarily transmigrants	Management rules are being developed by project developers and the government of Aceh.			
<b>Malinau Avoided Deforestation Project</b>	GTZ, Malinau Regency, KfW, Govt, Tropenbos, GER	Malinau, East Kalimantan		Large: 260,000ha						
<b>Mamuju Habitat (13)</b>	Keep the Habitat, Inhutani 1	West Sulawesi	VCS/CCBA	Large: 1,000,000 ha	1.1 million people	Communities have no legal land rights.	Rules are being developed by the concession holders, with no input from the communities.	Communities are not being engaged as forest managers in any way.	Communities are poor; they are traditionally fisher folk on the shore area, and cocoa farmers in the interior. They used to make money in the logging industry, which has closed down due to overlogging.	Forest concession holders are working in partnership with the government (local communities are not involved).
<b>Mawas Peatland Conservation Area (21)</b>	The Dutch Royal Government, Shell Canada, BOS, Mawas Conservation Project	Central Kalimantan	[To Be Determined]	Large: 240,000 ha, Accounting area: 100,000 ha	[number unavailable- primarily migrants from Java]	This areas is classified as forest land owned by the government. There are traditional land claims near the villages that border or are within the Mawas Conservation Area, but (according to project docs) there are no land claims within				

						the project area.				
<b>Merang REDD (15)</b>	German Government, ICI, GTZ	Merang, South Sumatra		Small: 30,200 ha	2 villages, 4,243 people	There is no legal land tenure. Communities are proposing developing Village Forest and a community forest estate.				German-government funded project.
<b>Meru Betiri National Park (23)</b>	International Tropical Timber Organization (ITTO), Government of Indonesia	East Java		Medium: 58,000 ha	No reference to impacted people	[no information available]	[no information available]			
<b>Rimba Raya (1) (2)</b>	Infinite Earth, Orangutan Foundation International, World Education, Health in Harmony, MBK	Central Kalimantan (border of Tanjung Puting park)	VCS/CCBA	Medium-91,000ha utilized for carbon, 180,000 total size	14 communities (nearly 2,000 families)	Primarily Transmigrants, no legal land tenure	Management rules developed by project developer	Plans include indigenous people's knowledge sharing with US-based communities to promote eco-tourism. Local people are to be trained as forest guards.	Defined as "poor", other characteristics not discussed	Private project.
<b>Sebangau National Park (24)</b>	WWF	Central Kalimantan	Developed for the compliance market		20 villages surrounding the national park					



<b>Tesso Nilo Pilot Project (14) (24)</b>	WWF	Riau, Sumatra	Developed for the compliance market	Medium: 50,000 ha	22 villages surrounding the national park; around 40,000 people		[no information available]			
<b>Ulu Masen National Park (7)</b>	Flora and Fauna International, Provincial Government of Aceh, Telapak, Sekala (?)	Aceh	VCS/CCBA	Large- 750,000 ha	61 mukims fall within the project area - a total of about 130,000 people	The Aceh Special Autonomy law provides improved allocation of NRM benefits, and has moved towards recognition of customary forest rights, through a recognition of the traditional "Mukim" authority structure . There is still, however, no direct legal land ownership.	Rules are being developed by the by government with consultation of local "mukim" leaders. Goals include strengthening traditional access rights.	Communities will receive training in how to guard the forest.	Communities are poor. Community members will be trained to monitor and report on forest cover and condition.	Acehnese government has a provincial-level department that handles all carbon projects, with the partnership of private companies and NGOs.
<b>Projects with incomplete information</b>										
<b>Berbak Carbon Value Initiative (22)</b>	ERM, the zoological society of London, Berbak National Park	Jambi, Sumatra		Large: 250,000 ha						
<b>Central Kalimantan Peatland Project</b>	BOS, CARE-Indonesia, University of Palangka Raya, Wetlands International and WWF-Indonesia	Sebanggau, Central Kalimantan	[To Be Determined]	Large- 2,000,000 ha +						
<b>Cyclops Mountains</b>	Flora and Fauna International, Papua Provincial Government	Near Jayapura, Papua								

Papua Carbon Project	Flora and Fauna International, CI, New Forest, Emerald Planet									
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## Understanding Community Engagement in REDD Projects

In the next section, I summarize the information in the chart above into the clusters of variables discussed in chapter 1:

### 1) Resource System

<i>Forest Size</i>	Small (Below 50,000ha)	Medium (50,000-200,00 ha)	Large (Above 200,000ha)
	4	5	13

<i>Clarity of project boundaries</i>	Information generally not available
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<i>How much do people rely on the resource</i>	Variable, but high level of dependence on the resource in most cases
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Information on forest size was available for all REDD projects surveyed, but was not particularly useful in helping assess likelihood of good conservation outcomes. Existing information on community forest management does not allow for generalizations about forest size above 10,000 hectares (Chhatre and Agrawal, 2009), and over 80% of REDD projects surveyed are over 200,000 hectares. Project size numbers may be slightly misleading because total size of forest owned by a project developer is not always the same as the area that is being credited; project developers commonly seek credits for only a portion of their overall forest, choosing to leave part of their concessions intact to serve as a buffer in case forest from their crediting area is destroyed, for example, by forest fire. Clearly defined boundaries were not discussed in most of the available documentation, and so it remains unclear how boundaries will impact conservation success. In projects where boundaries were mentioned, project developers tended to mention that they helped make enforcement easier. In almost all of the projects surveyed, community members were highly dependent on the forests. The ways in which they used the forests varied widely-- many groups cleared small areas of forest for farming, one group cleared forests for fish

ponds, others used wood from the forests for homes and boats-- but all projects has impacted community members who are highly dependent on the forest. High levels of reliance on the forest would tend to predict positive outcomes for forest conservation; if communities can transfer dependence on forests to dependence on the profit that they make from carbon sales through REDD, it may also have positive impacts for success at carbon conservation.

## 2) User Group

<i>Community Size</i>	Small (under 10,000 people)	Medium (10,000-100,000 people)	Large (over 100,000 people)
	4	7	4

<i>Heterogeneity of the community</i>	Low	High
	4	13

<i>Community Wealth</i>	Uniformly poor and resource dependent
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The literature on CFM shows that communities that are smaller and more homogenous tend to have a better success with conservation goals. Most REDD projects surveyed, however, tended to involve many different villages, and many different ethnic groups. At one end of the spectrum, there are projects like the Berau Indonesia Climate Action Project, where over 100 villages and towns are within the project area. This includes people who are fully dependent on the forest to those who may never have set foot in a forest. At the other end of the spectrum, projects like Flora and Fauna International's Danau Sentarum Project is seeking to focus REDD project development at the community level, and begin with a relatively homogenous community who have traditionally managed land together. According the the CFM literature, these smaller projects will have a better likelihood of achieving success in carbon conservation.

Overall, communities who are impacted by REDD projects were categorized as “very poor” by project developers. This may be slightly misleading because project developers tend to only consider wealth as cash income, and possession of goods like motorcycles and televisions, and ignore resource wealth from the forest. Many communities were also characterized as not having adequate schooling or health care, and in need of cash income and development assistance. The CFM literature predicts that communities that are relatively well off will have more success in carbon conservation, and so may point to potential problems. Most communities are characterized as hunter/gatherers, farmers, or fishermen-- highly dependent on the quality of the natural environment for their livelihoods. This, however, seems to offer hope, as the CFM literature tends to find that communities that are highly dependent on a given resource tend to have more success managing that resource.

### 3) Institutional Arrangements

<i>Locally designed and accepted rules</i>	Rules Designed Locally	Rules designed by project developers	Rules designed by the government (local/national)
	2	3	4

<i>Community Level Legal Land Tenure</i>	Low to nonexistent in all REDD projects
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<i>Rules that are easy to understand and enforce</i>	To be determined
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The institutional arrangements surrounding CFM projects are often key to determining the likelihood of their success. Communities did not have legal rights to the land in any of the

projects surveyed. This is not uncommon in Indonesia, where only two percent of the land is legally community owned (RRI, 2009). One project-- the Danau Sentarum REDD project developed by Flora and Fauna International-- is attempting to secure legal land rights for the community before developing the rest of the project. In most other projects surveyed, however, project developers considered procuring land rights for communities to be too risky and controversial, and likely to sour their relations with local government officials. CFM literature tends to predict that conservation will be most successful in areas where the communities have legal land tenure, which means that there may be challenges in carbon conservation in these project areas. In many areas – Kuala Kampar, as a prime example – communities consider themselves to be the land owners, because they have been using the land for generations. In areas where REDD projects have been developed on land that the community considers their own, projects have been rejected by communities, and there have been vocal protests.

Not all surveyed projects had developed rules for governing forest access, but in those that had, there were three groups that were making the rules: the local community (with NGO facilitation), project developers/concession owners, and/or the government. In almost half of the projects, the government took the lead in determining the rules governing forest access. In most cases, this process included nominal participation by a representative of one or more of the affected community members, (although this was not always the case). In a third of the projects, the owners of the REDD concessions, or the people hired to develop projects on these concessions, developed the rules governing access to the forest. In these projects, community participation ranged from nonexistent — in the Mamuju Habitat Project— to projects that included a

concerted effort to learn about traditional management and include some of those lessons in the project plans. Only two projects—the Katingan Conservation Area and the Danau Sentarum Lakes Plain Peat Swamp Forest—have explicitly stated that the affected communities are going to develop and determine rules governing forest access and conservation.

How access rules are enforced also plays a role in helping predict project success. Six of the surveyed projects explicitly mentioned an attempt to use traditional forest management practices, or traditional forest boundaries, in developing their management plan. Only two projects, however, had the stated goal of using community forest management practices as the basis for the development of the management plan. The government and/or private interests that are enforcing access rules generally have more power than community members, because they have access to funds and coercive measures (they can have people arrested, etc). In interviews, most project developers said their goal was to use what one termed the “carrot and stick” method of enforcement—withholding payments to communities that were not successful in conserving forest carbon. Other project developers stated that they hoped that by providing alternative sources of income, communities would not have an incentive to destroy the forest.

#### *4) External Environment*

Government stability and the price that the resource fetches in the market are both key factors in predicting conservation success. In the Indonesian context, government stability has been highly variable over the last two decades. After the fall of President Suharto in 1997, Indonesia went through a period of political instability. In 1997, Indonesia was hit hard by the East Asian

Financial crisis, and the value of the Indonesian currency dropped precipitously. Indonesia was thrown into political turmoil, with five presidents coming into power between 1997 and 2004. Modern Indonesian politics has also been marked by decentralization of political power to the provincial and district level, where specific roles and responsibilities for forest management are often inconsistent or simply unenforced (Barr, 2010). Indonesia is also a notoriously corrupt country, which has also led to a lack of trust in government at the community level. This lack of stability tends to predict a failure in resource conservation.

Market price for commodities such as palm oil, pulp and paper, and timber are also an important component of the potential for future conservation success. The market price for carbon is still extremely variable, with prices for a ton of carbon running anywhere from five cents on the Chicago Climate Exchange to \$20-\$30 for “boutique” carbon credits (carbon credits that supposedly have biodiversity or community co-benefits). The variability around carbon cost could have serious impacts on the sustainability of these projects. First, these projects are based on the idea that storing carbon in trees can compete financially with other forest uses, and therefore in order to ensure project permanence, the price of carbon must be able to compete with other uses of forest land. With the price of palm oil increasing—particularly if high oil prices make palm oil biofuels more viable on the market—palm oil could easily out-price forest carbon. This market variation, which is completely outside the scope of community control, could lead land holders to choose to pursue other money making ventures, instead of making money from REDD, to the overall detriment of the climate change mitigation.



## *Summary*

Looking at community engagement in REDD projects in Indonesia, the overwhelming theme is that of project diversity. Lacking specific guidance from the national government, the international development banks, the United Nations, or the voluntary certification standards, projects have developed in many different directions. There are, however, some overarching themes: Most REDD projects in Indonesia are extremely large, and in areas where communities do not have legal land rights, but are highly dependent on the forest. The rules for forest management are being developed outside of the community, often with little local input or participation. Project developers have acknowledged that benefits need to be shared with the community, but there is little consensus on how those benefits should be shared. Only a small minority of projects are engaging community members as decision makers, and are attempting to ensure that the benefits flow primarily to local communities. Of course, there are outliers on all ends; projects like the Katingan Conservation Area and the Danau Sentarum Project have engaged community-level facilitators in order to support communities in developing projects based on traditional forest management. At the other end of the spectrum, the project developers of the Mamuju Habitat project in West Sulawesi consider themselves to be developing a forestry projects, and do not consider communities to be legal stakeholders (although, as the project developer stated, “we can’t just throw them all into jail, so we have to give them something to stop deforestation”). In the next chapter, I will look at how projects are engaging community members through passive mechanisms.

## **Chapter 4**

### **Passive Benefits Sharing**

REDD projects must engage communities in order to succeed. As discussed in Chapter 2, REDD projects must engage communities for the following reasons:

- To prevent leakage, and ensure that communities will not actually cut down another-- unprotected-- piece of forest when access to the forest managed for the REDD project is restricted.
- To ensure permanence, and ensure that communities don't have incentives to go continue their practices that involve harvesting forest products and/or destroying the forest
- To protect brand quality, and ensure that they maintain the co-benefits of biodiversity conservation and community development that make them so appealing in the first place (Hamilton, 2009)

In the cases of leakage and permanence, carbon conservation goals will necessarily be sacrificed if communities are not directly engaged. In terms of brand quality, the relationship is even more direct; community engagement itself is seen as a marketable goal.

The importance of engaging communities, in one form or another, has been recognized in almost all of the projects surveyed. All except one (the Mamuju Project) have planned for ways to engage community members. While these methods of community engagement have not always meant community members are valued as decision makers, project developers have come up with other ways for to provide benefits to community members. I term this type of benefit sharing “passive”, because communities simply receive benefits, instead of actively determining

their engagement in these projects. In the following chart I describe how the projects surveyed engaged communities with these passive benefits:

### Chart 2: Passive Benefits Sharing

Object	"Direct" community engagement	Service Provision	Direct benefits (Presents)	Jobs/Alternative Livelihoods	Cash Payments
<b>Berau Indonesia Climate Action Project (3) (4)</b>	Low level consultation through spokespeople	Unclear- but as a government project it can be assumed they would endeavor to provide the services the government would normally provide	[none]	Undefined "investment in alternative livelihoods programs to support low carbon development strategies"	PES model
<b>Danau Sentarum Lakes Plain Peat Swamp Forest (11)</b>	Mapping of customary/ adat forest land, Development of multistakeholder forest management units, Development of community forest management/agreements based on traditional (adat) rights, Development of community institutions/cooperatives for management of these forest blocks	[none]	[none]	Capacity building and forest monitoring and enforcement teams, "Development of performance based alternative livelihood program"	development of local benefit sharing mechanisms to ensure equitable use of revenues, support for alternative livelihoods such as fisheries, sustainable ag, and perhaps small scale eco-tourism , *possible micro-credit
<b>Forest Land Use and Climate Change (FLUCC) (12)</b>	Mapulus and Moposad are two cooperative elements of the Minahasa and Mongondow cultures, which the project plans on tapping into to develop community engagement [not defined future in materials]	[none]	[none]	Reforestation on degraded land and allocation of permits to exploit those plantations to local communities	PES Model
<b>Harapan Rainforest Project (17)</b>	Development of community resource management agreements with the forest-using communities to support restoration work	* Development of a mobile school and is providing education to 32 indigenous children, * Supporting the salaries of primary school teachers and provision of teaching materials in return for parental involvement and school attendance, * midwifery service, * help registering people for government services.	[none]	Initiate programs to look at options for alternative livelihoods, including rattan and hibiscus, recruitment and training of over 140 people as forest patrols and inventory teams	Micro-credit projects, Set up cooperatives that will include savings and loans, business and financing, and micro-credit schemes to help plant seedlings

<b>Heart of Borneo Project (14)</b>		Payments may be disbursed in the form of development programs			Payment for Environmental Services model is being developed.
<b>Jayapura (14)</b>	Community land tenure mapping	Payments may be disbursed in the form of development programs			
<b>Kalimantan Forest Carbon Partnership (8) (9) (10)</b>	Consultations with community leaders. Facilitation of the development of "village forests" that can take responsibility for REDD at the local level	[none]	[none]	[none]	Incentive payments will be based on milestones such as capacity building and readiness activities, and later will be linked to actions that result in emissions reductions. Incentives will include the following forms of payment: Input based- for implementing interventions like building dams, planting trees, etc; Performance based- maintaining dams, protecting forest, etc; Out-come based- payments commensurate with GHG reductions. A trust fund under "impartial" management has been established for micro-credit
<b>Katigan Conservation Area (18) (19) (20)</b>	In depth consultation with communities since early 2009, Publication of a newsletter that can be disseminated in the villages with information about the project and NGOs			Development of alternative sources of income such as rubber, rattan, jelutong (latex and cork), and gemor	development of "bio-rights" program where people get payments for reforestation efforts with seeds from the forest (unclear if these are loans or compensation)
<b>Lesuer National Park (5) (6)</b>	[Information TBD]				
<b>Mamuju Habitat (13)</b>	[none]	Support will be given to communities in improving their cocoa plantations, which are within the project area.	[none]	Jobs will be made available in the tree plantations that are being developed.	[none]
<b>Mawas Peatland Conservation Area (21)</b>	Stated goal of Free Prior and Informed Consent. Local people will "maintain access to traditional lands which will be determined through participatory mapping and will be respected in the development of the protected area"	Improved health services	[none]	Direct employment in the project, Employment for fire training to prevent and control fires (financial bonuses for communities where there are no fires), Employment for forest regeneration, Opportunities to participate in agricultural and livelihoods diversification programs, * Training by artisans to promote use of non-timber forest products	Microcredit

<b>Merang REDD (15)</b>	[none]	[none]	[none]	Support for raising chickens, Development of village nurseries with 100,000 seedlings, Development of community forest rangers program- two of these groups with 15 members each have (unclear if these groups are paid or unpaid)	[none]
<b>Rimba Raya (1) (2)</b>	Consultation	Early Childhood Education Program, Health care services (floating clinic)	One Laptop per Child, Low-fuel cook stoves, solar lighting,	Aquaponic Agriculture, Community agroforestry (where communities are given plots of land where they can plant and harvest fruit trees, "sister community" program with Seminole Indians in Florida for development of ecotourism.	Micro-credit
<b>Sebangau National Park</b>	[none]	Payments may be disbursed in the form of development programs	[none]	[none]	Payment for Environmental Services model is being developed.
<b>Tesso Nilo Pilot Project (14)</b>	[none]	Payments may be disbursed in the form of development programs	[none]	[none]	Payment for Environmental Services model is being developed.
<b>Ulu Masen National Park (7)</b>	Engaging the traditional Mukim leaders, who are traditionally responsible for natural resource management, Participatory spatial planning, including mukim planning and livelihood activities,. From the proposal: "indigenous people and communities should be encouraged and supported in developing distribution mechanisms" & "prior and informed consent based on customary land tenure arrangements and resource access rights of local communities should be sought prior to the establishment of Carbon Forests of other substantive changes in land use"	[none]	[none]	Hiring people as forest wardens	Incentive payments (initially from development aid), Grants provided to civil society organizations for independent monitoring, Funds for the communities: Community Development Fund (incentive to sign forest protection contracts, can be used for small-scale infrastructure projects), Alternative Livelihoods Funds (funds to help develop alternative livelihoods - like coffee production), Community-based Forestry Funds (to develop low impact forestry projects and possibly do inventories, etc)
<b>Projects which were mentioned, where no information was available</b>	Notes				

<b>Berbak Carbon Value Initiate (22)</b>					
<b>Central Kalimantan Peatland Project</b>					
<b>Cyclops Mountains</b>					
<b>Gunung Halimun Salak (16)</b>					
<b>Malinau Avoided Deforestation Project</b>					
<b>Meru Betiri National Park (23)</b>					

\* (Interesting note- that particular group of Seminole actually make their money through casinos)

Information provided for all projects from: Wertz-Kanounnikoff, Sheila, and Metta Kongphan-apirak. "Emerging Redd+: A Preliminary Survey of Demonstration and Readiness Activities " CIFOR Working Paper 46 (2009).

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In summary, passive benefits sharing falls into four categories:

**1) Service provision:**

Of the 23 projects surveyed, 9 projects mention providing necessary services – like health clinics and primary schools – as part of their community engagement process. The Indonesian government has programs to provide education and health care to its citizens, but because of a history of mismanagement and corruption (Barr, 2010) this is often not the case. Service provision in Indonesia is very poor, and many communities do not have access to schools and health clinics. These services were also considered to be more valuable to the community than gifts (see below) because they were necessary for the community's well being. On the other hand, in interviews, project proponents did express concern that communities expect to receive many of these services from the government, and may not see them as additional benefits; instead, they may view them as only what they are due as citizens. It also begs the question whether, if communities were to continue using the forest or were to shift their activities, would REDD project developers withhold classes and health services?

**2) Direct benefits/ gifts:**

Direct benefits, or gifts, are benefits that are given to each family or community in a project area. These direct benefits are sometimes related to decreasing dependence on the forest (for example, low fuel cook stoves), while others are simply aimed at improving quality of life overall in the project area (for example, one laptop per child). Only one project focused on these direct benefits-- the Rimba Raya project in Central Kalimantan, which, incidentally, is likely to be the first certified REDD project in the world.

**3) Jobs/alternative livelihoods:**

All projects involved creating new jobs for people directly impacted by the project. In areas where communities have depended on the forest for generations, project proponents recognized the need to provide alternative livelihoods to community members. The most common jobs provided were as forest wardens to monitor forest condition during the project's lifespan. Other common alternative livelihoods provisions included support for the development of non-timber forest products like rattan and sandalwood. Some projects – for example, the Katingan Conservation Area project — included strategies to help communities market these products, and then return the profits to the community. In the Katingan project, the project developer partnered with Tropical Salvage, a small company that makes high end furniture from salvaged wood in order to provide benefits to community members. There are a number of concerns with this type of benefit sharing-- one, that there will not be enough jobs for everyone, particularly women, and two, that people might simply prefer to pursue their traditional livelihoods rather than work for the REDD project. In most projects surveyed, alternative livelihoods mechanisms were developed with little or no input from the community. It is not certain that these alternatives will be able to provide sustainable and fulfilling alternatives to traditional practices that will be locally appropriate in the long run.

#### 4) **Cash payments:**

Nine projects specifically reference providing communities with cash payments in return for not using the forest. Five of the 23 projects surveyed explicitly mentioned a Payment for Environmental Services model, which focuses on paying communities to conserve resources that provide valuable ecosystem services—for example, paying communities to conserve a forest in order to protect downstream communities from flooding. These payments can be delivered to

communities as cash payments per individual or family, in the form of cash payments or an ATM card. Another variation on cash payments, micro-credit schemes, were proposed in four of the projects. In these micro-credit schemes, communities are able to take out small loans to support projects that could provide alternative livelihoods. Still other projects are developing more elaborate payment models, for example the Kalimantan Forest Carbon Partnership, where there are different incentive models being developed. These incentives are either input based (for implementing interventions like building dams, planting trees, etc), performance based (providing payments in return for maintaining dams, protecting forest, etc), or out-come based (payments commensurate with greenhouse gas reductions).

### **Why Passive Benefits?**

All project developers interviewed acknowledged that communities must be engaged in order to ensure that the projects are successful, even if they did not agree on how those community members should be engaged. There were two related reasons why project developers tended to prefer passive benefits to engaging community members more directly:

- Time: Project proponents also argue that passive mechanisms are faster than direct community engagement, which, they argue, will improve the likelihood for overall project success. In interviews, some project proponents expressed shock at the amount of time that NGOs asked them to spend working with the community. To paraphrase one project proponent, “Community engagement is a relevant variable, but I am paid depending on how much carbon I conserve. The longer I spend consulting community members is time I am not getting a return on my investment.” Another concern was that

encroachment from palm oil plantations and illegal logging would put the forest at risk, if projects waited too long to developing the projects with the communities. The fear was that the longer before projects are certified, and before money comes in for enforcement, the more actual forest is being lost.

- Money: The majority (20 of 23) of the projects surveyed were being developed with explicit goal of making money for the project developer. With carbon credits from projects predicted to sell for \$10/ton (Fogarty, 2010), projects stand to make huge sums of money. Since the goal is to make a profit, it would be counter productive to develop mechanisms where community members receive a large share of the profits from the sale of credits. Passive engagement mechanisms are relatively inexpensive, but still enable project developers to say that they are benefiting the community, and therefore they are able to get a premium for their REDD carbon credits. Some project proponents argue that providing larger sums of money, which would better reflect the amount of money that project developers were receiving, would overwhelm the local market, and totally change the economic realities of the area.

The tension between community engagement, carbon conservation, time, and money was expressed in all interviews with project proponents. In the next chapter, I will explore how different project are balancing those tensions, and what types of projects are gaining steam in Indonesia.

## **CHAPTER 5**

### **Predicting Conservation Success: Lessons from CFM**

Project proponents argue that REDD provides some of the best hope available for conserving ecosystem function and mitigating climate change, while benefiting forest dependent communities, and conserving biodiversity. But are they correct? In this chapter, I look at overall trends in how projects have engaged communities, and look at the impact that may have on the potential to achieve carbon conservation goals. I will also look at passive benefits sharing, as discussed in chapter 4, and look at the challenges that those mechanisms may create. Finally, I will also look at the challenges that different REDD projects may face in the future, and consider next steps to ensure that community rights will be at the core of REDD project development in the future.

#### **Engagement Models**

There are four main trends in how communities are being engaged REDD projects. Projects do not fall exclusively into one trend or another-- instead most projects combine aspects of these different trends. Going from most to least community focused, these are the following: Direct Engagement, Payment for Environmental Services, Service/Gift Provision, and Jobs/Alternative Livelihoods.

#### *Small, Community-focused Projects*

Two projects – Danau Sentarum and Ulu Masen – prioritize rights of communities within REDD. Both of these projects are using participatory forest management techniques, basing the

REDD area on traditional land use patterns, and developing access plans based on traditional lands rights and management practices. In both cases management plans were based in the Free Prior and Informed Consent of community members, and management of the forest blocks is planned to be done by community groups. These projects reflect characteristics that tend to predict success in community forest management. Project areas tend to be relatively small, and a relatively small number of people tend to be engaged in managing the area. Rules for the area tend to be locally designed, and therefore it is more likely that they will be locally accepted. At the same time, these projects face a number of challenges. In terms of external environment, these projects face the challenges that all REDD projects in Indonesia face; the lack of stability in the national government and the lack of stability in carbon prices are both very real challenges. They also face challenges that projects that use other engagement mechanisms are not as vulnerable to: they have taken a long time to develop, and have trouble attracting capital for development because they cannot promise results and profits in the same time frame as other projects.

#### *Medium sized, profit sharing projects*

Five projects explicitly mentioned the use of a Payment for Environmental Services (or PES) model, where communities' access to land is limited in exchange for cash payments for maintaining the ecosystem. This model has already been used extensively in conservation efforts internationally (Peskest, 2008). These projects tend to be physically larger than direct engagement projects, which one would predict would worsen their chances of having successful conservation outcomes. In these projects, rules for management also tend to developed outside

the communities, which would tend to predict challenges with carbon conservation efforts. These projects, like all projects in Indonesia, face the external challenges of unstable national policy and unstable carbon prices.

#### *Medium sized- service and gift sharing projects*

Almost half of the projects offered what amounts to one time gifts or services. These varied widely between projects-- they were anything from solar panels and cook stoves to more essential services like primary schools and health care clinics. This is, in essence, the same toolkit that has been used by national parks and plantations to mollify communities whose land is being used for purposes other than those desired by the traditional owners. Only one project-- the Rimba Raya project in Central Kalimantan-- focused exclusively on sharing small gifts (cook stoves and laptops). Projects that focused on service and gift provision tended to be large, and not based in the traditional management practices or knowledge of the community. The problematic external indicators are, of course, the same for all projects in Indonesia. Viewed through the lens of the CFM indicators, these projects will have a lower likelihood of success in carbon conservation than other projects, which engage communities more directly.

#### *Large, profit-focused projects*

Finally, most projects included creating alternative livelihoods or jobs. With so much of local livelihoods coming from the forest, project developers recognize that communities will need alternatives if they are to keep from using the forest (and therefore putting forest carbon at risk). Options that are being explored range from helping communities to raise chickens, to helping

develop aquaponics, to providing jobs directly in the project. Only one project explicitly stated that it was only interested in job creation, not in other passive benefits. This project—the Mamuju Habitat project— was identified by the project developer as a “sustainable forest management” project, where the primary economic benefit is to come from the sale of timber, and supplemented by REDD credits as the market allows. According to the CFM indicators, these large, externally managed projects with little community buy in are the least likely to be successful in carbon conservation.

### **The future of community engagement in REDD:**

What we see overall in terms of community engagement in REDD projects is that, in the tension between doing quick and profitable projects and engaging communities, project developers are focusing on moving projects forward quickly, and providing passive benefits. Project proponents hope that these passive benefits will be enough to keep communities from continuing activities that damage the carbon stock or moving their destructive activities to other forests. Of course, community engagement mechanisms are not the only factor that will define if a project is successful or not--market pressure, land change pressures, etc, all matter a great deal-- but what the literature on community forest management shows is that this is these projects are less likely to be successful in conserving carbon, overall.

In identifying community engagement in REDD projects, some over all concerns come to light. First and foremost, engaging communities in REDD projects through passive mechanisms has the risk of making communities dependent on companies and on a global market that they have



no control over. Particularly in the case of service provision-- where schools and health clinics are provided by project developers-- project failure could have devastating consequences for the community. In other areas project failure would mean the end of alternative livelihoods for the community, or other payments which community members would have come to depend upon. There is also the issue of the vast disparity between the amount of money that project developers receive and the amount they pass on to community members-- who are often the traditional land owners-- in services and benefits.

The question then becomes, is it possible to develop REDD projects that can conserve carbon, while ensuring that communities don't become dependent on outside market sources? I would argue that the Direct Engagement model of REDD projects, while only in nascent stages, can provide a potential source of best practices. These projects are providing on the ground lessons in the best way to engage communities in REDD, while still respecting the lessons that CFM presents about community engagement and conservation success. As REDD continues to develop in the market, lessons on how best to use community knowledge, community forest management practices, and provide ownership of REDD projects to communities, all within a timely manner, will become increasingly useful.

### **Future Challenges**

While it may be possible to develop best practices for REDD project development in Indonesia, the larger economic context for REDD remains in flux. The future market for REDD may face a number of different challenges, in terms of community involvement; here I explore three:

- *The development of a compliance market for REDD: The end of boutique carbon?* It seems almost certain that the compliance market, being developed through the United Nations Framework Convention on Climate Change, will include REDD offsets as a mechanism to help developed countries save money while meeting their emissions reduction requirements (Griffiths, 2008). As the compliance market is far larger than the voluntary market, this will mean a massive increase in the demand for REDD credits, which have the potential to change the type of project being developed. REDD projects designed for the voluntary market are, as some term it, “boutique carbon”. This carbon is being purchased by people who are not required to buy it, but are doing so for moral or public relations reasons, and are much more likely to be concerned about the impact that their carbon purchase has on communities and biodiversity. Following simple market logic, however, it is likely that industrial sectors in developed countries will want to purchase carbon at the cheapest price available, and will therefore be less concerned with costly efforts to ensure community participation and rights. While this will not necessarily mean the end of the boutique carbon market, it does mean that there will be much stronger demand for REDD projects that provide carbon at the lowest possible cost.

- *The development of national level REDD:* The REDD market is moving away from sub-national projects, and towards national level projects where deforestation and forest degradation is measured for an entire country. The benefits of this are clear; when national policies are developed to avoid deforestation and degradation, there is less likelihood of

leakage within the country. However, with national level REDD projects, benefits from projects flow to the national government- with no required distribution to communities. This incentivizes the government to maintain ownership of all forested land. National-level REDD may, in fact, provide a perverse incentive and keep communities from being able to get legal rights to their traditionally owned land.

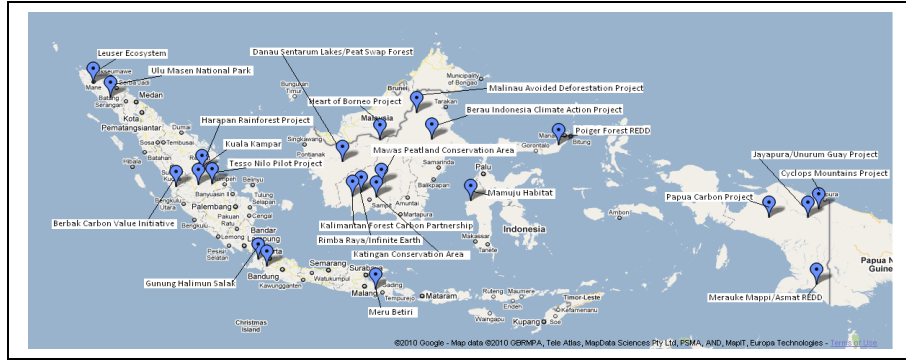
- *The variability of the Carbon market: Elite Capture, or Palm Oil plantations?* The variability of the price of carbon is another major challenge for the REDD market. Carbon prices have varied substantially over the years, from US\$.05/metric ton on the Chicago Climate Exchange, to over \$30/metric ton for prime “boutique” carbon. The 2008 average price was US\$6.12/ metric ton (Forest Carbon Portal, 2010). To be successful, carbon prices have to compete over the long term with other commodities that can be grown in the forest-- particularly palm oil. Palm oil prices have been on a steady rise, and are predicted to become even higher as oil prices go higher, and palm oil biodiesel becomes a viable alternative to regular diesel. Governments are unlikely to give concessions for REDD projects if they are more likely to get a better long term profit from logging and growing oil palm. This is not a problem that will be solved by improving community land rights; if land owning communities see that they are likely to make a better profits from oil palm than REDD, they are likely to choose to plant oil palm as well.

**Conclusion:**

Overall, the development of the REDD market poses many challenges for forest dependent communities. Existing projects developers have identified the need to engage communities, but they have done so only on a superficial level, which has meant that communities are faced the possibility of becoming increasingly dependent on outside companies and the international market. They are also facing increased competition for existing forested land, which means that the few communities who have been able to maintain a forest-dependent lifestyle will now have to compete with international corporations for access to the land. At the same time, REDD provides renewed promise for forest conservation and for the climate. As some on-the-ground projects have shown, there are ways to engage communities and put them at the forefront of REDD project development. At the same time, the literature-- and common sense-- show is that engaging communities is a necessary part of creating a practical and sustainable REDD project. While the future of the REDD market is unclear, conserving the world's climate and forests remains a priority. By paying close attention to how communities are engaged at this early stage of the game, we can move towards a future where the twin goals of environmental conservation and community empowerment are supported internationally.

## Appendix 1. REDD Projects in Indonesia (April 2010)

Google map available at: <http://maps.google.com/maps/ms?ie=UTF8&hl=en&msa=0&msid=110458241903953258876.000485a0011c754e1b067&z=4>



## **Appendix 2: Detailed Research Methodology**

Despite the rapid development of the market for REDD credits, information on these projects is not publicly available, and therefore research collecting it had to take a variety of different forms. I initially identified projects through looking at *Emerging REDD+: A Preliminary Survey of Demonstration and Readiness Activities*, a report from the Center for International Forestry Research, written by Sheila Wertz-Kanounnikoff (2009). This report identified 44 REDD demonstration activities across the world, with 23 of those projects developed in Indonesia. The next step was to go through these projects one by one, and find any available information about these groups on the internet. Information was patchy; certain projects had up-to-date websites, while others were not mentioned at all. I contacted Sheila Wertz-Kanounnikoff and her co-author, Metta Kongphan-Apirak, for suggestions on desk research methodologies that they recommended, which led to a thorough collection of online materials.

In order to learn more about the projects, it was necessary to reach out to the larger network of people that I have worked with in previous projects. Many of the people who used to work on other forest related issues in Indonesia have now moved their efforts on to REDD. Through these networks, I was able to set up interviews with project developers and proponents. I focused my interviews on project developers, particularly those whose projects were not well documented online. I decided to focus on project developers, rather than other people working on REDD-- for instance, advocacy groups-- because I wanted to understand what projects were planned, rather than simply understanding what was currently being experienced on the ground. I was in contact with individuals from 20 of the 22 projects, and conducted semi-structured

phone interviews with 17 project developers. I failed to get in touch with project proponents in two cases, giving up only after three emails had gone unanswered. Interviews with project developers were supplemented with interviews with NGO activists, policy proponents at the national and international level, and project certifiers.

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