THESIS

CARBON OFFSETS AND CERTIFICATION:

HOW AND WHY OFFSET PROVIDERS CHOOSE TO CERTIFY

Submitted by

David A. Taft

Department of Political Science

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Advisor: Dimitris Stevis

Michele Betsill
Peter Taylor

ABSTRACT

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In a world that is increasingly concerned about carbon emissions and the atmospheric impacts of those emissions, carbon offsets have become a broadly accepted form of emissions reductions. While the UN set the initial standard for governing those offsets with the Clean Development Mechanism, a voluntary carbon market and a wide variety of private carbon offset certifications have gained an important role in that voluntary market. Because these private certifications take a variety of forms and have their own specialty niches, it is important to understand the intricacies of these certifications for the growing number of carbon offset producers. This research studies the reasons why a small non-profit carbon offset producer would seek certification, as well as how that producer went about choosing among a wide range of offset standards. The research revealed that for an organization to certify, the increased market share and legitimacy must outweigh the cost of certification. In addition, the choice in certification largely depends on cost, suitability, and the perception that the standard will uphold its legitimacy in the long term.

TABLE OF CONTENTS

LIST OF ABBREVIATIONS

CCBS – Climate, Community and Biodiversity Standard
CCX – Chicago Climate Exchange
CDM – Clean Development Mechanism
EU – European Union
EU ETS – European Union Emissions Trading System
FSC – Forest Stewardship Council
GATT – General Agreement on Tariffs and Trade
ITTO – International Tropical Timber Organization
lCER – Long Term Certified Emissions Reduction
NGO – Non-Governmental Organization
NSMD – Non-State Market Driven
REDD – Reduced Emissions from Deforestation and Degradation
tCER – Temporary Certified Emissions Reduction
UN – United Nations
USAID – United States Agency for International Development
VCS – Verified Carbon Standard
WWF – World Wildlife Fund

Chapter 1

Introduction

Over the past several years we have seen a bewildering array of carbon offset certifications enter the market. These certifications come in all shapes and sizes, from a variety of sources, and aim to accomplish a wide array of goals. In the push to mitigate climate change, these certifications have assumed a prominent role in screening out the good and bad carbon offsets brought to market. By purchasing offsets, buyers aim to reduce their own carbon footprint through carbon reductions elsewhere. This distance between the product's origins and the final buyer is largely the impetus for offset certification. Since offset buyers cannot readily visit the site of a carbon project, they rely on certifications to legitimize the carbon reductions. In addition to reducing carbon, many offset buyers want proof that the production of the offsets also yielded community and ecosystemic benefits. These factors have led to the wide array of carbon offset certifications.

Given the impressive variety in carbon offset certifications, it can be a challenge for an offset project developer to decide which might suit their operations most appropriately. Furthermore, given the novelty of carbon offsets and the certifications, it may even be worth debating whether certification is worth the time and money. Despite the uncertainties of carbon markets and climate legislation, there is little doubt that carbon offsets are occupying an increasingly important role in global climate policy. The

voluntary carbon offset market has been growing consistently even in the face of the severe 2008 global recession (Lovell, 2010). With this growth there is an increasing demand for certifications that can verify the legitimacy of carbon sequestration.

This thesis aims to explain why a small non-profit organization currently producing carbon offsets through forestry projects would choose to certify their offset production, as well as how that organization chooses among the broad range of certifications available. Since certification is for all intensive purposes an investment for a project developer, it is expected that for a developer to certify they must expect the benefits of certification to outweigh the cost.

There are several ways this research will attempt to solve this problem. The sustainable forestry certification literature provides a wealth of information for approaching carbon forestry certification. Many of the lessons learned in sustainable forestry translate closely to the situations faced by forestry carbon offsets. Furthermore, this thesis will examine the case of a small carbon forestry developer in great depth to investigate both their decision to certify as well as how they have approached the multitude of available certifications. Finally, additional evidence from a project already certified by Plan Vivo will be included to corroborate findings from the case study.

Relevance

By studying the factors that are important to carbon offset developers, as well as the experiences in past forestry cases, I hope to create knowledge that can further our understanding of the carbon markets in several main facets. First, by providing insight into the decision process of carbon offset developers, the designers of certifications can better understand how they can make their standards more accessible, more effective, and

better tailored to a certain type of offset developer. This is especially important because by focusing on small, community based forestry projects we can not only address one of the largest sources of carbon emissions, but also improve local livelihoods in the process. Furthermore, by dissecting the important features of some of the main carbon offset certifications available, other carbon offset developers can use this research to inform their decisions about certification. Given the substantial costs and time commitments of certification, this is a decision that can make or break an organization's financial health and viability.

The focus on small community oriented forestry offset developers does however limit the research. The first sections of the thesis maintain a relatively broad orientation which can be useful to larger and more varied offset projects, but ultimately by focusing the case study on a certain type of offset producer it will be most useful and generalizable only to small community oriented forestry offset projects. Despite this limit, interest in forestry projects that help communities is growing rapidly due to the broad geographic possibilities for projects and interest in combining carbon offsets with sustainable development.

This research largely builds on certification literature from the sustainable forestry field, the civil regulation movement and the Fair Trade initiatives. Bendell (2000) presents a foundation for the certification movement in his calls for civil regulation which excludes traditional governmental regulation in favor of collaborative regulation between NGOs, consumers and corporations. Haufler (2001, 2003) furthers this discussion noting that since traditional regulation has largely failed to provide adequate regulation, it is up to advocacy coalitions and corporations to govern the behavior of economic actors. This

opens the door for certification to provide "social regulation of the market" (Haufler, 2003). Auld, Balboa, Bartley, Cashore and Levin (2007) and Auld, Gulbrandsen and McDermott (2008) move beyond that broad approach towards certification and examine how this form of governance has impacted the forestry sector and why it has also spread to other areas like tourism and fisheries. In light of the successful growth of these certification efforts, Klooster (2005, 2010) and Taylor (2005) address the concerns that as these certifications grow and include a wider range of participants they are at risk of losing stringency and their commitment to less privileged participants. This concern is especially valid in this study as it deals with a small organization with limited leverage in the market. In the past 15 years of the Forest Stewardship Council there was a significant amount of research examining issues surrounding that certification. Bass, Thornber, Markopoulos, Roberts and Grieg-Gran (2001) shed light on some of the issues and problems associated with certifying forests. This research outlined issues of forestry certification such as equity and design concerns which have largely transferred to the forest carbon certifications. Finally, a number of recent works have addressed some of the issues specific to carbon offset certifications and governance including the difficulties of commoditizing carbon and how offset certifications have progressed since the Clean Development Mechanism (Bachram, 2004; Bumpus, Liverman & Lovell, forthcoming; Estrada, Corbera, & Brown, 2008; Hamilton, Chokkalingam & Bendana, 2010; Kollmuss, Zink and Polycarp, 2009; Lovell, 2010; Lovell, Bulkeley & Liverman, 2009)

The following chapters will first outline the origins and movement towards civil regulation and certification broadly. Next, the focus will narrow to discuss how this type of regulation has found its way into carbon offset certification including some of the

unique qualities of carbon offsets which impact certification and offset production. These first two chapters will provide a firm understanding of certification's origins and why it is even necessary to examine an individual case of certification. Subsequently, a number of offset certifications will be examined in detail using an analytical tool for distinguishing between those certifications. This comparison will then allow for a better understanding of the empirical case study in which I will discuss first-hand accounts of why an organization chooses to certify carbon offsets and how they choose among the different offset certifications.

Chapter 2

Origins, Theory and Debates in the Certification Literature

In the past two to three decades the certification model has seen a rise both in numbers as well as popular attention (Auld, Balboa, Bartley, Cashore and Levin, 2007). Through these years the model has spread to a broad array of areas including sectors as diverse as textiles, forestry, tropical food exports, and wine. This chapter aims to accomplish several main goals. First, it will outline the commonly recognized recent history of the certification model, specifically within the social and environmental realm. Next, it will provide the theoretical underpinnings of certification, focusing on non-state market driven governance literature. Subsequently, the chapter will cover the conditions which have allowed certification to proliferate so substantially. Finally, I will address the notable debates within the field and academic literature on certification.

Certification's origins and theoretical foundation

Auld et al (2007) identify three primary movements which have led to the current popularity of certification, specifically within the social and environmental realm. The fair trade movement, which began through the efforts of religious groups attempting to even the balance of trade and improve social conditions in the coffee industry is one of the first attempts to use certification to alter the market. This system was created partially due to the overproduction and consequent low prices paid to coffee farmers, and partially due to the abusive practices by middlemen in the coffee industry. The fair trade

model continues to be a prominent certification scheme and has expanded to include a variety of agricultural products as well as handicrafts and raw materials (Bernstein and Cashore 2007, Fair Trade Labeling Organization, 2011).

A second source of certification stems from the forest certification movement brought on by civil society following the failure of the International Tropical Timber Organization to create sustainable forest management standards (Auld, Gulbrandsen and McDermott, 2008; Klooster, 2010). This push for better forest management through certification was mostly attributable to a number of environmental NGOs including the World Wildlife Fund, Friends of the Earth, and the Rainforest Alliance (Klooster 2005). The resulting Forest Stewardship Council aims to reduce the amount of unsustainable forestry worldwide while providing democratic governance of said system.

The third movement for social and environmental certification arose from public concerns over sweatshop labor practices (Auld et al, 2007; Bartley, 2003). As with the forestry certifications, this movement began with concerned northern consumers which translated into NGO action to shame corporations and demand accountability in production processes. The reputation sensitive clothing companies then adopted standards to shield themselves from negative publicity campaigns.

The most significant theoretical concept for understanding certification is the non-state market driven governance system (NSMD). There are several characteristics which define a governance arrangement as non-state market driven. First and most significantly is the lack of state sovereignty used in enforcing compliance (Auld et al, 2007; Auld, 2007; Bernstein and Cashore, 2007). In a non-state market driven system there is no means of forcing compliance using incarceration or fines. The second feature of NSMD

governance is that the involved institutions constitute spaces in which learning and adaptation can occur across a significant range of stakeholders. Usually this entails a forum in which stakeholders consult with one another. Next, a NSMD governance system requires that participants undergo costly reforms which they would not otherwise undertake. Fourth, NSMD governance seeks authority through the supply chain. Authority is granted when producers choose to adopt the regulations associated with a NSMD governance system. Furthermore, the goal of NSMD governance mechanisms is to address issues which firms would otherwise have no incentive to tackle. By doing so, NSMD systems attempt to reconfigure the market. Finally, NSMD systems require some form of verification which provides legitimacy to the system and provides validation that the system is functioning as designed. This requirement of verification distinguishes NSMD systems from voluntary unsupervised efforts such as many of the corporate social responsibility movements (Bernstein and Cashore, 2007; Gunningham, Gabosky, and Sinclair, 1998)

There are a number of commonly accepted assumptions about certifications in this context. These assumptions are relevant to this research since each will factor into the decisions made by organizations looking to certify their products. One of the most significant assumptions is that consumer demand for certified products is significant enough to justify the extra time, effort and cost of obtaining certifications. Additionally, supporters assert that by involving consumers, producers, and other stakeholders in developing standards it creates a more democratic regulatory environment than traditional regulation (Bass et al, 2001; Vogel 2008). For each of these assumptions there is an opposing argument. Certification opponents frequently argue that the profit logic of

firms dictates that certification cannot succeed in any meaningful way, and claims to be democratic are undermined by the strong Northern bias in the membership of most standards development bodies (Bass et al, 2001). These issues will be dealt with in greater depth later throughout this chapter.

Explanations for certification's acceptance

There are a variety of theories which attempt to explain the recent interest in certification but most of the explanations attributed to certification's growth stem from a strong commitment to neo-liberalism in addition to an active civil society (Barrientos, 2000; Bendell, 2000; Klooster, 2010). Neo-liberalism is characterized by borderline worship of the market, a reliance on the ethical responsibility of consumers and producers, opposition to state regulation, and trade regulations and fiscal reforms which decrease state ability to intervene in markets (Klooster, 2010). Non-state market driven mechanisms and certification specifically are in the position of working within the neo-liberal paradigm while attempting to alter markets from within (Bernstein and Cashore, 2007; Taylor 2010).

As Barrientos (2000) explains, the deregulation promoted by neo-liberal economic principles has opened space in which non-traditional regulation can play a role. The social and environmental certification model aims to stop the downward spiral in environmental, labor, and social standards caused by deregulation and structural adjustment attributable to neo-liberal ideology. Certification exemplifies the neo-liberal ideals of consumer and producer responsibility and devolves the responsibility of regulation from state to the market (Klooster, 2010). In this context the market is both the consumers and producers as the consumers are demanding accountability in the

production chain while producers are seeking proof of their production methods. Certification represents the middle player which provides consumers assurance and producers the guarantee that consumers know how they produce their products.

Additionally, certification represents a transition from producer to consumer politics. Bendell (2000) contends that the 1990s were marked by a consumer movement demanding increased corporate responsibility which manifested itself in the form of boycotts and buyer groups which flagged products produced in socially or environmentally questionable ways (Bendell, 2000; Raynolds et al, 2007 148). This consumer pressure encouraged producers to seek ways of assuring consumers that their products have not come from exploitative production methods.

One of the central tenets of neo-liberalism is the expansion and active push for increased trade and global interaction. This is producing many different effects throughout the political and economic spheres. Two developments which are commonly cited in encouraging the growth of certification include further marginalization of traditional state regulation and disconnecting production from consumption (Barrientos 2000; Bendell, 2000).

Challenge to State Regulation

Traditional state regulation is challenged because with firms spreading their operations across many countries, a state may only be able to regulate part of a firm's activities leaving the possibility for abuses elsewhere. This is further complicated by the power wielded by the World Trade Organization which can punish states for trade discrimination if they attempt to regulate foreign production by barring imports (Bass et al, 2001). This geographic dislocation necessitates a form of governance that is not

territorially restricted and excludes state control (Auld, 2007; Bendell, 2000). As Auld et al note (2007), of the twenty most populous countries in the world, all but three have some form of certified production happening with respect to social and environmental standards. As this demonstrates, certification has spread significantly geographically and may succeed in overcoming the geographic dislocation furthered by globalization which has hampered traditional state regulation.

Separating Consumption from Production

A second condition of globalization which has contributed to the growth of certification is the disconnectedness of production and consumption (Raynolds, 2000). Granovetter (1985) asserts that modernization has attempted to isolate economic action from its social context, which is a substantial change from earlier times in which the majority viewed economic behavior as heavily embedded within social relations. The modern perspective sees the economy as a separate sphere from the social realm, and one of the goals of many of the environmental and social certification schemes is to re-embed economic action within the social, environmental, and natural processes from which this economic action derives (Raynolds, 2000). For example, the fair trade movement's explicit goal is to create more direct connections between producers and consumers while improving the terms of trade for Southern producers (Fairtrade Labeling Organization, 2011). By doing so, the certification infuses trade relations "with an alternative set of moral values…including fairness, trust and equality among consumers and producers" (Taylor, 2005). As the case study will demonstrate in a later chapter, one of the ways offset providers differentiate themselves is by including social and environmental values in the product.

Many of the certification schemes and the thrust of this research center on the elements historically associated with sustainable development. Those elements are environmental, social, and economic development in underdeveloped regions. Since these aspects typically fall outside the profit motive associated with the market, certification can function as a means of focusing attention on these elements and re-connect economic action to the broader social context while challenging traditional profit centered production methods (Bendell, 2000; Raynolds, 2000). One main aspect of this research is whether infusing a carbon offset with social and environmental benefits is the primary driver in certification or how that infusion impacts the decision to certify.

Civil Society

Aside from the neo-liberal ideology and the globalization that ideology promotes, experts have identified a robust civil society as another key factor in the rapid diffusion of the certification model (Bass et al, 2001). As was mentioned previously, the modern certification movement grew largely from the work of a number of NGOs working to address social and environmental problems in forestry, agriculture, and manufacturing (Auld et al, 2007). There is a continued role for these organizations beyond the early phase of establishing the certifications currently in force. After their successes in forestry and fair trade coffee, civil society continued spreading the model to a broad array of products. Auld et al (2007) describe these organizations as "institutional carriers" who directly aim to spread the model to various products and locations.

The argument is that certification goes beyond just a purely functional solution to become a solution in search of a problem. In the context of neo-liberal ideology, as well as a favorable public reaction to many of the early certification systems, these

institutional carriers have assumed a missionary type role in pushing certification to broader audiences.

The quintessential example of this institutional carrier concept is the World Wildlife Fund. This organization was instrumental in the creation of the Forest Stewardship Council upon the failure of the International Tropical Timber Organization (1994) to create any kind of meaningful standards for rainforest protection. By the early 1990s the WWF and other environmental non-governmental organizations were dismayed that the ITTO had not slowed tropical deforestation and the political bickering stifled the possibility of creating an ITTO certification. Furthermore, producer countries such as Brazil argued that ITTO certification would be a trade barrier to be sorted out under GATT procedures (Elliot, 2000). These political disputes finally led the non-profits to create independent certification and labeling systems. The WWF argued that the FSC would leave the ITTO behind and bypass the slow and corrupt intergovernmental actors (Auld et al, 2007). Following their success in organizing the FSC standards the WWF led the development of the Marine Stewardship Council, Marine Aquarium Council, and the Gold Standard system for carbon offset certification.

In addition to organizations like WWF that led the charge in encouraging and developing standards, the certifiers such as Rainforest Alliance also have played a role in encouraging additional standards (Auld et al, 2007). These organizations obviously have a substantial stake in the spread of certifications, but also hold significant expertise in spreading certification based on their experiences in providing other certifications.

Finally, a number of large philanthropic organizations have provided significant assistance in translating the certification model to various sectors. The MacArthur and

Rockefeller Foundations have contributed large sums towards a variety of certification programs including Fair Trade as well as the Sustainable Tourism Council (Auld et al, 2007; Bartley, 2007). This combination of funding, missionary work through NGOs, and technical expertise from certifiers combines to create a formidable force in spreading the certification model and has proven capable of spreading the certification model to a variety of areas.

Debates and Contentions within Certification

Can market means effectively reform market abuses

One of the most significant questions in the certification field is whether market mechanisms can effectively alter the market in which they must function considering that certifiers are themselves businesses (Bendell, 2000; Klooster, 2010; De Camino and Alfaro, 1998; Taylor, 2005). There is a serious concern that by working through markets, certification will follow the same patterns as other industries and create a "rich man's club" (Bass et al, 2001). This club rewards those producers which already have the capacity to become certified and the knowledge to take advantage of the certification system. This possibility of creating an entrenched group of winners and losers is problematic for the social and environmental certifications since many of these certifications are explicitly aiming to tame the harsh tendency of capitalism to stratify the winners and losers in society.

Presently, there is a widely mixed result in terms of the effectiveness of certification in achieving non-market goals ranging from the Forest Stewardship Council, which has swung heavily towards a Northern focus since they have the information and resources to become certified, to fair trade which is still highly regarded in terms of

providing social benefits to its producers (Raynolds, 2000; Taylor, 2005). The following sections will outline some of the debates and issues associated with certification's commitment to the market and how this impacts certification as a whole.

Does success and mainstreaming dilute standards

The inclination for certifications to expand and grow is disconcerting since it may provide incentives to weaken standards. While certifications aim to reconfigure the market, they must still operate within market constraints and when certifications are growing their operations it is possible or even probable that they water down their standards in order to attract more participants (Klooster, 2010). Ironically, it is a condition of their success that certifications may become susceptible to weakening their standards to attract greater participation (Taylor, 2005).

In the case of fair trade coffee, the product has become significantly recognizable to the point that large roasters and distributors such as Starbucks and supermarkets are interested in purchasing large quantities of beans. Long time fair trade supporters are concerned that this broad mainstreaming will lead to a depersonalization in the fair trade coffee market thus undermining the mission of re-embedding the social context of coffee consumption (Taylor, 2005). Guthman (2004) contends that this is exactly what happened with organic standards in the United States. As larger agri-business became interested in organic products they were able to push the standards closer to the conventional production already in place.

Klooster (2010) notes that for certifications to retain legitimacy in the eyes of consumers and NGOs it is essential that they do not make drastic sacrifices in mainstreaming strategies. This should act as a counterweight to the pressure to weaken

standards, yet there is always the concern that certifications will dilute standards and become little more than a public relations tool for participants. This question will be essential in this research as the various certifications involved each have different goals in terms of growth, mainstreaming, and market niches.

How does a variety of standards impact certification

Based on the primary focus of this research, the issue of variety in certifications is essential. The main question related to this issue is how does a broad diversity in available standards impact certification as a whole? Does variety simply confuse the people for whom certification is supposed to provide assurance? Does it provide more opportunities for potential producers to reap the benefits of certification? Does it produce a race to the bottom in terms of lessening the stringency of certification's standards in order to maintain a viable business? Can it strengthen standards as certifications compete to be the most effective?

The conundrum of working within the market to change the market becomes apparent when discussing the effects of diversity in certification systems. As Raynolds, Murray, and Heller (2007) claim, certification is fundamentally dependent on market success. The consumers must purchase the certified product and producers must believe that undergoing certification procedures will ultimately make them more successful.

Many researchers studying the voluntary regulation movement along with certification argue that one of the main drivers, if not the main driver, is reputation sensitive firms seeking to insulate themselves from potentially bad publicity by using these certifications (Haufler, 2001; Klooster, 2005). If producers are under the impression that they can gain the same benefits from certification with a less stringent

standard as they would accrue from the more stringent standard, there is the potential that the strong standard will fall out of favor and ultimately fail.

Raynolds et al (2007) point to evidence from the coffee sector that the stricter standards garner less support from industry than standards which do not have stringent requirements. This suggests the possibility that markets may lack the capacity to reform themselves as the market logic will always force regulation downwards.

One of the potential benefits of many certifications is the possibility that among the various options available one will fit local conditions and types of producers more appropriately (Bass et al, 2001). Considering the vast range of products that can be certified and within those products the myriad conditions under which they are produced it can be beneficial to have numerous options. In the case of forestry carbon offsets there are limitless variables including land tenure type, ecological conditions, country type, plantation or natural forest, and time commitment. Each of these variables can add significant complications to establishing the quality of a carbon offset and increases the appeal of specialized certifications with extensive experience in a specific niche. This means there may be greater potential for finding an appropriate certification. As will be discussed in a later chapter, each certification has a particular focus in operations and the niche certifications have specifically been designed because there are so many complexities within the field. Bass et al (2001) suggest that this body of experience could both allow for niche producers as well as further the competency among certifiers through learning and sharing. The downside to this specialization is that niche certifications may struggle to gain the high profile reputation of mainstream standards due to the sheer volume or lack thereof. Higher quality or not, there simply are not as

many projects that can fit a specific type as can fall into the broad swath of types covered by mainstream certifications.

The debate over whether numerous certifications just confuse consumers addresses one of the most relevant elements of certification: legitimacy. Certifications gain legitimacy through acceptance in the supply chain, meaning that if producers do not believe they will receive expected benefits, and consumers do not believe certifications are actually ensuring standards are being upheld, then the certification loses legitimacy and has little chance of survival. This is a very contentious issue with carbon offsets because the huge variety of certifiers means there is no uniformity, transparency or transferability within many sectors of the carbon market. Bumpus and Liverman (2008) argue that this has not only led to criticism and skepticism, but it has spawned a backlash against the very idea of carbon trading. This type of backlash has encouraged more certifiers to establish links with reputable NGOs as well as respected research centers to bolster their reputation and trustworthiness. In the carbon markets this has led to most certifications linking themselves in form or branding to the CDM standard, which as the original offset certification is the "pioneer program" in carbon offsets. This attempt at establishing legitimacy through imitation or association will be discussed in depth in the chapter detailing the various offset providers.

Can certification be equitable?

Some of the most debated issues in social and environmental certification focus on equity. Since many of the certifications, such as Fair Trade and FSC, explicitly set out to establish improved livelihoods, healthy environments, and economic development, equity is an unavoidable topic. This discussion plays out in several different broad

categories. The first, and possibly most often discussed, is whether these certifications maintain an equitable system when they are largely designed by first world organizations, administered by first world organizations, cater to first world consumers, yet operate largely in the developing world (De Camino and Alfaro, 1998).

Northern Bias in NGOs

Despite the fact that the NGOs which are frequently behind certifications claim to incorporate stakeholders from as many involved parties as possible, the fact remains that these organizations are constructs of western industrialized nations (De Camino and Alfaro, 1998; Thornber, 2003). Therefore the standards these organizations create are based on Northern scientific practices and carry with them the values of those societies. These standards can be perceived as culturally insensitive and unresponsive to traditional values and forestry practices especially. Bass et al (2001) assert that this has happened with the Forest Stewardship Council due to the fact that small Southern producers are underrepresented in the FSC despite efforts at democratic process. Since there are so few small developing world producers the standards have been designed largely by the Northern producers and are skewed to that type of forest management. So despite the fact that the FSC does allow for a large degree of participation in developing standards, it only yields an equitable system if there are enough Southern producers to influence the agenda. Many of the issues related to Northern design bias are especially pertinent in the forest certification systems, both for timber production as well as forest carbon projects. Considering how many residents of the areas surrounding certifiable forests rely extensively on forests for their livelihoods, certifiers run the risk of marginalizing local residents that have lived off the forests for generations (Bass et al, 2001). Also, based on

the reliance on donor money for many of the certification projects, there lies the possibility of insisting on culturally unsustainable management practices rather than pursuing the best locally approved techniques.

Who can participate

Another potential pitfall of certifications in the equity debate is the limitation on who can and cannot participate. While some of these limitations are explicit in the standards, others are structural. In the explicit category, many standards are fairly strict in the type of producers which can access certification. In the case of Fair Trade coffee, only small family farms are allowed to participate. The problem with this sort of restriction is the large number of potential beneficiaries who are excluded. A significant number of impoverished farm hands work on larger plantation style coffee farms and would benefit immensely from a livelihood improvement project such as Fair Trade but lack the resources to own personal farms (Utting, 2009). Similarly, many potential forest carbon projects are unable to access certification because of land tenure arrangements. This exclusive policy is necessary for offset purchasers, as they require a future guarantee that the project will remain intact, yet it continues to punish already marginalized populations.

Cost

In terms of less explicit or unintended exclusionary barriers, the most significant is the cost of certification (Bass et al, 2001; De Camino and Alfaro, 1998; Thornber, Plouvier and Bass, 1999; Thornber, 2003). Most certifications require the project operator to bear the cost of certification as well as continued monitoring and verification, and for small producers in developing countries especially this can represent an insurmountable barrier to certification. This is particularly acute when assessing new

sectors like forest carbon offsets since there is no long term evidence to guarantee market premiums and access. Differential access to information plays into this in that even when certification can provide very significant benefits, there is no guarantee that potential participants have access to that information.

Another aspect of this cost barrier is the fact that the cost of certification is often inversely proportional to the size of the project. This means that cost is regressive and benefits larger producers thereby excluding small producers (Klooster, 2005). Since many of the projects undergoing certification in carbon offsetting have the backing of Northern non-profits, these organizations assist with certification costs, yet this still harks back to the dilemma of Northern NGOs having their own priorities and responsibilities to donors.

In addition to the obvious costs, there is also the technical and administrative side to spreading certification. Acquiring the necessary technical capacity to maintain the standards demanded by certifiers may be beyond the reach of those wishing to be certified (Thornber, Plouvier and Bass, 1999). Furthermore, the administrative element of tracking and documenting the operations of any certified organization adds a burden which must be overcome either by the certified or an extension service of certification bodies. This is an issue that is almost more important than explicit fiscal cost in the case study explored in this thesis. Shifting resources to certification administration may compromise funding from donors. Many of these donors have committed their resources towards working for environmental and social development rather than overhead.

Conclusions

The preceding chapter has outlined some of the essential background information necessary to understanding certification's recent history, logic, and fundamental issues. With its positioning as a non-state market driven mechanism, certification is essentially a product of a neo-liberal world economy, yet it is concurrently attempting to tame the harshest elements of global capitalism. Its roots in civil society activism fundamentally set it apart from government regulation yet it aims to accomplish many of the regulatory roles traditionally held by government. Rather than government regulation protecting workers from exploitative conditions or environmental degradation, certification puts the onus firmly on the consumers to vote with their dollars and correct market flaws through consumer responsibility. In accordance with Non-State Market Driven governance literature, this responsible consumerism grants certification legitimacy without resorting to coercive measures.

Based on its means of establishing legitimacy through consumers, certification falls short of traditional regulation in that it only reaches as far as consumers allow it. Yet it surpasses much government regulation since it not only circumvents World Trade Organization non-discrimination policies but also allows for cross boundary regulation in a globalized economy.

Many of the issues addressed in the debates will arise once again in discussing the case study in later chapters. The issue of cost is without a doubt a consideration for any organization seeking certification and especially so for small community oriented projects. Furthermore, given the significant variety in carbon offset certifications

producers must grapple with the issues of how choosing a given certification will impact their operations.

Chapter 3

The Emergence of Certification and Private Standards in Carbon Offsets

This chapter aims to address why some actors are seeking private governance through civil society certifications rather than traditional state based governance. In the area of carbon offsets, there are a variety of factors contributing to this trend. Among the factors this chapter will address are the unique challenges of commoditizing a highly abstract good, the perceived lack of leadership among traditional state regulators, and the sensitive cultural nature of the forests being commoditized for carbon offsets.

After addressing this issue of private governance, the second part of this chapter will introduce a case study involving a small non-profit organization which is going through the process of deciding on whether the organization wants to certify their offsetting operations and which certification would be most appropriate.

Legitimacy and the commoditization of carbon

Regardless of the product being certified, social and environmental certifications attempt to provide legitimacy to that product (Bumpus, Liverman & Lovell, forthcoming). Within the markets for carbon offsets this is a particularly necessary process due to the inherent ethical and technical challenges involved with carbon offsets (Lovell, Bulkeley and Liverman, 2009). This includes difficulties in accounting for and

representing carbon as a marketable consumer good as well as the social impacts and ethical debates in offsetting.

Among the complications are the need to prove additionality, meaning proof that the carbon reducing activities would not have occurred without the implementation of the offset project, and proving that the project will remain permanent as long as the verified emissions offsets are valid. Proving additionality in itself is a difficult task but necessary for developing viable carbon offsets. The process of determining additionality requires the establishment of a counter-factual scenario in which developers must account for a broad array of potential social and environment impacts. Examples of these potential impacts range from the demand for farmland to technological innovation which could decrease demand for wood or forest products.

The need to prove additionality is further complicated within markets for forestry carbon projects due to the potential impermanence of carbon sequestered in living organisms (Richards and Anderson, 2001). Project developers and registries compensate for the potential loss of forest sites through buffers and insurance risk pools, but the mechanisms are still fairly new and will require time for refining techniques.

Finally, there is the issue of leakage with forestry carbon projects. In order for project developers to reliably claim to have reduced carbon through expanded or protected forests, they must be reasonably certain that protecting one section of forest has not simply pushed the deforestation and degradation to other locations (Richards and Anderson, 2001). The nature of illegal logging and forest destruction means that it is fairly easy and likely that protecting an area of forest will do nothing more than

encourage illegal loggers to harvest timber just outside the project boundaries. This makes monitoring that much more difficult and it also adds complexity in defining the project boundaries.

While there is great interest in this type of carbon sequestration due to the huge percentage of carbon emissions derived from forest degradation not to mention the potential social benefits, the commodification of carbon is difficult under any circumstances and "carbon sinks do not provide favorable circumstances" for this type of commodification (Richards and Anderson, 2001 p43).

The complicated nature of commoditizing carbon has led to a widespread distrust of offsets, and this distrust compelled offset producers, particularly in the voluntary markets to pursue certifications which would confer legitimacy on their product (Bumpus et al, forthcoming). Aside from the accounting and monitoring issues associated with carbon offsets, there are serious potential social repercussions impacting communities surrounding project areas. Indigenous people's rights activists have expressed concerns that carbon forestry has the potential to marginalize local groups, dispossess them of traditional land rights, and impose a form of "carbon colonialism" (Bachram, 2004). These questions of both the material credibility of carbon offsets as well as the protection of indigenous rights have led the push for highly reputable certifications which can legitimize offsets by both verifying their carbon sequestration claims as well as ensuring human rights protections.

These concerns and the issues surrounding human rights in particular, have encouraged the popularity of certifications established by, or in conjunction with, civil

society organizations. The following sections will go into further detail as to why the civil society based certifications have gained the upper hand as opposed to state or international organization based standards.

Problems faced by public standards?

The previous chapter touched on some of the strengths of civil society in governing certifications, such as the idea that it involves more parties, and is therefore more representative. However, there are a variety of reasons why civil society has stepped up in this particular field. Bumpus et al (forthcoming) contend that one significant factor in carbon offsets is the lack of leadership by traditional state governments. Haufler (2001) contends that regardless of administration or party affiliation, the leadership in the United States in particular has advocated for more market friendly regulations led by the private sector. Gunningham (2007) furthers this argument with his assertion that since the mass deregulation movements in the 1980's governments have been tentative to legislate in environmental matters. Furthermore, Bumpus et al (forthcoming) argue that governments have not invested significant enough resources into research and therefore lack the technical expertise to legitimately certify carbon offsets. This problem is less an issue with civil society organizations as they involve multiple stakeholder arrangements which facilitate technical knowledge sharing across levels and participants. While they do play a role in offsets, the problems faced by governments in certification are substantial.

Lack of governmental leadership

Although there has been movement by some governments to establish certifications through cap and trade agreements such as the European Union Emissions Trading System, New South Wales system in Australia and the New Zealand Emissions Trading System, they have largely neglected the forest based certifications which are the focus of this research. At this point, the European Union's system excludes forestry offsets entirely and the Australian system is struggling to get off the ground. Furthermore, the New Zealand system is under criticism for producing large amounts of carbon offsets through plantation forestry (Gilbertson and Reyes, 2010).

Clean Development Mechanism

The only government associated trading system to establish a credible forestry carbon offset certification thus far is the Clean Development Mechanism standards associated with Kyoto Protocol. The CDM did develop many of the methodologies which have since been adopted by the various private offset certifications, but the CDM struggles for several reasons.

Since it was developed by the UN, a large, complex, and highly bureaucratic organization, the CDM standard is highly risk averse, extremely complicated, and suffers from high transaction costs. Furthermore, the CDM is plagued by the same race to the bottom effect as we see in private sector manufacturing.

The CDM has an obligation to be risk averse to some degree, since as noted earlier carbon offsets are a complex concept. However, scholars are questioning whether being so risk averse is actually limiting the potential carbon reductions that could occur

with a more flexible and adaptive system (Bumpus et al, forthcoming). The risk averse nature of the CDM translates into both complexity and high costs which can stifle emissions projects since they must cope with complicated bureaucratic procedures which raise costs substantially.

Gunningham (2007) asserts that as the capacity of the regulatory state to deal with complex issues like carbon offsets has declined, there is a need for reflexive regulation. This is one of the bases for supporting private certifications for carbon offsets. The reflexive regulatory theory maintains that traditional regulation is unable to respond to new demands and unable to generate a substantial enough knowledge base required to effectively regulate. Generally speaking, reflexive regulation like that of private certifications is focused more towards constantly refining procedures and self reflecting rather than focusing on a prescribed goal like traditional regulation.

An additional problem facing the CDM, and potentially other government-based regulation, is the risk that there may be a race to the bottom in terms of carbon offset quality. This is particularly troublesome with the sustainable development benefits required for CDM projects. The market based nature of the CDM includes the stipulation that each national government is responsible for determining sustainable development criteria for projects in their country (Lovbrand, Rindefjall and Nordqvist, 2009). This yields the possibility that developing countries, in pursuit of CDM project funds, will relax the stringency by which they judge whether a project actually has significant sustainable development benefits. Lovbrand et al (2009) note that multi-stakeholder bottom up politics form a stronger basis for more effective policies since if those influenced by the policies have input, the policies are more likely to reflect the needs of

that group. This is the logic for many of the socially oriented multi-stakeholder certification programs which explicitly and extensively consult with local communities and try to find solutions which are accepted by the local communities in addition to project developers.

While one of the main concerns with the CDM is that national governments determine sustainability benefits, the CDM also suffers from market forces' continuous push for efficiency. Just as occurred in the manufacturing sector, CDM project developers are seeking efficiency through economies of scale. The vast majority of CDM projects are concentrated on high volume, large scale operations in China, Brazil, and India (Lovbrand et al, 2009). This is a clear example of how market incentives, without tight oversight, can lead to regional consolidation of businesses in order to exploit efficiencies in scale and friendly governments.

On the other hand, private certifications have the ability to adapt quickly and without the necessity of navigating the extensive bureaucratic channels associated with CDM (Lovell, 2010). This allows more emissions reducing projects to come into force more quickly at lower cost. As discussed in the section on the benefits of multiple certifications, this provides opportunities for smaller organizations which lack the capacity for bureaucratic dealings to establish offset projects, which is ultimately better for the certifying bodies, the climate, and the project developers.

Despite these problems with the CDM, it still remains the basis for many of the newer private standards. The logic for this is that the CDM is what some call the "pioneer" program for regulating offsets, and by associating themselves with the CDM

the private certifications are able to save costs on developing methodologies and reap the credibility benefits of the CDM without suffering from many of its shortcomings. A later section will discuss the CDM in greater depth as it is helpful to understand the foundations of the CDM in order to effectively evaluate the various criteria of each private certification discussed in the next chapter.

Lack of Expertise

A side effect of the lack of leadership by most governments is that these governments have not invested significant enough resources into researching carbon offsets to have the expertise to govern offsets (Bumpus et al, forthcoming). This problem is illustrated by the efforts of the British government to regulate the private carbon offset certifiers through a Quality Assurance Scheme. The British government sought to essentially certify the certifiers and ensure these organizations were providing a quality good, yet after the introduction of the Quality Assurance Scheme the majority of offset certifiers declined to participate in the scheme. The common complaints coming from the private certification supporters were that the British government would not only stifle the creativity and flexibility associated with private certifications, but also that the government lacked the on-site experience to properly regulate the sector (Bumpus et al, forthcoming).

The supporters of private certifications contend that this sort of expertise and knowledge sharing is one of the main benefits that multi-stakeholder civil society organizations provide in private regulation (Pattberg, 2004). An example of this type of knowledge brokering is the Forest Stewardship Council. Since this certification body

consists of a broad range of stakeholders ranging from the standard developers to the ground level project developers and there is a consultative aspect to the organization, this provides significant opportunity for communication and learning among different actors. In a field as young and complex as carbon offsets, this allows projects to experiment and act as laboratories for new offsetting techniques and methodologies (Bumpus et al, forthcoming). This type of learning is particularly valuable considering the culturally sensitive nature of commoditizing forests for carbon offsets.

Cultural Concerns

Some of the most significant concerns about carbon offsets in the forestry sector stem from the social and cultural concerns involved in carbon projects. At the broadest level forestry carbon projects, particularly through the CDM, have been criticized for their role as "carbon colonialism" (Bachram, 2004). Critics argue that these projects are a new incarnation of the international toxic waste dumping controversy prominent in the early nineties in which developed countries were paying developing nations to accept toxic waste which the developing countries had little capacity to dispose of properly. Since atmospheric carbon is a much more abstract concept there is no physical waste being dumped in Southern nations, but the concept manifests itself physically in the land used as carbon sinks.

The CDM has been seriously criticized for its acceptance of plantation forestry as viable carbon sinks (Bachram, 2004). These plantations are frequently non-native species such as eucalyptus or palm and function as biodiversity dead-zones. The monoculture is not capable of supporting the ecosystems a natural forest could provide,

and frequently harsh pesticides are used to develop the plantations. The impacts of these pesticides not only harm the health of local people hired to work the plantations but also devastate regional watersheds. The use of non-native species like eucalyptus has even led to waterways completely running dry due to the water intensive nature of these species. Beyond the ecosystemic consequences of plantation carbon offset projects are the social impacts of these projects.

The areas developed for offset projects may be traditionally used by local groups for food and resources. When offset projects are developed in these areas they may essentially fence off the area, cutting off local use and producing devastating consequences to local livelihoods (Bumpus and Liverman, 2011; Newell and Paterson, 2009). Bachram (2004) points to a case in Uganda in which nearly 8,000 local people were forcibly removed so a Norwegian company could develop a carbon sink project on those lands.

Furthermore, the implementation of plantation style forestry projects has the potential to extenuate exploitative relationships within local communities. After a significant investigation, a local NGO in Brazil discovered that a major project developer in Brazil was using slave labor in their plantation forests (Bachram, 2004).

These criticisms and implementation failures are a major reason for the civil society involvement in offsets. There are several main purposes for civil society's activity in carbon offset certification and each pertain to one or several of the previously mentioned drivers for civil society's involvement in carbon offsets. The following

chapter will go into greater detail on the specific characteristics of a number of different certifications, but broadly speaking the certifications fall into several categories.

There are a number of offset certifications which focus primarily on addressing the first concern: the need to prove an offset is in fact offsetting carbon emissions. These certifications heavily emphasize additionality, but do little if nothing to address the social and ecosystemic concerns mentioned earlier. Another category focuses entirely on the social and environmental issues presented by carbon projects in developing nations. Several of these have no mechanism whatsoever for accounting for carbon offsets and simply provide an assurance that local people and ecosystemic conditions benefit, or are at least not harmed, by any project implementation. Finally, a third type of certification encapsulates both carbon accounting as well as social and environmental standards. This eliminates the need for multiple certifications for proving various aspects of a project and attempts to simplify the process by including all the typical concerns in one system.

Discussion: certification and carbon offsets

The commodification of carbon presents a host of difficulties ranging from conceptualizing such an abstract good to handling the social side effects of sequestering carbon in biotic carbon sinks. It is this challenge which has created the demand for certifications which can legitimize the trade in carbon offsets and verify that an immaterial good has been created through carbon offset projects.

As Lovell et al (2009) note, the technical challenges to commodifying an atmospheric gas are extensive and provide a substantial challenge for scientists and technical experts working in the carbon field. This has drawn criticism from offset

skeptics who argue that not only are offsets not altering consumptive behavior, but they also are not scientifically sound means of reducing atmospheric carbon since inert terrestrial carbon is not perfectly analogous to atmospheric carbon which is constantly moving throughout the carbon cycle (FERN, 2005). Carbon offset researchers and certifications aim to create methodologies and techniques which provide proof that not only is carbon being absorbed, but that it is not likely to be re-released into the atmosphere once an offset has been purchased.

In addition to the technical issues of proving carbon reductions, the use of biotic carbon sinks in developing countries brings a number of social and ethical issues to light. Although the idea of creating carbon offset projects in developing countries was proposed by the developing nations' governments, and is intended to bring funds and technology to these countries, there are a number of problems with that system (Bachram, 2004). The carbon forestry projects have had problems with creating culturally insensitive arrangements which ban traditional forest users from their livelihoods in addition to supporting monoculture forestry operations which are damaging to local ecosystems (Newell and Paterson, 2009).

The increasing number of private offset certifications attempts to overcome these hurdles in several ways, and is gaining support from a number of project developers in the process. One of the primary advantages private standards claim over the CDM or any potential future national programs is the flexibility of private standards to try new methodologies and adapt to local conditions with minimal bureaucratic red tape (Bumpus et al, forthcoming). This encourages project developers to try new sites, unique project types, and widens the potential field of participants. While it is still necessary to

maintain high quality proven offsets, this provides the potential to bring more projects to fruition and theoretically lower carbon emissions that much more.

The multi-stakeholder design of many of the private offset certifications provides credibility for these processes in several ways. First, in reference to the diversity in approaches, the private certifications argue that they have spent considerably more time and energy exploring the ways of proving carbon sequestration. For this reason the private certifications are unsure of government attempts to regulate their standards (Bumpus et al, forthcoming). In terms of the social impacts of carbon projects, many of the private certifications go to great lengths to involve community members in addition to the project developers and technocrats. By at least attempting to create democratic processes they infuse a social protection element to their carbon offsets. Additionally, by consulting local groups there is a better chance the project will be accepted in the community and more likely to remain intact. These are some of the commonly accepted reasons which have led to a growing acceptance of private standards in the development of carbon offsets.

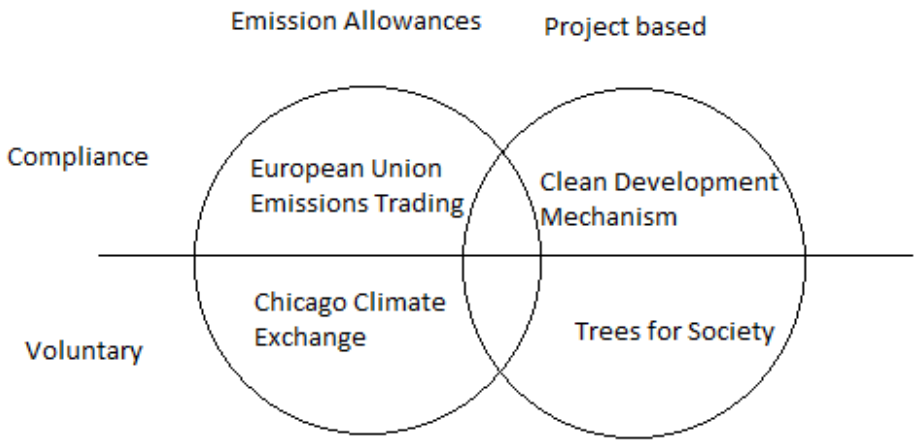
Case Study

This final section of the chapter will discuss the case study explored in this thesis. The organization, Trees for Society, detailed in this case study is currently in the process of deciding whether to certify the carbon offsets they produce through agro-forestry/reforestation projects based in Central America. The organization has significant experience in implementing these projects as they have been planning and developing

reforestation, renewable energy and high efficiency woodstove projects in this region for over a decade.

Trees for Society is a non-profit organization using forestry carbon to provide environmental and atmospheric benefits, but their primary goal as an organization is providing sustainable development benefits to the local communities and maintaining a high level of cultural sensitivity in their projects. It is a small organization, with less than a dozen full time staff, but they have successfully developed projects in a number of locations. Trees for Society has managed projects in several countries throughout Central America since 1998, but they are considering expanding to eastern Africa in Uganda. These projects are managed in cooperation with local partners, but Trees for Society is very much involved in the entire process from raising funding to sending representatives to distributing tree saplings for reforestation. One of the unique characteristics about this organization is that they are not developing carbon projects for profit, but rather using the money raised through carbon offsets to fund additional projects. Their goal is to use these projects to continue providing sustainable development programs to an expanded group of communities. The following diagram shows how Trees for Society situates its offsets in the carbon market.

Diagram 1



Trees for Society falls into the category of voluntary project based carbon markets. In this case the organization develops the projects and there is a close connection between carbon offset purchasing/funding and the projects that are developed. This is in contrast to something like the major trading systems which are trading fungible commodities through complex networks.

In the past several years they have been selling offsets based on these programs, however it is only recently that the topic of certification has been seriously discussed. Considering the scale and aims of this organization, the large state based carbon markets (CDM and EU ETS) are unrealistic options. The size of the operation is too small to justify the bureaucratic hurdles involved in CDM projects and the EU trading system does not accept forestry based carbon offsets at this point. These two factors have led the organization to investigate the various options available in the private offset certification field.

Due to the focus on both social and environmental goals, the organization is most interested in the standards which encompass both aims as well as cater to smaller forest based projects. This is essential because the organization relies on both private donations as well as grants to fund their projects and the certification must reinforce their focus on societal benefits in addition to environmental improvement. Furthermore, due to the limited resources of non-profit organizations it would make more sense to pursue certifications that include both carbon as well as substantial co-benefits in the same standard. This is in contrast to larger projects which may benefit more from a mass market carbon standard like Verified Carbon Standard in addition to a co-benefit standard like CCBS.

As with the majority of smaller offset developers, this organization is concerned with the costs of certification as well as the administrative difficulties, issues which are not a problem when selling uncertified offsets. Furthermore, if they are going to invest a substantial amount of time and money into certification they want a reasonable assurance that this action will provide broader market access and improved credibility. There is recognition that certified offsets are appealing to a significant demographic that may not be open to unregulated offsets. Because of this recognition, this organization has investigated a number of possible certification options. The certifications discussed in the next chapter were all discussed in the process of deciding which certification seems most appropriate.

Through my volunteer work with this organization I was able to observe and collect data over almost an entire academic year. In addition to the personal interactions and communications, I also had access to some of the previous research completed by

prior interns which informed the organization about the various certifications. This research provided a starting point for relevant sources and served as a primer for carbon forestry offset certifications.

My position with this organization also allowed me access to other professionals in the field which led me to important sources of information and also put me in contact with the Executive Director of a second organization mentioned in a later chapter who corroborated much of the information I gathered at the original organization. Presently, the carbon forestry community is still relatively small in relation to some of the other carbon offset producers, and even smaller when only considering the type of organization studied in this thesis. Therefore it was extremely valuable having a source and informant for further contacts and information.

Chapter 4

Systematic Comparison of Carbon Offset Certifications

Overview

This chapter will systematically compare the certifications considered by the organization studied in the case study in chapter 6. These certifications take a variety of forms ranging from the Verified Carbon Standard, an independent carbon only certifier, to non-profit socially focused organizations such as Plan Vivo. This chapter will provide a detailed overview as well as compare and contrast the various certifications available to forestry carbon offset projects specifically in the developing world. Through this analysis it should become clear what specifically differentiates the certifications and help understand how an organization decides between the numerous options.

The chapter is organized into several parts. First, it will present the primary issue, concepts, and criteria within the forestry carbon offset certifications which will provide a basis for the typology which will differentiate the certifications by their most significant characteristics and features.

The next section section will describe the way each standard deals with the following issues and attributes: additionality, verification, registries, co-benefits, nature of market (compliance or voluntary), flexibility in certification standards, scale of projects, and expected consumer market. This section will also describe some of the cost related implications of the different standards. These criteria are basic and

this is not an exhaustive list of all the criteria involved in carbon offset standards but these are significant and will contribute to a further understanding. The standards analyzed were chosen for several reasons. First, they are recognized throughout much of the current literature as both indicative of the various categories of standards (Hamilton 2007; Hamilton 2009; Kollmuss, Zink and Polycarp, 2009). Further, they have all existed long enough to have certified projects and create a track record for their practices. Finally and most importantly, they have all been considered by the organization studied in the empirical work in chapter 6.

Carbon Offset Requirements

There are several basic essentials for carbon offsets as identified in the Clean Development Mechanism. The CDM pioneered the standardization of forestry carbon offsets, due to this frontrunner status and widely accepted legitimacy it will be possible to draw many parallels between the CDM standards and the various private standards this essay discusses in terms of their carbon quantification methods.

In order to provide the assurance of carbon reduction to a reasonable degree, the certifiers seek to prove several main factors. First, certifiers seek to prove additionality, meaning the reduction would not have occurred without the offset purchase. Next, the certifications attempt to ensure permanence by providing a plan for long term monitoring and risk considerations. Finally, the certifiers identify potential leakage meaning the potential for one offset to be counteracted by an equal carbon increase elsewhere caused by the project.

Moving beyond the three factors associated strictly with carbon sequestration, many of the certifications, the CDM included, place increasing emphasis on social co-

benefits. This is particularly important as there appears to be a split between certifications that place greater emphasis on carbon sequestration and those that may be willing to forgo some certitude of carbon sequestration in favor of greater social/ecosystemic benefit. Industry analysts differentiate between "gourmet" offsets and "minimum standard" offsets (Kollmuss et al 2008, 30). The gourmet offsets include substantial social and ecosystemic benefits while minimum standards are focused on maximizing quantity and minimizing price. This trade-off impacts the type of offset buyer as well as the potential prices that an offset producer can expect. It is also important to distinguish which type of certifications are likely to emphasize co-benefits (private vs. public, binding vs. non-binding) and why this is the case.

Continuing with this discussion of co-benefits, one of the primary divisions between various standards concerns the role these co-benefits play compared to the role of the project in sequestering carbon. Standards such as Plan Vivo, Climate Community & Biodiversity Standards (CCBS), and the Carbonfix emphasize these benefits and will not certify offsets that do not have substantive proof that communities, ecosystems, or both will gain from the offsetting project. The inclusion of co-benefits was initially included in the Clean Development Mechanism as a way to combine benefits to the developing world with carbon abatement.

The opposite end of the spectrum regarding co-benefits is occupied by the Chicago Climate Exchange in which no co-benefits are required. One notable trend is that there is no immediate correlation between bindingness and co-benefit requirements. The CDM and Chicago Climate Exchange are the two standards which are associated with a legally binding agreement, yet CDM places a significant emphasis on co-benefits

whereas CCX has no such requirement. This indicates that it is more likely that co-benefit requirements are likely a factor of constituents/intended offset buyers rather than compliance.

In the case of CDM the requirement of co-benefits is a concession to the developing countries involved in the Kyoto negotiations, while in the private realm the co-benefits are a selling point to socially conscious offset buyers. This separation between binding and non-binding agreements will be one of the primary divisions in parsing out differences between the various certifications.

In the context of carbon offsets, bindingness refers to the division between compliance and voluntary offset buyers. The compliance buyers are purchasing offsets because they are legally bound to reduce carbon emissions and are purchasing offsets as a means of reaching their carbon reduction quotas. Voluntary offset buyers are buying offsets for a range of reasons. Many organizations, individuals, and businesses purchase offsets for reasons such as personal responsibility, public relations, and preparation for future climate legislation (Lovell, 2010). Lovell (2010) argues that voluntary buyers are most likely to demand extensive co-benefits, while compliance buyers are more likely to demand lower costs. The voluntary buyers frequently want to communicate their climate and social objectives through certifications which make these goals a priority (Kollmuss et al, 2008).

A typology can be parsed out through these major divisions between carbon offset certifications. Using a continuum ranging from heavy emphasis on social/ecological requirements to strictly carbon sequestration for one axis, and types of

offset buyers on the other axis, we can begin classifying the certifications to better grasp why these standards take the form they do.

Process Components

There are a number of important components and concepts which shape carbon offset standards and impact the issue. First, are the basic components of carbon offset standards consisting of accounting standards, monitoring and verification standards, and registration systems (Table 2) (Kollmuss et al, 2008). These are all aspects that legitimize the quantification of carbon or ensure the long term validity of offsets.

Table 1
Additionality, Verification, and Registry by Certification

	CDM	VCS	VER+	CCX	CCBS	Carbonfix	Plan Vivo
Additionality Test Type	Project based	Project and performance	Project	None	Project based	Project based	Project based
Carbon Quantity Verification	+	+	+	+	-	+	-
Registry	Own	Own	TÜV-SÜD	Own	-	Own	Own

The accounting standards devised by different certifiers provide methodology for determining baselines and additionality, definitions for project types and scale, and validation procedures. Monitoring and verification standards ensure that a project performs as was predicted during the planning stages and also quantifies the amount of carbon that has been sequestered. Finally, the registration system provides a means to track the carbon offsets which have been produced and sold to ensure that offsets are

not sold more than once. The standards which have all of these components are referred to as full-blown standards in accordance with the CDM standard. Of the standards covered, the CDM, CCX, VER+ and VCS are considered full-blown standards (Kollmuss et al, 2008).

The accounting standards component covers the procedures necessary before a project can be put into practice. Determining additionality is one of the most important aspects of certifying a carbon offset. This process seeks to ensure that a carbon offsetting project would not occur were it not for the project.

The two primary methods of testing for additionality (see table 1) are project based testing and performance standards (Kollmuss et al, 2008). Project based testing, as the name implies, involves case by case evaluation which typically involves investigating the barriers to a project or the prospects for investment in the absence of the project being tested. Performance standards attempt to overcome the potentially subjective nature of a project based approach by establishing certain types of projects and certain conditions that automatically qualify as additional. Performance standards also aim to streamline the process and simplify certification enabling a less expensive and time consuming certification period.

In addition to establishing additionality, the preliminary standardization procedures must calculate a baseline carbon scenario. The baseline is intended to calculate the counterfactual scenario so that carbon offsetters can then compute the amount of carbon which has successfully been offset or sequestered. The calculation of potential leakage accompanies a baseline/additionality investigation. Leakage encompasses the potential effects that a carbon project has beyond the immediate

boundaries of that project. For example, if a reforestation project simply forces slash and burn practices outside the boundaries of the project, the carbon released through those removed practices would count as leakage. The problem of leakage is particularly acute within the forestry sequestration sector considering the likelihood that poor forestry practices can shift beyond project boundaries with relative ease especially when land tenure status is unresolved.

The final general piece of the preliminary activities is the determination of permanence. The different standards vary in terms of how they approach permanence but it typically includes establishing a buffer to account for potential forest loss in addition to contractual agreements ensuring that the sequestration activities will continue for a defined time period (Kollmuss et al, 2008).

Once the accounting standards have been approved through the preliminary procedures, the next major grouping of activities is the verification and monitoring standard. The majority of offset standards requires a third party verification process in order to ensure that a producer is in fact producing the quantity of offsets that they are selling (see table 1). When the CDM established the original policies for carbon offsets it specified that validation, or approving the initial project plans, and verification must be done by separate and independent parties to ensure impartiality.

A final component of offset standards consists of a registry (see table 1) or offset tracking system. By creating a registry and using unique identification for each offset sold, the standards provide a solution to double counting (having multiple offset buyers claiming the same offset) (Kollmuss et al, 2008).

Cost and Scale

Due to the complex nature of forestry carbon certification, it is difficult to make sweeping generalizations about the costs per certification. But due to the importance of cost in the decision to certify it is essential to note some of the cost differences between certifications. The main cost factor differentiating standards is the existence of micro-methodologies (See table 2). These methodologies are designed to streamline and simplify the certification for small projects which often have fewer resources than large projects. Based on personal communications with two separate organizations that have either been certified or are in the process, these micro-methodologies are essential in keeping the costs reasonable for small organizations (Trees for Society personal communication 3/22/11; Forests and Community personal communication 4/7/11). The VCS, CDM and Gold Standard currently have micro-methodologies among the large certifications. But as previously mentioned Gold Standard only has those micro-methodologies for high-efficiency cook stoves. Meanwhile, the CCX and VER+ lack any such policies. The Plan Vivo and Carbonfix Standards both reach out and cater to the smaller projects, and Plan Vivo even makes it explicit in their materials that they aim to minimize costs.

Table 2

Scale (Micro-methodologies)

Certification

	CDM	VCS	VER+	CCX	CCBS	Carbonfix	Plan Vivo
Micro-methods?	Yes	Yes	No	No	No	No*	Yes

*Caters to small projects mainly

In depth analysis of standards

The next section of this chapter will cover the significant standards available to forest carbon projects currently. These standards will be presented based on how appropriate they are for the type of organization studied in my case study descending from most to least appropriate. It will become clear through this thesis that several of the criteria become much more significant. Among these more relevant criteria are the focus of the certification (carbon vs. co-benefits), scale, cost, and bindingness. The standards will be presented in the following order: Clean Development Mechanism (CDM), Verified carbon standard (VCS), VER+, Chicago Climate Exchange (CCX), Gold Standard, Climate Community & Biodiversity Standards (CCBS), Carbonfix Standard, and Plan Vivo (Hamilton, 2009; Kollmuss et al, 2008).

Clean Development Mechanism

The Clean Development Mechanism was created through the Kyoto Protocol in 1997 as a means for developed countries to offset emissions and meet their designated emissions reductions while simultaneously providing investment in the developing world through offset projects (Hamilton, 2009). Since the CDM is the world' first carbon offset standard, it serves as the model for many of the other carbon offset standards. The model has established itself as the "pioneer program" in carbon offset certification, and even though there are now certifications which try to differentiate themselves from CDM, it still serves many of the certifications to make explicit connections with the CDM program. There are several reasons why certifications associate themselves with CDM.

First, it was developed by the United Nations and has significant resources at its disposal for developing methodologies and procedures for creating highly reputable offsets. The CDM has a specific Methodologies Panel which serves to review baseline and monitoring methodologies and consistently upgrade and modify the acceptable methods (Kollmuss et al, 2008). This dedicated panel allows the various other standards to keep up to date on methodologies without necessarily devoting the substantial resources necessary to maintaining a dedicated body.

The CDM is, as the name implies, devoted to development in addition to carbon mitigation. However, there are no specific guidelines in terms of how sustainable development should be pursued. The CDM delegates the responsibility of determining sustainable development criteria to the countries in which a carbon project is implemented. These criteria include improving quality of life, alleviation of poverty, increasing equity, conserving local resources, and providing compliance with local environmental policies (Kollmuss et al, 2008 50). Furthermore, the environmental standards that projects must follow are the national environmental standards rather than policies set by the CDM board.

Since the CDM was created as a means for developed countries to provide sustainable development to less developed nations, only projects located in developing nations are eligible for certification. There is no limit in terms of the size of projects and the certification process is much simpler and easier for smaller projects. In terms of how that relates to forestry projects, there are a considerable number of small reforestation and afforestation opportunities especially in tropical areas, but as of now there is no consideration within the CDM for reduced emissions through deforestation

and degradation (REDD) projects. One of the ways CDM deals with the potential permanence pitfalls of forestry carbon projects is by providing multiple time windows for these emissions reductions. The two options consist of a temporary Certified Emissions Reduction (tCER) and a long-term Certified Emissions Reduction (lCER) (Hamilton, 2009). The temporary CER allows for projects lasting five years with the ability to extend while the long-term CER expires after sixty years. The five year option originated from the fact that Kyoto targets are re-adjusted at the end of the agreement. Furthermore, to assure permanence there is a verification process performed by outside auditors once the project has been operationalized and those auditors are spot-checked by the CDM accreditation panel to ensure they are performing to standard (United Nations, 2009).

The Clean Development Mechanism is unique in several aspects compared to the other standards. It is the only public, large scale and binding system (table 2, table 4, table 5). Each of these components leads to significant characteristics of the standard. First, the fact that CDM is publicly accountable to a constituency covering the majority of the world's nations is the primary reason that it is the Clean ***Development*** Mechanism rather than strictly a carbon offset standard. This inclusion of sustainable development criteria into the standard gives the developing world an incentive to participate in the program while allowing the developed nations an avenue for reducing their carbon emissions. This framework for bundling carbon offsetting with sustainable development set the precedent for the multitude of standards that have arisen since Kyoto and also opened up ample opportunity for forestry in particular. It

is certainly the public element of the CDM that led to this inclusion of development principles.

Table 3

Public or private certification scheme and its focus

Co-benefit focused ←----------→ Carbon sequestering focus

Public		CDM	
Private	Plan Vivo, CCBS, Carbonfix	CCBS attached to VCS/VER+	CCX, VER+, VCS

Based on the rapid rate of deforestation in many developing nations, opportunities for reforestation and afforestation are plentiful and easily associated with sustainable development through better forest management and land improvement.

Despite the widespread opportunities for carbon forest sequestration projects and their potential for providing substantial co-benefits, the CDM has thus far struggled both to clear projects and to realize the co-benefits in any significant way (Hamilton, 2009). One of the primary impediments to actualizing social and ecological benefits in a substantial way is the fact that the projects' host country defines the criteria for these co-benefits. Kollmuss et al (2008) note that there may be a perceived race to the bottom effect in that host countries fear by imposing strict definitions for the mandatory co-benefits they will scare away potential investors and project developers. The other side of this argument is that by allowing for loosely defined criteria, there is more flexibility for the project developers and any benefit will provide an improvement for the local community, even if it is indirect. This interaction with the

national government proves significant in the case study since there is hesitancy to work with some national governments.

Table 4

Compliance versus voluntary certification compared to focus

	Focus		
Bindingness	Co-benefit focused ←----------→Carbon Sequestration Focused		
Voluntary	Plan Vivo, CCBS, Carbonfix	CCBS attached to VCS or VER+	Verified carbon standard, VER+
Compliance		CDM	
Compliance (after voluntarily entered)			Chicago Climate Exchange

The scale and binding aspects of the CDM are inextricably bound and significantly impact the project types and co-benefits. Since the CDM is the standard for a binding agreement, Kyoto Protocol, there is an imperative to ensure a sufficient quantity and reasonable price on the emissions offsets. This necessity stands in contrast to the empirical data suggesting that the smaller projects have substantially higher co-benefits while the larger and lower cost/unit projects generate fewer social and ecosystemic benefits (Kollmuss et al, 2008). A number of the other certifications use this inclusion of social and ecosystemic benefits as a means of differentiating themselves to different offset buyers. Many of the other compliance focused certifications follow this tendency of placing a higher priority on carbon. Furthermore, the CDM suffers from the problem of being very costly due to the significant depth of the standard, the bureaucratic burden, and the verification requirements (personal communication, 4/7/11).

Table 5

Offset Buyer and the focus of the certification

Target Buyer focus	Co-benefit focused ←----------→ Carbon sequestering		
Individual	Plan Vivo		
Organizations (ie: universities)	Plan Vivo, Climate Community & Biodiversity*, Carbonfix		
Business or local government		CCBS*,VER+, VOS	Chicago Climate Exchange, Verified carbon standard
States		CDM	

Verified Carbon Standard (VCS)

The Verified Carbon Standard was developed by The Climate Group, International Emissions Trading Association, and World Economic Forum in 2005 (Verified Carbon Standard, 2008). The Verified carbon standard is a full standard in that it has the same processes as the CDM standard including preliminary validation procedures, monitoring and verification standards, and a registry for retiring offsets. One of the most significant differences from the CDM is the lack of a requirement for social or ecosystem co-benefits, although the VCS does accept projects which have received CDM accreditation and those offsets are then fungible within the VCS system (Kollmuss et al, 2008). Furthermore, the VCS is less selective in terms of project locations and types than the CDM system. There is no limitation to the location of

projects as is the case with the CDM so this standard provides significant flexibility as compared to the CDM (Voluntary Carbon Standard, 2011).

In terms of the additionality and baseline testing, the VCS is nearly identical to the CDM using primarily project based testing but also accepting performance standards for certain classes of projects. However, unlike the CDM, validation and verification can be done by the same entity which could lead to conflict of interest as the validating agency has an interest in the projects they validate passing verification (Kollmuss et al, 2008). To monitor this potential problem there will be auditor evaluations conducted by the VCS. While the VCS does have its own registry, it will accredit specific registries and make the information for each offset they certify publicly available to avoid double counting.

The Verified Carbon Standard aims to keep costs minimal in order to produce quality carbon offsets for minimal cost (Verified Carbon Standard, 2008). Some of this cost savings is accomplished by excluding co-benefit requirements while other savings are found in outsourcing methodologies and similar tasks through the CDM board. The VCS is intended to be a large scale carbon standard and is collaborating with the new California Climate Action Registry (Kollmuss et al, 2008). This standard clearly aims to take advantage of future binding agreements but currently has no affiliation with such agreements. The VCS has no requirements regarding the scale of projects, but does have simplified methodologies for micro-projects. The micro-methodologies make this standard less costly than CDM, but the necessity of adding a social and environmental standard in addition to VCS raises the cost if those aspects are significant to a producer.

VER+

The VER+ is another all inclusive standard such as the CDM and VCS and follows the CDM closely, except as with the VCS it does not emphasize co-benefits. The VER+ was designed by TÜV SÜD, a designated auditor and validating agency for the CDM, for project developers who were ineligible for the CDM certification yet wanted to follow a similar approach (Kollmuss et al, 2008). The VER+ uses project based testing for additionality but does not develop its own approved methodologies for projects and simply uses the standards developed by the CDM. Additionally, there is a contractual agreement that project developers cannot register with any other registry (TÜV-SÜD, 2010). Due to the fact that VER+ was developed and administrated by TÜV SÜD, and the validation and verification are in the same procedure, there is concern that conflict of interest may impede this standard from achieving the legitimacy that CDM and VCS may possess. In addition, the exclusion of co-benefits makes this standard less attractive to buyers seeking wide sustainable development benefits in their offset consumption. Furthermore, there is no size limit nor are there simplified procedures for attending to small projects making this a difficult standard for micro-projects to access.

Chicago Climate Exchange

The Chicago Climate Exchange (CCX) was the only standard, along with the CDM, actively associated with a legally binding agreement to reduce emissions. Although it closed in 2010, the CCX was established in 2003 as a way for businesses and organizations to become acquainted with carbon trading and prepare for future climate legislation at the international, federal or regional level (Chicago Climate

Exchange, 2011). While the participation in the exchange is voluntary, once members sign on they must meet their scheduled carbon reductions. If they fail to meet these reductions they must purchase emissions allowances to cover the shortfall. As with the previous three standards, the CCX is considered a full blown standard with its own accounting standards, monitoring verification and certification standards, and registration system.

Notably, the majority of the CCX offset projects are located in developed nations. Due to this location preference, there is nothing specifically mentioned regarding social or environmental benefits. The standard developers claim that since the majority of projects are in developed nations there are already social and environmental regulations in place with which projects must comply negating the need for specific policy within the standard. Within the CCX standard there is no separation between the validation and verification of a project, the process is simply a statement of purpose from the project developer and then a verification conducted by a CCX approved auditor. These auditors are only approved initially and there is no quality check for the auditors' work. Once credits have been verified by auditors they are added to the CCX Registry, or if the project is small they are aggregated then added to the registry.

The Chicago Climate Exchange has pioneered cap and trade in North America but has several notable shortfalls. First, there is no substantive additionality requirement for CCX offsets. This means there may be no notable decrease in atmospheric carbon at the time of project implementation, but could reward early pioneers of carbon reducing practices. Furthermore, there is no co-benefit component whatsoever, which is a departure from the foundational offset standards first defined by

the CDM. The CCX also lacks any kind of micro-project specific methodologies and requires that small projects channel offsets through brokers who combine offsets from different small projects (Kollmuss et al, 2008).

Gold Standard

This standard is currently unavailable to carbon forestry projects so it is not an option for the case study, yet is worth including in this comparison for several reasons (Trees for Society Interview, 3/22/11). First, the organization studied in this research is very familiar with this standard thanks to their involvement in high efficiency wood stove projects, which are eligible for Gold Standard certification. Because of this familiarity, the organization is highly interested in this certification since as the standard grows it has been adding additional project types and forestry projects may become eligible in the future. Furthermore, the Gold Standard has developed a strong positive reputation for itself in terms of carbon sequestration as well as the social and environmental co-benefits. This focus is largely due to the original intent of the World Wildlife Fund, which was largely responsible for the creation and development of this certification. Finally, the Gold Standard has expressed interest in developing methodologies which cater to the smaller, co-benefit focused organizations by developing micro-methodologies which minimize the costs and administrative burdens which often exclude small organizations.

Gold Standard has taken many of the CDM carbon accounting methods and strengthened them in several ways. Among the specific improvements are more specific additionality requirements for small projects, more intensive environmental and biodiversity considerations, and enhanced community consultation and

involvement. The Gold Standard does suffer from extensive administrative costs because it is such a thorough standard, but it is this stringency which has yielded such a positive reputation for the standard (Paradigm Project, personal communication, 3/4/11).

The Climate, Community & Biodiversity Standards (CCBS)

The Climate, Community & Biodiversity Standards are a significant player in the forestry carbon sector yet are not a full standard in the sense of CDM or VCS. The CCBS provides standards and project design specifications to be applied to projects but it does not have a mechanism for providing verifiable carbon offsets. The standard is often paired with the VCS in order to provide both quantifiable carbon offsets as well as verifiable social benefits. The standard focuses almost exclusively on land based sequestration and the co-benefits associated with that type of project. The auditing for the CCBS is conducted by CDM approved auditors as well as evaluators certified by the Forest Stewardship Council (Kollmuss et al, 2008). Roughly 30% of the projects certified by the CCBS are CDM projects while another 70% are destined for the voluntary market (Kollmuss et al, 2008).

The CCBS consists of stringent standards which mandate community involvement, biodiversity improvement, community benefits, and obviously carbon sequestration. Further strengthening this standard is the requirement that projects be verified every five years to ensure continued quality. While it requires more effort for projects to seek double certification, VCS and CCBS, the combination of these two provides some of the strongest standards in both carbon mitigation and con-benefit requirements while still allowing significant flexibility in project size and location.

While there are no limits to the scale of projects under the CCBS, the fact that projects must double certify with the CCBS and a carbon accounting standard is a barrier to many small, resource constrained projects.

Carbonfix Standard

Carbonfix Standard was established by a cohort of organizations in the wake of the perceived failure of the Kyoto Protocol. The standard is specific to forestry projects in either reforestation or afforestation. The standard requires net positive environmental impacts including ensuring the protection and enhancement of biodiversity. Furthermore, there must be evidence that there will be social benefits including job creation, welfare enhancements and capacity building in the local community. A mandatory stakeholder involvement component aims to identify and protect local interests ranging from displacement of locals to protection of spiritual or religious value of the land involved. The Carbonfix standard has its own registry but has also begun using the third party Markit Registry (Carbonfix, 2011). At this point, Carbonfix does not have any limits or requirements for scale, but it has been successful at attracting and certifying many smaller projects.

Plan Vivo

Plan Vivo is the most specific standard in the sense that it primarily certifies small scale forestry based carbon projects. The standard heavily emphasizes community involvement throughout the entire project as well as ecological elements such as using only native species. The standard only issues ex-ante credits, meaning they are issued prior to verification, and has no specifications for verification. The procedures for validation are very flexible and specific to the project and primarily work through

NGOs functioning as project coordinators. Due to the small number of projects and generally small project size the Plan Vivo auditors are able to frequently monitor projects to ensure they are achieving the initial goals and maintaining the requirements of the standard.

The small scale of Plan Vivo projects has several key effects. First, by implementing small projects there is the possibility for frequent and effective monitoring. While this allows for assurance of quality, it also raises the cost of these offsets, especially compared to the larger scale certifications such as VCS or CCX. Furthermore, by heavily involving the community in project design, Plan Vivo officials note that there is a much lower possibility for permanence issues. Unfortunately, the ex-ante nature of the carbon offsets generated by Plan Vivo means they are not verified for quantification of carbon sequestered. This limits the markets for Plan Vivo offsets as they are not fungible in the way CDM or VCS offsets are. Like Carbonfix, Plan Vivo uses the Markit Registry to register the offsets produced.

Discussion

After reviewing the most relevant standards in the forest carbon sector there are several notable trends. The focus on co-benefits is undoubtedly crucial in this case. As will be discussed in a later chapter, the organization involved in this thesis is bound, by goals and by donors, to continue providing development to their offset producers. Therefore any certifier that does not emphasize this element is out of the question. The following table sums up some of the main factors and how appropriate each standard is for this case study.

Table 6

Summary of key criteria

	Co-benefits	Target Buyer	Micromethods	Bindingness
More Appropriate	Plan Vivo CCBS Carbonfix	Plan Vivo CCBS Carbonfix	Plan Vivo VCS CDM	Plan Vivo CCBS VCS Carbonfix
Less Appropriate	VER+ VCS CCX CDM	CDM CCX VER+ VCS	VER+ CCX	CDM CCX

The intended offset buyers (target consumer: see Table 5) of the carbon offsets are also a significant concern. The Clean Development Mechanism's standard was developed with a broad and diverse constituency in mind. This wide constituency produced a standard which must appease both developing nations and the developed world. By creating the CDM the Kyoto Protocol attempts to satisfy both the developing nations which are seeking development assistance as well as the developed world which needs a mechanism by which they can reduce their carbon emissions to meet carbon targets. Unfortunately, as described earlier this concession is at odds with the fact that in order to produce large quantities of offsets at a minimal cost the social and ecosystemic co-benefits often suffer. In terms of the forestry sector in particular, there have been very few CDM projects approved and the review process is fairly tedious and difficult. Furthermore, the intense rigor demanded by compliance buyers means the standard is likely to cost more to certify.

The Chicago Climate Exchange has a completely different offset buyer to whom it is accountable, and that consumer demands verifiable carbon reductions with no responsibility to ensure co-benefits. As a result, not only is there no specification in

the standard for co-benefits, but the vast majority of carbon mitigation projects for this standard take place in already developed areas like North America or Western Europe.

The VCS and VER+ have similar goals to the Chicago Climate Exchange in that they primarily attempt to provide low cost carbon offsets for consumption by businesses and governmental offset buyers. There is a common trend for these standards to attach a co-benefit standard such as the Community, Climate and Biodiversity Standard so that there is both a strong emphasis on carbon sequestration with a guarantee of social and ecosystemic benefit. With the micro-methodology, VCS is friendlier towards small projects, but since it has no specific co-benefit criteria it is not necessarily aligned with the goals of organizations like the one in this case study.

Given the lack of pre-sale quantification and verification (Table 1), Plan Vivo does not seek to influence or involve itself in the high quantity minimum standard markets which VCS, VER+, and CCX primarily operate. Given the goals and scale of Plan Vivo certification it is difficult to keep costs competitive with these other standards. Plan Vivo aims to occupy the niche, along with Carbonfix, of substantial co-benefits and correspondingly higher costs. These credits are designed for offset buyers who are motivated by social responsibility rather than compliance-base carbon targets.

The issue of bindingness (Table 4) has played out in that it motivates offset producers to provide offsets at higher quantity and lower cost. Furthermore, this has the potential to spur competition between the different certifiers which can degrade the quality of the standard as they try to maximize the efficiency of bringing cheap carbon

offsets to market. The World Wildlife Fund (2008) has expressed concern that the VER+ may be approaching this problem already as they allow the validation body to also provide verification services.

Chapter 5

Plan Vivo: The Most Appropriate Certification

Although the organization studied in this thesis is still undecided on which certification to choose, and whether it will certify at all, the Plan Vivo certification consistently seems like the best fit in terms of scale, cost, and focus.

History

Plan Vivo is one of the more unique and specialized standards available to forest carbon offset projects. The standard was created in the mid-nineties through a partnership involving the Edinburgh Centre for Carbon Management, the University of Edinburgh, El Colegio de la Frontera Sur and a host of local partners in Chiapas, Mexico (Plan Vivo, 2010). The creators of this standard aim to achieve a balanced approach towards carbon forestry which includes not only sustainable forestry practices, but also involves the local community to provide opportunities and maintain healthy ecosystems.

Although it was first established before the Kyoto Protocol and the Clean Development Mechanism, the Plan Vivo Standard attempts to step into the role which CDM has been unable to effectively fill (Plan Vivo, 2010). The creators of the standard contend that since up to 30% of greenhouse gas emissions result from deforestation and poor land use, it is essential to not only slow these practices but also assist local communities so that the cycle of exploitation can be prevented (Plan Vivo, 2010). Plan Vivo encourages small scale projects which involve both forest and community, avoid

the capacity problems of government forestry programs, and provide a model for increasing scale. Furthermore, Plan Vivo enables communities in developing nations to access payments for ecosystem services, rather than just the enterprises developing carbon projects like some of the larger projects associated with CDM.

Process

The actual implementation of Plan Vivo is similar to that of other forest carbon projects in that there is a preliminary project design which is approved by a project coordinator, followed by regular monitoring by internal and third party monitors to ensure the project is meeting expectations and standards. The significant differences separating Plan Vivo from many other standards are the level to which a project coordinator becomes involved, the sale of ex-ante carbon offsets, as well as the depth of social and ecosystemic benefits involved in the project. The project coordinator identifies local community members who may be eligible to undertake the reforestation or land use change activities on their land. Before the actual project begins, the selected community members receive substantial training and involved in a participatory planning stage. Once the plans have been drawn and the producer efforts begin, the project coordinator monitors the progress to keep activities on track and coordinates payments to producers. A noticeable characteristic about the project coordinators under Plan Vivo is that they are almost always associated with a non-profit or NGO rather than governmental or corporate actors. The governing body for Plan Vivo is hesitant to work with governmental agencies since it can be much more difficult to track finances once they enter government control. In addition to concerns about transparency, Plan Vivo's

administrators worry that working directly with governments reduces stability since government support can wax and wane with the political climate (Borrego, 2005).

In addition to the project coordinator, there are several participants that make up the Plan Vivo system. The technical team is responsible for developing the land use systems which are compatible with Plan Vivo's goals as well as providing extension support for the local farmers once a project is underway. The Edinburgh Centre for Carbon Management Ltd assists with project design and development, provides marketing services for the carbon offsets, facilitates training for stakeholders, and other general support. Finally, the BioClimate Research and Development ensures projects are upholding standards and maintains the actual standard specifics.

Eligibility

There are several project and land types which are eligible for Plan Vivo certification including agroforestry and small scale timber, fruit and fuel wood operations, reforestation of degraded ecosystems, and conservation of forests under intense threat of deforestation. According the Plan Vivo Standard, these activities must promote both the sustainable management of the land as well as provide community benefits for rural areas (Plan Vivo, 2010). This includes protecting soils and waterways as well as preserving biodiversity. This is obviously an attempt to correct the flaws in some of the larger plantation carbon forestry which is highly detrimental to biodiversity due to monoculture and degrades waterways with the heavy use of pesticides and other agricultural chemicals. Plan Vivo attempts to avoid some of the exclusionary problems associated with other standards by accepting a variety of land tenure situations including

small holder owned and leased lands, community owned land, and publicly owned land for which communities have use rights.

Current progress

Plan Vivo currently has certified five projects located in Mexico, Nicaragua, Uganda, Mozambique and Tanzania (Orrego, 2005; Plan Vivo, 2010). The project in Mexico which began in 1995 was the first test project for developing the standard. Over 600 farmers are involved in the project and it has reached financial self-sufficiency through carbon finance (Orrego, 2005). These projects have provided foundational work for establishing high quality carbon forestry projects in developing regions. Among the characteristics crucial to these types of projects are transparency and flexibility in community relations, since this type of project has extensive community involvement. Furthermore, unlike larger corporate projects, this type of project necessitates constant communication with local participants to ensure that carbon sequestration efforts are accepted by the community. Communication allows the project administrators to ensure that community members are aware of the benefits they are receiving and lessens the risk of impermanence. Finally, Plan Vivo emphasizes the need for projects to start at small scale because this provides opportunities to learn about the unique cultural and environmental characteristics of a project region before investing large sums in scaling up (Orrego, 2005).

Plan Vivo Standard governance

There are four main components to the standard's governance structure: the Board of Directors, the Plan Vivo Foundation, the Technical Advisory Board, and the

Stakeholder Forum (Orrego, 2005; Plan Vivo, 2010). The Foundation develops the Plan Vivo system and handles the various project reviews in addition to disseminating information about the standard to the stakeholders as well as general public. The Foundation works closely with both the Stakeholder Forum and Technical Advisory Board. The Forum is a standard component of any community oriented certification and similar organizations exist in other certifications like the Forest Stewardship Council. It provides first-hand feedback on the progress and problems faced by ground level producers. The Technical Advisory Board reviews the system technical specifications created by the Foundation and ensures the technical viability of methodologies. The Technical Board is unpaid and consists of a variety of experts within the carbon forestry field (Plan Vivo, 2010).

An additional component of the standard that does not directly work for Plan Vivo, is the third party verifiers. The verifiers must be approved by the Foundation and typically come from another certification authority like the Rainforest Alliance or International Organization for Standardization (Borrego, 2005). Verification is one of the more significant barriers for projects since the verification process is expensive and the more complex the project, the longer and more expensive verification process.

Political Similarities to Trees for Society

One of the things that makes Plan Vivo so appropriate for Trees for Society is that both are working from a development perspective. Whereas many of the offset project developers and certifiers are for profit, both of these organizations are non-profit and emphasize sustainable development, local sensitivity, and societal benefits in their

operations. This organizational emphasis is important in mutually assuring each other that they are aiming to accomplish the same ends rather than working against one another.

Chapter 6

Case Study

One Experience with Certification

This chapter will provide information from field research centered primarily around Trees for Society and what has influenced their decision to certify and how they have chosen a certification among the various options. After interviewing the Deputy International Director at Trees for Society regarding his experience with certification, several patterns become noticeable. Most of these patterns adhere closely to the certification literature's explanations for why to certify and what factors are important in making decisions based on different certifications. Among the most frequently mentioned factors in both the initial decision to certify, as well as choosing among certifications, are cost and organizational goals (Trees for Society Interview, 3/22/11). Each of these concepts will be explained in greater depth as there are many different ways in which they are significant. Furthermore, the role of government in a certification is a considerable factor when pursuing certification. Both positive and negative elements are associated with governmental involvement, but ultimately this case shows that it is not necessarily desirable for this organization. Finally, the involvement of corporate actors, both in the certification and production of offsets as well as the consumption

(target market) of offsets significantly impacts a small organization's desire to implement one certification over another (Trees for Society Interview, 3/22/11).

Cost

Considerations for certification

The issue of cost is undoubtedly the single most important factor in choosing to certify and choosing a specific certification (Trees for Society Interview, 3/22/11). As mentioned in previous chapters, the costs of certification for carbon offsets, especially forestry, can be hard to predict as well as extensive. In the case of this organization, the Deputy International Director expressed concerns about similar organizations spending up to a million dollars in the certification process. This is not only a substantial amount for small non-profit organizations, but it is still not completely certain that the certification will raise prices or demand enough to compensate for that cost in a timely fashion. This is further complicated by the necessity of ongoing monitoring payments due to the permanence issues associated with long term carbon sequestration. With a certification like Plan Vivo, the monitoring and verification costs are offset by the fact that offsets can be sold ex ante. This allows the organization to use those ex ante funds to cover monitoring and verification costs. For the certifications which only allow sales of ex post credits, the costs of verification must be paid before collecting income from offset sales. All the certifications aside from Plan Vivo prohibit ex ante offset sales. As a result, this provides a significant incentive to pursue Plan Vivo Certification (Forests and Community personal communication, 4/7/11). As explained in earlier chapters, one of the main roles of certification is to validate the quality of the good being sold and must

provide either more consumers or higher prices in order to justify the expenses associated with certification (Bass et al 2001, Trees for Society Interview 3/22/11).

Despite the high costs of most certifications, there is evidence that the adoption of certification is growing rapidly in the carbon market (Hamilton et al, 2008). This organization recognizes that as the carbon markets mature, the offset buyers are becoming increasingly savvy and have already begun demanding certifications so as to avoid purchasing fly by night offsets that may have been double counted or are not verified. In the case of Trees for Society, the Deputy International Director has expressed concerns that large corporate or compliance based offset buyers (buyers that are mandated to reach certain carbon reductions by law or contract) are inaccessible at this point which could become problematic if the compliance market grows or increasingly knowledgeable consumers reject uncertified offsets.

Since offset providers view certifications as an investment, they must balance two concerns. First, not investing in certification will exclude them from the markets if doubts in the validity of uncertified offsets increase. Second, by investing in certification they will stretch the financial limits of the organization only to discover that the price premiums or expanded market access is insufficient. At this point, Trees for Society is expressing doubts about the cost since they are already fairly successful in selling uncertified offsets which are tax deductible since they count as a donation rather than a traditional offset purchase (Trees for Society Interview, 3/22/11). The Deputy International Director is hoping that as certifications such as the Gold Standard continue to develop micro-methodologies appropriate to small non-profits, the costs will come down on these sorts of projects and make certification more accessible. Even though

both CDM and VCS offer micro-methodologies for forestry, they both have drawbacks. VCS is only a carbon certifier, so the organization would need an additional certification for co-benefits and CDM suffers from a number of issues which will be discussed later. Once there is a decision to certify, the issue of cost differences between certifications becomes significant.

Comparative costs

The cost considerations are significant in the decision to undergo any certification, but once the decision to certify has become clear each certification has its own unique costs and challenges. In order to maximize benefits from certification it makes the most sense to pursue those which have the best reputation and most sustainable governance practices. This organization expresses concerns that certifications that are not well governed may lose credibility rapidly, which would completely void any benefits and waste the money and resources spent on certification (Trees for Society Interview, 3/22/11). This would impact a certification such as VER+, which has already been heavily scrutinized for its rule allowing validation and verification by the same verifier (Kollmuss et al, 2008). Trees for Society discussed the Gold Standard in this context, because although Gold Standard does not certify forestry offsets, they certify high efficiency woodstoves. Woodstoves are another type of project Trees for Society develops and Gold Standard is the certification they would choose for those projects. One of the main appeals of the Gold Standard certification ties directly to this concern about credibility failure.

Gold Standard was developed by the World Wildlife Fund and a host of other environmental non-profits. So far WWF has facilitated and managed a number of other

environmental certifications for almost two decades (Kollmuss et al, 2008). This hopefully increases its ability to govern its standards and prevent a sudden collapse in credibility. Unfortunately, this is also an incredibly difficult standard to attain in terms of cost and administrative burden. Furthermore, it is currently unavailable to reforestation projects. The primary certification considered by Trees for Society for forestry projects is the Plan Vivo Standard, which is appealing both due to the specific nature of the certification (small-scale forestry only) as well as the relatively low transaction costs (Trees for Society Interview, 3/22/11). Many of the broad based certifications heavily reward scale since many of the costs involved are regressive. Therefore smaller projects will end up spending a much larger portion of their budget on certification than larger projects. Plan Vivo attempts to overcome this problem with lower costs and extensive outreach, training and extension services. Unfortunately the specific nature of Plan Vivo also means that it has not certified a large number of projects so it does not have the name recognition of one of larger standards like Gold Standard or VCS. Ultimately, the main cost issue when deciding among certifications is balancing cost with name recognition and public credibility.

Organizational mission and goals

Since many of the organizations facilitating carbon projects have a wide variety of institutional missions, it is pertinent to discuss how those goals and missions may impact certification decisions. The mission of an offset provider largely relates to how they choose to use resources and thereby justify the cost of certification. As mentioned earlier, the cost of certification can be immense, and for an organization such as Trees for society, it may not be justifiable when those funds could be spent pursuing other projects

or expanding the size and capacity of the projects already underway. Since the carbon sequestration benefits of this organization's projects are only one facet of a multi-prong approach to sustainable development, it is not necessarily wise to use so many resources on one element of the project. The Deputy International Director emphasizes that while carbon sequestration and offsets are a great way of bringing funding to their efforts, it is important that the broader package of social and environmental benefits do not get short changed by a focus on carbon (Trees for Society Interview, 3/22/11).

Furthermore, there is concern that once the investment has been made and offset purchase contracts arranged, the priority will become carbon sequestration at the expense of local community benefits. Within some financing and certification schemes there is intense pressure to ensure that carbon benefits are secured above all other priorities, and this severely conflicts with an organization which strives to keep human welfare high on the agenda. Organizations must balance the credibility and income benefits of certification without compromising the original mission of the organization.

The organizational mission also determines the types of carbon offset buyers they will attract. Trees for Society receives support largely due to the mix of social and environmental benefits they provide to communities. Many of the supporters are less concerned with verifying the carbon offsets than with ensuring that the organization continues to accomplish the multi-benefit approach for which it has become well known. According to the Deputy International Director there is a recognition that the expense of certification may detract from the organization's ability to continue with its established and successful sustainable development efforts (Trees for Society Interview, 3/22/11). The extent of costs is not limited to just direct financial obligations to verifiers and

certification fees however, since certifications also burden the local and international staff involved in all of these projects. While most of the staff is currently able to use their time to provide support to local participants, certification would put an extensive administrative burden on these staff members and either necessitates additional staff or cuts from the services they provide.

Furthermore, the relationship with their consumers creates a unique situation in some ways. Many of the carbon offset projects and their developers do not have many years of trust-building with their consumers. This is why many of those new developers have little choice but to invest in certification. The certification can take the place of that relationship development to instantly prove that an offset provider is performing up to standards. In the case of this particular organization, the Deputy International Director is confident that their long established consumer relationships, in combination with top notch ratings from the Better Business Bureau and Charity Navigator, are significant enough qualifiers that certification is not as immediately necessary for them as for other project developers (Trees for Society Interview, 3/22/11).

Relying on legitimacy gained from consumer trust excludes Trees for Society from compliance markets. But it does allow the organization to keep administrative costs low while pursuing the wide range of environmental and development goals.

Organizational mission and choosing among certifications

Many of the specialized certifications attempt to address the concerns expressed by this organization relating to certification in general. The main concern is that carbon offset certification will shift the emphasis from social and environmental benefits to carbon sequestration. This is primarily a concern in deciding between certifications

aimed at compliance markets as opposed to the voluntary market (Trees for Society Interview, 3/22/11). With a standard like Plan Vivo, the focus remains firmly on the community development and local environmental benefits because it is directed at the voluntary market. Certifications designed for the compliance market have a much greater responsibility to ensure that regardless of the conditions or unexpected events, the carbon sequestration remains. Considering the issues forestry carbon presents in terms of permanence and leakage, the standards have an obligation to go above and beyond necessity or else the legitimacy of forestry carbon offsets may be compromised.

Government

The involvement of government has notable impacts for an organization's choice in certifications. Since currently the only certification with extensive government involvement is the CDM, this section primarily addresses that system. Although, as the example of east Africa will illustrate, governments are becoming increasingly interested in involving themselves in voluntary carbon projects as well. From the standpoint of this organization, the involvement of government is perceived largely more as a complication than an asset. This perception is due to several factors.

First, the way in which CDM involves national governments leads to the potential for bureaucratic inefficiencies which can stifle project development. Each CDM project must collaborate with the Designated National Authority to approve all of the processes involved in the project. While this yields some degree of local representation that private standards and projects may lack, it can slow down or even stop a project if the Designated National Authority lacks the capacity to keep up with project developers (Trees for Society Interview, 3/22/11). This can add unexpected costs and delays and can

discourage future project developers from organizing efforts in areas that may greatly benefit from a carbon project.

In addition to the capacity issues facing some governments, there may be transparency issues in these national offices. As the organization studied in this research notes, this can seriously complicate the financial transactions involved and potentially harm the fiscal credibility and general reputability necessary to attract financing for further carbon projects (Trees for Society Interview, 3/22/11). Furthermore, since an organization like this relies on independent non-profit ratings, this financial murkiness may harm those ratings and compromise traditional donor support networks.

The next issue concerns the transparency and capacity failings of some governments. Since many of the governments that are the most problematic and least capable of handling the complex CDM bureaucracy are also the nations most in need of development assistance, this can conflict directly with the mission of organizations that focus on providing assistance to those which would benefit most. To illustrate this point, the Deputy International Director notes the complications of trying to implement projects in east Africa. Several of the east African nations are attempting to form an umbrella organization to handle carbon projects, but this is having the unintended consequence of adding yet another layer of bureaucracy to project development (Trees for Society Interview, 3/22/11).

The bureaucratic difficulties associated with some government involvement have the unintended effect of pushing many projects to a small number of developing countries which have used significant resources to make themselves friendly toward CDM projects and carbon offset developers. As mentioned in the previous paragraph, this means that

many countries that could benefit from projects are excluded from the system. When discussing an organization that is trying to bring the greatest benefits to those who need them most, this means there is another conflict with the organizational mission. The organization is not necessarily aiming to simply get as many projects online as quickly as possible, but the bureaucratic hurdles have yielded a system set up to do just that in a few well adapted nations.

Additionally, the involvement of government officials in carbon projects presents control issues. From the perspective of a small non-profit organization, the power exerted by government bodies is seen as a significant risk to project development. The organization in this study worries that without powerful backers, the governments involved may dominate the direction of a project and undermine the efforts of the project developers or entirely push them off and take control (Trees for Society Interview, 3/22/11).

Market forces

The final broad category of factors impacting the decision to certify and choose a specific certification concerns the market forces driving carbon offsets and the associated certifications. Specifically, the risk averse nature of capital markets and the desire to scale up rapidly are impacting certifications as well as the projects with which each certification works.

As larger multi-nationals become involved in carbon finance, there is a tendency to consolidate, scale-up, and integrate just as it happens in any other market sector. To demonstrate the effects of this development, the organization references the case of Climate Care. Climate Care is an organization that finds, manages and monitors carbon

projects around the world. They certify through the major certifications including VCS, VER+, Gold Standard, and CDM. They also sell offsets through their own marketing channels and website (Climate Care, 2009). Climate Care began working with our non-profit organization several years ago to calculate the carbon offset from one of their small scale high-efficiency woodstove projects. Once Climate Care calculates the carbon saved, they provide their own seal of approval, or certification, and distribute those offsets through their own channels. Before reaching the point of certification and distribution, Climate Care was purchased by JP Morgan and the bank did not see the project as appropriate in scale or cost for their business model, effectively shutting out the offset developer from Climate Care affiliation (Trees for Society Interview, 3/22/11). At this point, Climate Care exclusively distributes offsets which have been certified through CDM, Gold Standard, VCS and VER+ (Climate Care 2009). All of these are reputable offset certifiers but this does not leave room for the small projects which suffer from the regressive cost burden of these broad range certifications. The Deputy International Director noted that while these institutions can bring vast amounts of capital to get projects started, as more banks and financial institutions become involved in carbon markets, the whole system will become more geared to the larger, cheaper projects that are less cost and labor intensive than small projects with high co-benefits. This is significant to this organization's decision to certify because if they become certified under a certain standard which then changes their organizational direction or leadership, it could once again shift priorities and conflict with the work to which this organization has dedicated itself.

The second main problem of market forces in carbon offsets involves the inherent risk involved in taking on development projects in many developing nations. As discussed earlier, the CDM has seen a consolidation in projects in several nations which are friendly and capable of handling these projects, and the same effect is occurring due to the fact that the most capable and least risky areas are most attractive to profit seeking offset organizations. Although most certifications are independent from the for-profit project developers they certify, there is a reflexive relationship between project developers and the certification bodies. As more profit-seeking project developers become involved in the process they will have increasing influence in the certification bodies to the detriment of the smaller non-profit organizations such as Trees for Society. This is what happened to the Forest Stewardship Council when the larger Northern forestry groups became increasingly influential in the system governance. Now the FSC is largely made up of Northern forestry organizations and the tropical foresters it was created to serve have lost much of their influence in the Council's governance (Bass et al, 2001).

This issue is directly associated with the concerns that by working within the markets, certifications cannot truly alter the inequities and market failures they may seek to address. As soon as there is a profit motive involved, there is an inclination to pursue profit at the expense of the secondary goals of a given certification. Preventing the influence of larger actors from dominating the discussion within these certifications will be essential to maintaining their compatibility with small projects, but none has existed long enough to prove itself up to that challenge.

Chapter 7

Broader Implications

The information provided by interviewing the case study organization largely reflects the concerns and issues mentioned in the certification literature at large. Inevitably, the issue of cost-benefit analysis pervades the discussion. As a type of Non-State Market Driven governance, certification draws its authority through supply chain acceptance (Bernstein and Cashore, 2007). Furthermore, as mentioned in Chapter 1, Bass et al (2001) note a necessary condition of certification's effectiveness is that certified products yield higher prices or increased market access. So if the consumers are specifically pursuing offsets which have been certified, it makes logical sense for offset providers to produce certified offsets. However, at this point there is doubt inside Trees for Society about whether there is in fact a clear correlation between certification and consumption or higher prices. Currently, the legitimacy this organization has earned through other awards and a consistent track record of high quality projects is providing its offset consumers sufficient proof of quality, whereas high costs are impeding the adoption of any certification. The cost issue is unavoidable in the certification debate. While some note it is merely the perception of high cost that stifles many certifications, the costs continue to play a significant role in both the broader literature as well as in this case study (Bass et al, 2001; de Camino and Alfaro, 1998; Raynolds et al, 2007)

Furthermore, it may be the mission of the organization with its primary focus on social and environmental co-benefits which is in fact stalling the adoption and limiting the appeal of many of the certifications designed to verify these side benefits. Some of the concerns raised by Taylor (2005) speak to this since many of the issues mentioned by the case study involve the potential misdirection of the certification bodies by strong Northern influence at the expense of the smaller Southern producers' input. This affects both the organizational structure, in that it is geared towards Northern production preferences, but also can create barriers to certification through high certification costs and methodologies specific to Northern demands. Many of the mainstream certifications which closely resemble the CDM fall into this category. They are developed for the larger projects which have the upfront capital to make huge investments in certification and administrative burden. The certifications that deliberately aim to avoid these problems then suffer from less name recognition and fewer projects since they do not have the same volume of offsets to establish name recognition nor the desire to mass produce offsets. In this case, Plan Vivo continues to operate a number of small scale forestry projects with the support and endorsement from reputable organizations including USAID, the Rainforest Alliance, and the William J. Clinton Foundation (Plan Vivo, 2010). But even with widely recognized endorsements, the organization still only operates a handful of projects and does not have an organization like the WWF doing constant marketing and development. So while these custom tailored certifications may provide a quality product and are designed to accommodate the small forestry projects rich in co-benefits, the perceived benefits of certification are mixed at best.

Many of the issues associated with variety in certifications are relevant in this case study. First, the concerns of customer confusion are unavoidable. The organization in this research is worried that it must pursue the certification with the most recognizable name even if it is not necessarily the best suited or specific to its needs. The organization acknowledges that Plan Vivo is the most appropriate certification from a technical point of view, since it was specifically designed for the types of carbon forestry projects this organization develops. Yet, it does not have the visibility associated with something like Gold Standard that not only has higher volume but also reputable backing. Therefore, there is a tradeoff between a highly suitable certification with lower costs and better support, or the higher volume standard with its more substantial internationally recognition and widespread acceptance.

Personal communications with another carbon forestry project certified by Plan Vivo (Forests and Community) emphasize a number of the same concerns, but also elucidate some of the benefits that Trees for Society must consider. As with Trees for Society, Forests and Community considered a broad range of certifications prior to settling on Plan Vivo. The issues of scale were one of the first characteristics which excluded some of the large scale standards such as the CDM (Forests and Community personal communication, 4/7/11). Furthermore, the interconnected elements of legitimacy and recognition were crucial. Forests and Community wanted a certification with a well established reputation for producing high quality carbon offsets because in the experience of the Executive Director, strangers do not buy offsets without legitimate standards. As with Trees for Society, there must be some source of legitimacy, whether

that is the certification, community recognition, or a long history of providing high quality development work.

An additional concern Forests and Community dealt with in the selection process was the ability to sell ex ante carbon offsets. This means the offsets can be sold prior to verification by third party auditors. The only certification which allows this is Plan Vivo and this proved to be a strong selling point. Further enhancing the appeal of Plan Vivo is its low cost and highly supportive certification team which provides significant technical help and highly specific knowledge.

Finally, as was noted earlier in the chapter, the importance of the organization's goals and missions plays a substantial role in the decision process. This proved to be the case for Forests and Community as well. According to the Executive Director, the fact that Plan Vivo heavily emphasized the sustainable development aspects of carbon forestry projects allowed that certification to complement the organization's goals rather than conflict with them.

How does this relate to non-state market driven mechanisms

Looking back to the theoretical basis for certification, there are clear connections between this organization's decision making process and non-state market driven governance. As mentioned in the previous section, NSMD mechanisms draw their authority from the supply chain (Auld et al, 2007, Bernstein and Cashore, 2007). While certain elements of the carbon markets have granted authority to these certifications, such as CDM in compliance markets and Gold Standard in the voluntary markets, there is doubt with smaller certifications that there is significant consumer support (Trees for Society Interview, 3/22/11). Furthermore, a forum in which learning and adaptation can

occur is another NSMD concept which has had mixed success in the carbon markets. As with the Forest Stewardship Council, the organization at hand has concerns that the forums are mostly allowing larger, powerful project developers to gain greater control over the certification processes. This is not meant to entirely reject forums and learning opportunities. As long as they are not dominated by one type of participant there are opportunities to improve the certifications as a whole. The introduction of micro-methodologies is proof of this.

The remaining elements of NSMD systems highlight some of the unique qualities of this case study. First, NSMD systems include some form of verification to provide validity to claims of compliance. The organization in this study turns to forms of verification which are non-traditional for the carbon offset markets. Through self verification, third party non-profit ratings, and consumer relationships this organization demonstrates the validity of its product. Additionally, while most NSMD mechanisms are designed to force industries to make costly reforms they would not otherwise take on, this organization's primary goal is to address the very issues many offset certifications seek to address: social and environmental benefits. This lessens the need for certification, especially given the customer demands from this organization.

Parsing through the elements of non-state market driven mechanisms elucidates some of the concerns of the organization, but also shows how they adhere to the NSMD model even if they accomplish it through slightly modified avenues.

At this point, Trees for Society has decided that it is comfortable with the internal validity it has achieved through long term achievements and independent accolades. The Deputy International Director is still concerned that the burden of certification in cost and

labor is not yet justified. He notes that in the future this very well may change depending on market conditions and the ever progressing array of certifications available, but at the moment it is just not necessary (Trees for Society Interview, 3/22/11).

Since certification is at its root about conferring legitimacy on a product or process, this case implies that this legitimacy can be achieved through alternate means. Rosenau (2003) asserts that new sites of authority "derive their legitimacy from the voluntary and conditional participation of individuals who can revoke their consent at any time". This case study shows that the producers of carbon offsets can become legitimate by a variety of means. This includes the certifications which Forests and Communities uses to legitimize itself. But as Trees for Society demonstrates, this legitimacy may also be conferred by philanthropic societies which donate funds, individual donors who decide to support this organization, and businesses which choose to buy carbon offsets from Trees for Society. Based on the information gained from contacts in different organizations, it seems that although uncertified is functional at the moment, the market is likely to continue demanding some form of certification to validate carbon offsets.

This is likely to hold true both with forestry as well as other varieties of carbon offsets. The main reason for this demand for certification being that the public is still highly skeptical when it comes to carbon offsets. Whereas certifications such as FSC and Fair Trade are verifying the production methods, certifications for carbon offsets are verifying the very existence of the good. By incorporating input and support from groups like the United Nations Development Program, World Wildlife Fund and the Rainforest Alliance, the certifications accomplish two ends. They incorporate scientific as well as

moral expertise which legitimizes the ecological and human implications of carbon offsets.

Chapter 8

Conclusions

This thesis set out to explain why a small non-profit carbon offset provider would choose to certify their offsets, as well as how they choose a particular offset certification among the many options. While Trees for Society is still undecided on whether they will ultimately certify their offsets and which certification they will choose, there is compelling evidence explaining the logic and reasoning behind these decisions up to this point in their operations. Furthermore, the information provided by a similar organization reaffirms many of the findings from Trees for Society, but from an advanced perspective.

There is a great deal of variety within the forestry carbon offset standards. These various standards cater to a variety of customers and are positioning themselves to occupy different roles within the sector both currently and in the future. One of the most significant divisions appears to be focused on the carbon offset buyer to which the standard is catering.. Despite the differences, each of the standards is still strongly based on CDM either through methodology or general goals. It is likely that CDM will maintain this position of policy designer and its policies will trickle down to the various private standards. For the offset producers, these implications carry significant weight. A small socially oriented organization would benefit from a certifier like Plan Vivo or Carbonfix which caters to offset buyers demanding

sustainable development rather than just carbon offsets. On the other hand, an offset producer with the capacity to produce large quantities of offsets at a very reasonable price would benefit from VCS or CDM certification as that would open up markets demanding sizable quantities.

After extensively researching the various offset certifications and discussing these options with the organization, several trends were illuminated. First, most of the certifications that are designed for the compliance carbon market were not the best option for this organization. The compliance market carbon offset certifications are problematic for an organization like this one because it is imperative that carbon sequestration take precedence over environmental and social benefits associated with the project (Trees for Society Interview, 3/22/11). These certifications are designed to ensure offset buyers that they will have valid and permanent carbon offsets. This certitude is necessary for organizations legally bound to reduce their carbon emissions. As such, these standards emphasize the permanence of carbon sequestration more than anything and use methodologies that have strict verification standards to ensure the continued sequestration.

The next problem with compliance oriented certifications is the increasing corporate involvement. As the Deputy International Director noted, banks and other financial institutions have become increasingly interested in carbon offset projects as a new investment vehicle. While this type of involvement provides significant capital that is otherwise unavailable to project developers, it puts intense burdens on the project developers to constantly scale up and deliver returns in the form of offsets.

The emphasis on carbon sequestration discussed above also conflicts with the broader mission of this type of organization. The organization in question is primarily operating in regions that do not necessarily pose the safest risk. They are often quite undeveloped with populations living near subsistence, which poses a problem for forestry projects. Problems of unexpected logging or forest degradation are a potential threat even with the buffers and insurance pools built into most certification's systems. Since this organization is striving to provide projects that benefit underserved communities, it is almost inevitable that they will confront this sort of problem. The irony of this situation is that originally the CDM was designed to provide widespread development assistance to the developing world, yet now it is frequently non-profit organizations which have stepped into this role while the CDM has become wrapped up in its own bureaucracy (Bumpus et al, forthcoming).

As with any other certification, carbon offsets certification is an investment. Cost is ultimately the most important factor, but that does not mean high costs are always a deterrent. Cost is important because of the uncertainty involved in the potential returns. There is no doubt that the cost would be worth it if the market absolutely demanded certification due to either compliance or savvy offset buyers. But the fractured nature of carbon markets into voluntary and compliance markets convolutes the decision. Certification is exceptionally important in the compliance markets due to the uncertainties in commoditizing a highly abstract product and the need to meet requirements which impact that business, organization or government. At this point, this is not a huge concern for this case since the compliance markets are still largely undeveloped and the management for Trees for Society is not convinced they would see a

significant pricing difference between compliance and voluntary offsets. However, within the voluntary markets things are not clear regarding the utility of certification. One of the main points of difference between the existing certification literature and this case, is that this case brings up the possibility that certifications or accolades completely unrelated to carbon offsets may be sufficient for providing similar benefits to certification. The Executive Director from Forests and Community noted that strangers do not buy offsets unless they are certified. Yet Trees for Society continues to sell offsets without a certification. The only factor I can attribute to this is the fact that Trees for Society has established itself over the years with a wide variety of support in a number of different project areas. The rapport they have built through a multitude of activities is acting as a certification and assuring their offset buyers that they are a credible organization.

Currently, Trees for Society is relying on these alternative forms of credibility to assure offset buyers they are purchasing a legitimate good. Based on interactions with their offset buyers and continued growth in their offset sales, it is not imperative to adopt a certification. This could easily change if market conditions adapt so that their offset buyers start requesting third party certification. However, since this organization's buyers are largely acting out of philanthropy rather than mandate (compliance), it allows for much more flexibility in establishing legitimacy for the offset producer.

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