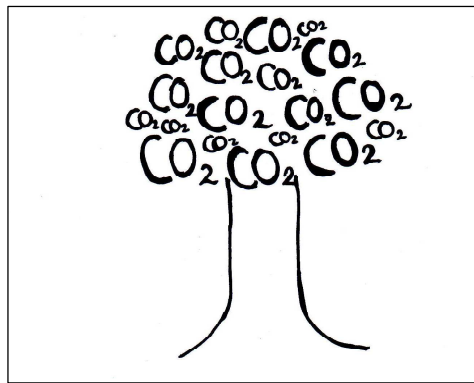


Environmental discourses in Climate, Community and Biodiversity certification scheme and its land-based climate change mitigation projects

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ABSTRACT

Within the environmental governance mechanism of climate change mitigation, the carbon dioxide sequestered from trees has become a new tradable commodity. The socio-political context in which this mechanism is embedded has linked climate change mitigation with sustainable development. However, to benefit climate and at the same time to contribute to sustainable development is an ambitious target that is not free of controversy. Climate Community and Biodiversity Standards (CCB) certify and validate land-based climate change mitigation projects that are said to solve climate, social and biodiversity problems simultaneously. In order to understand these Standards' proposal it is essential to realize that ecological problems comprise much more than physical facts, but involves social constructions around the way of how society interpret those problems. This thesis' argument is that the narratives associated with the Standards and projects reflect certain ideas that are shaped by and at the same are shaping their reality. This thesis' main goal is to understand how the ideas of Standards and projects are contributing to the solution to mitigate climate change and simultaneously benefit biodiversity and communities. To reach this goal this study uses a combination of Foucaultian genealogical analysis and argumentative discourse analysis. It examines documents related to the CCB Standards and six of the nine currently approved projects formulation documents. Ecological Modernization, Green Governmentality, Civic Environmentalism and Sustainable Development where the four main discourses found around the debate of this mitigation strategy. The Standards and the projects represent and are shaped by what this study calls *market orientation*, *expert-based decision making*, *participatory and sustainable development* sub-discourses. These findings indicate that the CCB Standards and, to some extent, the projects are dominated by a form of Ecological Modernization in which both its strong and its weak version are present. Strong ecological modernization is complemented by Civic Environmentalism, and weak ecological modernization is complemented by Green Governmentality. Consequently it implies that the conception of the standards and the projects are marked by three main concepts marketization, technocratization and participation, which imply both strengths and weakness for this climate change mitigation strategy.

Keywords: environmental discourses, Climate, Community and Biodiversity Standards, climate change mitigation, Policy discourse analysis.

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List of Abbreviations

AIJ	Activities Implemented Jointly
AFOLU	Agriculture, Forest and Other Land Use
A/R	Afforestation Reforestation carbon projects
CCB	The Community, Climate and Biodiversity
CCBA	The Community, Climate and Biodiversity Alliance
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
COP	Conference of the Parties
CO ₂	Carbon dioxide
DNA	The Designated National Authority
FSC	Forest Stewardship Council
GHG	Greenhouse gases
GMO	Genetically Modified Organism
IPCC	Intergovernmental Panel of Climate Change
IUCN	International Union for Conservation of Nature
JI	Joint Implementation
LULUCF	Land Use, Land Use Change and Forestry
NGO	Non-Governmental Organization
PDD	Project Design Document
PC	Project Climate
REDD	Reducing Emission from Deforestation and Degradation
tCERs	temporary Certified Emission Reductions
UN	United Nations
VER	Verified or Voluntary Emission Reductions

1 INTRODUCTION

Nowadays, climate change is a common aspect in the political and environmental debate, although it is not a new concept. Its origin dates back to the 1890s when the chemist, Svante Arrhenius, made public the first predictions about the effects of changing carbon dioxide (CO₂) concentrations in the atmosphere (Hamblyn *in press*). Today it is positioned in almost all fields including politics, science, industry, and economics. Regarding the climate change policy discourse, the concept of climate change as we know it today takes shape from 1985 to 1992 (Hulme, 2008). According Hulme (2008), the first Assessment Report of the Intergovernmental Panel of Climate Change (IPCC) in 1990 was decisive for positioning the concept that has been dominant since then, influencing the 1992 UN Framework Convention on Climate Change, the Kyoto Protocol in 1997, and the subsequent IPCC reports. Climate change has also transcended as a daily life issue calling for the sense of responsibility that each and every one of us have in order to lessen the causes of the problem.

The way this physical phenomenon has been constructed into the social and political fields frames climate change as a complex problem. It is considered to be a global problem with long-term transboundary impacts. The magnitude and the nature of climate change policy outcomes are related with consumption patterns, health, education, and environment over time and involve equity and justice issues for present and future generations (Stern, 2007). Climate change engages a variety of actors and institutions – government and non-government organizations, scientific communities, and citizens, among others. There are several explanations for its origin. Natural and anthropogenic factors have been attributed to climate change causes, but there is not a consensus yet (van Geel, 2006). At the same time, it is formed by a variety of aspects, many of which are complex. For example, some of the identified physical effects of climate change around the world are the melting of glaciers, the acidification of oceans, the extinction of species, the rise in sea level, etcetera, and all this have proved to have socio-economic consequences on the human population (Stern, 2007).

Technically, the problem has been linked to the concentration of the so-called greenhouse gases (GHG) where CO₂ concentration has received vast attention. At present, there seems to be globally accepted that CO₂ atmospheric levels need to decrease. As mentioned earlier, humans are considered, at least partially, responsible for this phenomenon. Human-induced climate change is considered to be caused by the accumulation of greenhouse gases in the atmosphere over the past 100 years (Stern, 2007). In general, the current proposed strategies to deal with this phenomenon range over adaptation and mitigation. Adaptation refers to the capacity of natural or human systems to respond to the effects of climate change (IPCC, 2007a), and mitigation refers to the reduction of the so-called greenhouse gases emissions (IPCC, 2007b).

In the fourth Assessment IPCC Report, key technologies and practices for mitigation are mentioned in different economic sectors. Some examples are switching from coal to gas, and using solar energy in the energy sector; using fuel-efficient vehicles and rail and

public transportation in the transport sector; implementing efficient lighting, heating and cooling in the building sector; employing efficient end-use electrical equipment, recovering and recycling heat and power, and controlling non-CO₂ gases emissions in the industry sector; and using organic waste compost, recycling and minimizing waste in the waste sector (IPCC, 2007b). Agriculture and forestry sector are also listed as possible contributors to the climate change mitigation strategy. In the case of agriculture, the improvement of crop and grazing land management in order to increase carbon storage, the restoration of cultivated peaty soils, the adequate management of stock, manure, and fertilizers, and the production of biofuels are some of the alternatives. The forestry sector includes afforestation, reforestation and deforestation avoidance practices, forest and harvested products management, and bioenergy production (IPCC, 2007b).

In the context of climate change mitigation strategy, the carbon credit market emerges as a place where carbon credits or offsets and allowances are negotiated. The idea behind the compensation mechanism is that someone is paid to reduce carbon emissions or to increase carbon sequestration. By doing so, the one who buys the credits can compensate his own emissions. The place where emissions take place and the place where they are compensated can be different since carbon accumulation in the atmosphere is a global phenomenon.

Land-based projects (agro-forestry, reforestation, avoiding deforestation) represent one of the possibilities for producing those credits, because of the trees' ability to sequester CO₂. Their economic and environmental efficiency and their potential to produce associated benefits (socio-economic and environmental) beyond carbon dioxide reduction are arguments to support land-based carbon projects (Kollmuss et al., 2008). However controversial arguments related with lack of additionality, 'carbon colonialism', and lack of equity among others is part of the current debate on mitigation strategy (this will be further explained in the next section). In order to guarantee credibility and quality to the project, several certification schemes have been created (Kollmuss et al., 2008). The Clean Development Mechanism, for the case of the regulated market; and the Voluntary Carbon Standards, The Chicago Climate Exchange, The Plan Vivo System, and the Climate, Community and Biodiversity Standards (CCB), for the voluntary market are some examples of those certification schemes. Various differences are found in the specific kind of project and the way to produce the credits. In addition, some of the certification schemes are considered 'minimum standard offsets', and those who emphasize on the ancillary benefits are considered 'gourmet' standards (Kollmuss et al., 2008). This study focuses one of the 'gourmet' certification schemes –Climate, Community and Biodiversity standards (CCB).

The CCB standards were developed in the year 2005 with the aim of evaluating the impacts on climate, community and biodiversity of land-based climate change mitigation projects (CCBA, 2005b). Nowadays, they are well known in the voluntary market and the Clean Development Mechanism (Hamilton et al., 2008, Kollmuss et al., 2008); and they are considered to emphasize the social and environmental benefits of projects (Kollmuss et al., 2008). For that reason, the CCB standards provide a good way to access the land-base climate change mitigation strategy debate which is the core of this study. Here, I

will examine the narratives associated with the CCB standards in order to understand some implications in the co-benefit of the projects.

1.1 General Context

The voluntary market and the Clean Development Mechanism

Carbon commodities traded in the market can be allowances or offsets. Allowances are created by the so called cap-and-trade systems, and offsets or carbon credits are created by project-based systems (Kollmuss et al., 2008). Additionally, the carbon Market can be divided in two sectors: the regulated and the voluntary schemes. Under the project-based system both schemes, regulated and voluntary, can be found. This is the case of the Clean Development Mechanism of the Kyoto Protocol (regulated market) and the offset projects (voluntary market).

In this order of ideas it is important to mention the development of the project-based system among the regulated and voluntary schemes. To clarify, the Kyoto Protocol is not the only international regulated scheme; another example is the European Union's Emissions Trading Scheme. However the Kyoto Protocol is the regulatory scheme referred to hereafter when mentioning the regulated market.

In 1995, Activities Implemented Jointly (AIJ) was introduced during the first session of the Conference of the Parties (COP). Although the credits produced in the very first projects were not traded under regulatory schemes (Estrada et al., 2008), they were the basis for collaborative project-based mechanisms to mitigate GHG emissions (Estrada et al., 2008, Hamilton et al., 2007, Hamilton et al., 2008). After that, in 1997 the Kyoto Protocol defined three 'flexibility mechanisms' from which the Clean Development Mechanism (CDM) and Joint Implementation (JI) were project-based. CDM allowed developing countries to participate in carbon trading. Article 12 of the Kyoto Protocol refers to the Clean Development Mechanism as a mechanism for the parties in Annex I to achieve compliance with their quantified emission limitation and reduction commitments, and at the same time to assist parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention (UNFCCC, 1998).

With regard to the voluntary market, Hamilton and co-workers (2007) stated that one of the first voluntary investments in carbon dioxide sequestration emerged in 1989 pretending to find new ways of financing projects from conservation organizations. Years before, in 1976, scientist Freeman J. Dyson had proposed a worldwide plant-growing program as a response to the rising levels of carbon dioxide in the atmosphere (Bäckstrand and Lövbrand, 2006). From 1989 to 2003 the voluntary market was the only option to end being 'virtually forgotten' due to the emergent need of regulated carbon markets (Hamilton et al., 2007). However, while the climate change issue gained power (around 2006) the voluntary market grew as well; it is still growing, though it remains small compared with regulated markets (Hamilton et al., 2007, Hamilton et al., 2008).

Although carbon projects started earlier in the voluntary market than in the regulated one, the essential concept in both cases is similar. For the existing voluntary certification standards, the project cycle is similar to the CDM one, although the certification process is not based in national administrative bodies but in private certification schemes. Some authors have considered voluntary market as a ‘testing field’ for the regulated one, or an opportunity for projects or parties that cannot be included in the compliance mechanism (Hamilton et al., 2007, Kollmuss et al., 2008, Hamilton et al., 2008). Estrada and co-workers (2008) stated that voluntary market’ projects have been heavily influenced by regulated mechanisms with regard to the basic rules, processes, and actors. One of the main differences relevant for that study is that the voluntary market includes more types of forestry projects, for example ‘avoided deforestation’ projects.

There are many types of projects that can be implemented in order to emit carbon credits or offsets such as energy efficiency, renewable energy, biological sequestration projects and others. Agriculture, Forest, and Other Land Uses (AFOLU) activities are part of bio-sequestration projects. As mentioned earlier, the certification standards were developed to guarantee the transparency and quality of the projects. Furthermore, some of the schemes emphasize the associated benefits that climate change mitigation projects bring to the communities where they are developed. These benefits are known as co-benefits or ancillary benefits and are related with sustainable development. Next, this aspect will be elaborated in more detail.

Certification standards and co-benefits

The social and environmental benefits that go beyond the GHG reduction are called ‘co-benefits’. They include job creation, improved local air quality, protected and enhanced biodiversity, etc. (Kollmuss et al., 2008). The sustainable development issue has been present in both schemes, voluntary and regulated. For instance, the conception of the CDM was to include developing nations to bring them development benefits and at the same time provide cost-effective reductions for developed parties (UNFCCC, 1998). However, it is claimed that this mechanism has failed to bring such development and sustainability benefits (Kollmuss et al., 2008). Voluntary markets seem to pay more attention to development issues (Estrada et al., 2008), but they have not been free of controversy (Granda, 2005). Olsen (2007) concluded from a literature review that forestry carbon projects were unlikely to achieve the objectives of local equity and sustainable development. Besides, Kollmuss and co-workers (2008) recognized that there frequently was a trade-off between maximizing emissions reductions and increasing sustainability benefits. They mentioned that small-scale grass-root projects were not primarily about maximizing emissions reductions but about providing financial alternatives to projects with high sustainability benefits.

Reliability and credibility play an important role in defining the quality of the credits issued. Because carbon offsets are not material goods, they need a process of certification. Currently a variety of certification standards exist. A number of them are very close to the CDM and its approved methodologies; others are limited to certain types of project, some emphasize social and environmental aspects (Kollmuss et al., 2008).

Some standards are said to have gone beyond the issue of GHG reductions focusing also on social and environmental benefits, the so-called ‘gourmet’ standards, in comparison with ‘minimum standard offsets’ (Kollmuss et al., 2008)

The Community, Climate and Biodiversity standards are an example of ‘gourmet’ standards. As mentioned earlier, they were developed in 2005 with the aim of evaluating the impacts on climate, community and biodiversity of land-based climate change mitigation projects (CCBA, 2005b). These standards were designed to certify land management projects that simultaneously minimize climate change, support sustainable development and conserve biodiversity. Their developers claim for ‘designing resilient actions that address multiple global problems simultaneously’ since ‘environmental and social challenges cannot be solved in isolation’ (CCBA, 2005a). The CCB standards are intended to be used in designing and implementing this kind of projects and consist of 23 criteria arranged in the following sections: general, climate community and biodiversity (CCBA, 2005a) (for a detailed description of the standards, see chapter five). Due to the characteristics mentioned earlier, the CCB standards reflect appropriately some of the main aspects of the debate around the land-based climate change mitigation strategy related to trading climate offsets and reaching sustainable development.

1.2 Problem statement

Two aspects are important to understand the problem addressed in this research. Firstly, the Climate, Community and Biodiversity standards are part of a governance mechanism related with the climate change mitigation strategy. Environmental governance is defined as the regulatory processes through which political actors influence environmental actions and outcomes and it includes international accords, national policies, decision-making processes and market structures among others (Lemos and Agrawal, 2006). Secondly, ecological problems comprise much more than physical facts, they involve social constructions around the way society interprets and tries to solve them. Hajer and Versteeg (2005, 1995) suggest that ecological conflicts depend on discursive dynamics; they illustrate this by stating that an ecological crisis becomes a political problem if society conceives it like that. Hence, the environmental domain includes social practices that involve, for example, dictating science, regulating markets, and having people participate (Hajer, 1995). In this order of ideas, this study deals with the narratives associated with the CCB standards and the way in which these narratives affect the projects, and the implication these narratives have in the projects and in the debate.

So far, planting trees -or avoiding cutting them down- has been explained as one solution to tackle global warming. At the same time, carbon projects must contribute to sustainable development. The CCBA was formed and the CCB standards were created in line with this emphasizing on the co-benefits. Although there are controversy about the sustainable development issue, the CCB Standards are said to solve the incompatibility among development and environment, by certifying projects that benefit climate, community and biodiversity at the same time. The question is *how* they are constructed to respond to this premise. In this order of ideas this study is interested in to understand the

way in which such Standards are formulated and how they are interpreted in the project formulation.

The certification standards influence how projects are conceived and presented, how the community will be involved or benefited, and what the possible effects on the environment will be. Based on the socially constructivist assumption, this thesis argument is that the narratives associated with the standards reflect certain discourses and at the same time they shape the reality of the projects. First, the establishment of the CCB standards reflects the interaction between environmental discourses. Then, during the process of project formulation, certain discursive elements emerge, shaping their reality, specifically in relation with the co-benefits. Throughout the creative process of planning, certain discursive elements will be institutionalized and will eventually model the project reality.

This study is focused on CCB Standards. Here, I seek to elucidate the narratives associated with this standard and some projects that have been already approved. The selection of this topic is motivated in the ongoing debate on climate change mitigation and its relation with sustainable development and natural resource management. Empirically, this research can contribute to understanding the implications of the use of the standards in land-based projects, aiming to mitigate climate change. Scientifically, it is relevant to study discourses associated to certain phenomena and contextualize them in the natural resource management and social implications. “Because reality is seen as socially constructed, the analysis of meanings becomes central; for interpretative environmental policy research, it is not and environmental phenomenon in itself that is important, but the way in which society makes the sense of this phenomenon” (Hajer and Versteeg, 2005, p. 176)

1.3 Research objectives and research questions

This study examines how Climate, Community and Biodiversity Standards represent discourses that participate in the meaning making of multi-benefits land based climate projects. In this order of ideas, the main objective of this study is: *to explore how CCB Standards are formulating the solution to mitigate climate change and simultaneously benefit biodiversity and communities, by exploring how environmental discourses influence multi-benefit land-based carbon projects and what are the implications of these discourses on the Standards, the projects, and consequently on the multi-benefit land-based climate change mitigation strategy*

For this case I will divide the main objective into four specific objectives. The associated research questions are presented.

1. To identify the environmental discourses related with the debate of multi-benefit land-based carbon projects.

- Which are the main environmental discourses related with climate change mitigation projects, specifically those based on tree planting and forest conservation?
2. To identify how these environmental discourses relate to the CCB standards
 - Which, out of the previous identified discourses, are present in the CCB Standards and how do they relate to each other?
 3. To identify the discourses institutionalized in the already approved CCB projects
 - Which discourses can be identified in the CCB's Project Design Documents and how do they relate to each other?
 4. To identify how the discourses found in the CCB Standards and those found in the project relate
 - How do the discourses found in the CCB Standards and those found in the projects relate?
 5. To understand, in the light of the discourses found, the implications of those discourses found in the reality of the CCB standards and projects in relation with the current debate around land-based climate mitigation projects
 - How are the CCB standards and projects related to the current debate of sustainable development of land-based carbon projects?

1.4 Outline of the report

The first chapter of this document started introducing the overall facts that comprise the current understanding of climate change, and subsequently, as a matter of contextualization, it narrowed to those related to the land-based climate change mitigation strategy. Then it framed the problem addressed in this study into a constructivist approach, where the discursive dynamics are the core of the study to understand the debate around this mitigation strategy, through the Climate, Community and Biodiversity Standards and some of the approved projects. The chapter finalized by presenting the research objectives and research questions traced for this thesis (Chapter one).

Subsequently, a theoretical framework is presented and some ontological and epistemological bases are given. The research strategy is defined as policy discourse analysis, placed into a post-structuralist school of thought. This chapter finishes with an explanation of why this approach has been chosen (Chapter two). The methods used to answer the research questions are given; explaining how two methodological approaches—the Foucaultian genealogical analysis and the argumentative discourse analysis— will

be used to address the study. After that, the detailed methods are presented (Chapter three).

After that, the following four chapters are devoted to the results. The environmental discourses around the land-based mitigation strategy debate are identified, and a contextualization of the main facts around the social construction of this debate is given. The chapter finalizes with the identification of the communalities of the discourses, which facilitates the posterior discourse identification and analysis (Chapter four). Afterwards, the Climate Community and Biodiversity Standards website and the Standards document are described, in order to illustrate the material in which the discourse analysis were performed. Following, the discourse analysis is presented, where the distinguishing characteristics from the previous identified environmental discourses are used to define new sub-discourses represented and forming the Standards. At the end of the chapter, the identified story-lines per discourse are listed (Chapter five). Subsequently, a similar process is undertaken with six of the nine approved projects approved against the CCB Standards. Each of the projects is described, following the same structure of the Standards, and the sub-discourse identification per project is present afterwards. At the end of this chapter, an overall analysis of each of the sub-discourses found in the projects as a whole is given, and the story-lines are outlined (Chapter six).

Last but not least, the results found from the CCB Standards and the CCB projects analysis are compared, in order to understand how they relate. Following, the findings are placed back into the current debate described in chapter fourth, by relating them to the identified environmental discourses. There the discursive dominance is assessed (Chapter seven). Subsequently, the conclusions of the research are presented and a discussion is elaborated in terms of the implications of the findings for the projects, the standards and the governance strategy. This chapter includes a personal reflection of the research, focused in the methodology and pragmatic aspects of the study (Chapter eight).

2 THEORETICAL FRAMEWORK

To understand how the goals of this study are going to be reached, it is important to look at the theoretical basis that supports the formulation of this research. As it was said before, it is based on a governance strategy to mitigate climate change and reach sustainable development. This study is framed as a policy discourse analysis; thus it is important to clarify why it is valid to analyze what is being said or written in order to understand a given solution for an environmental problem, or more specifically in accordance with this study how the CCB standards and projects are said to be contributing to mitigate climate change, and to benefit communities and biodiversity at the same time. Therefore, in this chapter the ontological and epistemological basis of the discourse theory will be given and will be situated in a school of thought of the social sciences.

The environmental discourse is found in the way in which a society understands and addresses environmental problems; at the same time this discourse shapes the socially-constructed environmental problems (Hajer, 1995). Under this assumption, this study relates to a proposed solution of a complex problem –climate change. The solution proposes to compensate the carbon dioxide emissions released into the atmosphere by planting trees (afforestation, reforestation, agro-forestry) or by not cutting them (avoiding deforestation) and at the same time bringing sustainable development.

Nowadays it is assumed that we, humans, are partially responsible for climate change; hence it is also believed that we have the ability to prevent, mitigate and even stop it. Mitigation is mainly done by controlling the so-called greenhouse gas emissions, especially carbon dioxide or by promoting carbon dioxide natural sequestration. This needs to be achieved in line with sustainable development (UNFCCC, 1998). The Clean Development Mechanism and the voluntary offsetting market are examples of governance mechanisms related with natural resource management that deal with climate change mitigation. Thus, the problematization of climate change is defined as the result of an increased release of greenhouse gases to the atmosphere due to human activity which can be solved by means of mitigation. In the particular case of carbon sequestration, it involves natural resource management such as tree planting, forest conservation, forestry management, and agro-forestry. Given the fact that the current understanding of climate change mitigation is a social construction of a complex environmental phenomenon, it is interesting to understand how this interpretation gives shape to and is shaped by the discourses it represents.

The various ways to interpret and understand the same problem also contribute to generate solutions to it, and this is reflected in the discourse. For example, the conception of climate change mitigation has been related with issues such as scientific information generation, market self-regulation ability, citizen's participation, and sustainable development. These are considered key elements of the solution to achieve mitigation by means of natural resource management regulation or deregulation, especially in the case of forest-based or forestry mitigation projects. Each of these elements entails different

implications to achieve a formulation of mitigation strategies that brings its own concepts or ideas to the solution of the problem. Consequently, these concepts or ideas may be translated into practice, i.e. in the development of certification schemes or in project formulation. Ultimately, by studying the discourse it is possible to see how the way people communicate is reflected in social practices.

Although the fluctuation in the carbon dioxide released into the atmosphere is a physical phenomenon, the way to conceive and address this problem and its solutions is socially constructed. Discourse dynamics play a central role in the problematization of this issue and involve processes such as meaning making, perceptions, power, and interests. The basic assumption to consider it in that way is the capacity of language to shape the views of reality rather than just to be a neutral medium to represent it (Hajer, 2006).

Discourse theory is focused on the different meanings of objects or events; thus, in ontological terms, this approach assumes multiple socially constructed realities, instead of an objective reality (Paul, 2009). The policy discourse analysis approach used in this study is placed in the interpretative or social constructionist tradition of the social sciences (Guba and Lincon, 1998 cited in Hajer and Versteeg, 2005). Epistemologically, constructivism rejects the basic assumptions of positivism which suggests that science can produce objective knowledge, based on objective, unmediated observations. Consequently, there is no room for exploring objective realities, but it is possible to understand socially produced meanings (Howarth 2000 cited in Paul, 2009). In the case of this study, the idea is not to affirm how the CCB standards are actually mitigating climate, benefiting communities and conserving biodiversity at the same time, but to assess how the understanding of this formulation is shaping the reality of climate change mitigation and sustainable development in the projects, and, ultimately, in the strategy.

In general, there are two ways to approach discourse analysis: the linguistic-oriented tradition, more focused on the use of language; and the broader tradition, emphasizing the ways of thinking and arguing specific social issues, the related practices, structures, and institutions (Runhaar et al., 2006). This project is based on the second approach. Discourse analysis is defined here as the practice of analyzing empirical material and information as discursive forms, that represent practices constituting a discourse and its reality (Howarth and Stavrakakis, 2000)

2.1 Poststructuralism

The policy discourse analysis addressed in this study is located in the post-structuralist school of thought in which language is constitutive of reality and is not fixed (Howarth 2000 cited in Paul, 2009, Gottweis, 2003). The poststructuralist discourse theory was derived from the structuralist school in which Ferdinand de Saussure focused on language to develop the notion of structure as the ordering principle (Gottweis, 2003). In poststructuralism, the way in which structuralism defines the notion of ordering language is debated because it is seen as metaphysical thinking and a desire for control (Gottweis, 2003), referring to Derrida). According to Gottweis (2003, p. 248) “structuralism searches for general ordering principles and universal regularities which make the world

capable of technological and scientific mastery, which give clear orientation in a world which otherwise would seem out of control”.

Katharina Paul, in her work on food safety (2009), summarizes well the differences between structuralism and poststructuralism which, according to her, are: first, the notions of closure, structure, and the fixity of meaning; second, the fact that poststructuralism rejects the distinction between the non-linguistic aspects of discourse, so practices make also part of discourses and form the identities of subjects and objects; and third, the fact that for poststructuralism language is not neutral, but constitutive of our perception of the world. Gottweis (2003) elaborates more on the issue of language neutrality by explaining that poststructuralism rejects the neo-positivist theory that believes that the objective truth can be represented through the neutral medium of language, responsible only for representing the need of descriptions. According to him, this implies in the poststructuralist school, policy phenomena are seen as “articulations rather than facts, as the outcome of complicated processes of inscriptions, representations, rather than as given structures, tendencies or situations. Neither the truth of ‘hazards of genetically modified organisms’, nor the policy-problem of a ‘significant increase of Creutzfeldt-Jakob patients’ nor a ‘high technology-gap’ (to give some empirical examples) is simply ‘out there’ and only needs to be discovered or studied” (Gottweis, 2003, p 249).

2.2 Agency/structure duality in poststructuralism

Another relevant point to develop is how poststructuralism has dealt with the agency/structure duality. According to Gottweis (2003) poststructuralist policy analysis avoids the dichotomization actor/structure by giving importance to structural phenomena and contexts, without reducing actors to outcomes of structures. In the logocentric tradition (which privileges agency) the consciousness by which meanings are articulated seems to be more important than speech, while poststructuralism views consider that consciousness is not possible without discourse (Gottweis, 2003, referring to Derrida). This fact, illustrated by Paul (2009), shows how under the rational choice theory people usually do what they believe is likely to have the best overall outcome (*homo economicus*) as opposed to other perspectives where individuals are constantly evaluating options in terms of cost and benefits (*homo politicus*). In poststructuralism the ‘subject’ is then replaced by ‘subject positions’ which depend on their specific discourse domain, and for which social and historical facts structure the process of consciousness (Gottweis, 2003).

Gottweis (2003, p. 254) affirms that in poststructuralism actors are constituted by symbolic systems. However, this does not imply that there are no human actors in politics: “There is no question, for example, that a particular high level administrator in the European commission is in a powerful position and can act to mobilize support for his goal (...). But we have to understand that this administrator does not act independently from European environmental policy discourse, which in many ways provides a critical influence on how this administration views the world, defines his goals and structures his actions.”

2.3 Policy discourse analysis

Policy discourse analysis lacks a unified methodology. Thus, before explaining how discourse analysis is going to be performed in this study, some definitions related to the topic will be presented. Hajer defines discourse as “the ensemble of ideas, concepts and categories through which meaning is given to social and physical phenomena, and which is produced and reproduced through an identifiable set of practices” (Hajer, 2006, p. 67). Climate change and its mitigation strategies are part of the policy environmental discourse. In this sense, the discourse is produced and communicated by actors involved in carbon offset projects and this modifies the position of the society regarding the environment.

Story-lines are defined by Hajer as condensed statements summarizing complex narratives, used by people as ‘short hand’ in discussions (Hajer, 2006). In these narratives, elements from many different domains are combined. They provide actors with symbolic references to understand their specific contribution to the knowledge and at the same time they influence actors in their own production of knowledge (Hajer, 2006). He defines a discourse coalition as the ensemble story-lines, actors, and practices organized around the discourse (Hajer, 2006). For the case of the discourse associated to mitigate climate change, benefiting environment and communities simultaneously, story-lines may be constructed around concepts utilized by the standards and the project proponents regarding biodiversity conservation, poverty alleviation, or cost-effectiveness, for example.

Hajer (2006) illustrates how power is present in this process. According to him, it is possible to assess the influence of a discourse: A discourse will become dominant if many people use it to conceptualize the world (discourse structuration), and if it solidifies into institutions and organizational practices (discourse institutionalization) (Figure 1).

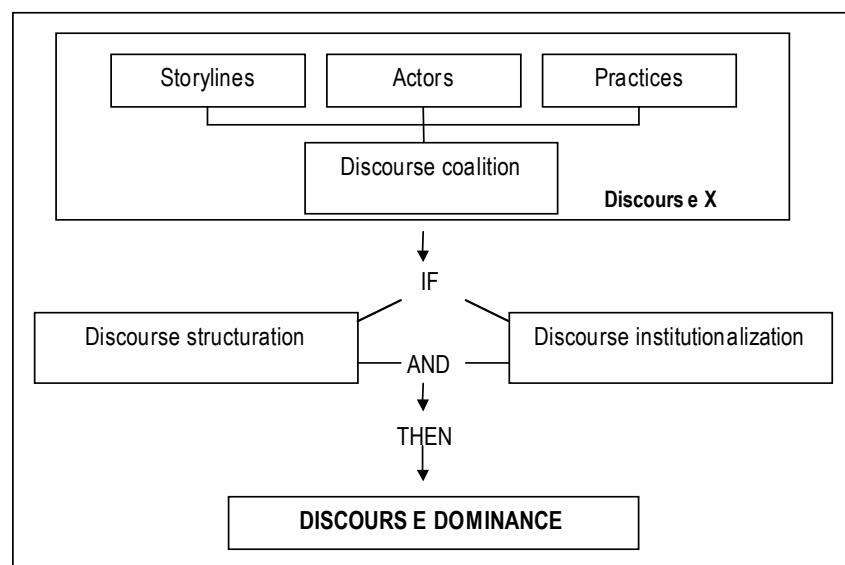


Figure 1. Conceptual scheme of discursive power according to Hajer (2006) (my graphical interpretation).

2.4 Why policy discourse analysis?

So far, some of the theoretical implications of the discourse theory have been briefly summarized. Now, the question to answer is why policy discourse analysis is suitable to address the questions at hand. The key to answer this question lays on two out of the three characteristics of poststructuralism, summarized by Paul (2009) and mentioned before.

The first one is that practices are part of discourses and form the identities of subjects and objects; as expressed by Paul (2009, p. 65): “inseparable connections between *practice* and use of *language* (...) allows one to express not ‘objective’ representations of the world, but a shared collection of rules, which by offering a specific common context, make certain uses of certain words and actions meaningful.” Hence, “discourses are formed by discursive practices containing routines and mutually understood rules and norms that provide coherence to social life” (Hajer, 2005 cited in Paul, 2009). In this specific case, the texts presented on the CCB standards and projects follow rules and express common understanding on how to solve the environmental problem.

The second aspect to answer the question is that language is not neutral but constitutive of the world. Language “is the site where meanings are created and changed” (Wetherell et al., 2001a, p. 6). Meaning is given to the perceived world, depending on the discursive context (Wetherell et al., 2001b). Both discursive practices and meanings allow the researcher to interpret how different solutions posed for a given problem are impacting policymaking. Hence, the different perceptions and understandings expressed in the texts are actually shaping the reality of the governance mechanism at the core of this study. As Hajer expresses: “Language has the capacity to make politics, to create signs and symbols that can shift power-balances and that can impact on institutions and policy making” (Hajer, 2006 p. 77)

To summarize, policy discourse analysis is a valid way to approach my research question and will provide me with an answer because climate change mitigation and sustainable development are understood from different perspectives and this is both expressed and created in the CCB Standards. By studying what is written in the Standards, it will be possible to assess the relation among the different ways of addressing the problem and how this may affect the objective of benefiting simultaneously climate, community and biodiversity. In the same way, projects are based on the interpretation of the standards and they are also context-dependent, so their particularities will allow me to understand how the discourses are present in the projects, and what the implications are of the discourses representing this process on this kind of projects, as a proposed climate change mitigation mechanism. After being presented the theoretical basis of this study, and the motivation for using policy discourse analysis, the next chapter will explain how it is going to be carried out.

3 METHODOLOGY

This chapter presents the methodological approach used to develop this study. In this study, description and analysis were the basis for interpretation of the social phenomenon in a given context. To answer the research questions a case study approach was used, the case of CCB standards. Since policy discourse analysis lacks a detailed methodology to follow, this study is based in two methodological approaches: the Foucaultian genealogical analysis, similar as proposed by Carabine in her study about unmarried motherhood (Carabine, 2001); and Hajer's argumentative discourse analysis, (Hajer, 2005). Nevertheless, I adapted those approaches to my own research conditions. This will be explained next.

On the one hand, genealogical analysis, as used by Carabine (2001), is based on the understanding of the development of discourses that "produce both meaning and effects in the real world". P. 268. According to her "genealogy is concerned with describing the procedures, practices, apparatuses and institutions involved in the production of discourses and knowledges, and their power effects." (Carabine, 2001, p. 276). She suggests that although genealogy is related with the history of discourses, it is also useful for presenting a 'snapshot' of a particular moment, even without tracing its history. As a matter of fact, in her study, she uses two levels of analysis. The former one, more similar to Foucaultian genealogy, is the exploration of discursive formation through history; the second one is focused on a specific topic of the discourse, and how it is dealt with in a particular moment, rather than tracing the history of a discourse. (Carabine, 2001)

On the other hand, argumentative discourse analysis identifies linguistic regularities of discussions or debates (Hajer, 2005). By means of this approach, it aims to understand the argumentative structure in documents and other written or spoken statements as well as the practices through which these utterances are made (Hajer, 2006). Hajer mentions three different elements of this approach –The study of the story-lines; the analysis of the formation of discourse coalitions around these story-lines; (see chapter 2) and the analysis of particular institutional practices in which discourses are produced. In addition, one may look for discourse institutionalization and structuration when using this approach.

In this study, elements from both approaches were utilized. The power quality of discourses, which is common to both approaches, was considered in the sense of the prevalence of one discourse among others, or the relation among discourses present in the texts studied.

Regarding argumentative discourse analysis approach, I assumed that the power struggle occurred in the process of the CCB standards formulation and CCB projects formulation. The result of this discursive struggling was reflected on the documents to analyze. However, it was not possible to go throughout the whole process of coalition formation and discourse structuration. Here I was more interested in associating the selected certification scheme with the story-lines and to identify the discourses that are reflected

in the projects. To operationalize discursive dominance, coding of written documents was carried out. Discursive dominance was assessed then by evaluating a discourse in terms of its presence along the text, and by interpreting the power associated to this discourse in the text in terms of its possible implication for the climate change mitigation strategy. I assumed that discourse institutionalization occurred when the story-lines were translated into the project design documents. Regarding structuration it was implicit that no structuration may have occurred, or simply that it was not possible to access the information to make such statement.

Regarding genealogical analysis, the snapshot of a particular moment approach was used to explore how the climate change mitigation strategy is being proposed in a short period of time; rather to trace the discourses through the history. However, I presented a historical contextualization of the topic, in a general way (this will be explained in brief).

In general terms, I explored environmental discourses of CCB Standards and CCB approved projects in order to understand how the strategy of mitigation climate change, benefiting community and biodiversity simultaneously is being proposed. To perform this analysis first I identified the key environmental discourses around the topic of climate change mitigation by carbon biosequestration projects. Next I explore the discourses in the CCB standards and in six of the nine CCB projects that have been approved so far. Finally, I reflected on my results to see how both the standards and the projects are related, and how they are related to the current debate of sustainable development of land-based carbon projects (figure 2).

Detailed methods

Following, the way in which this research was carried out will be detailed. I will do that by referring to each research question.

Step 1. Identifying the environmental discourses related to the topic of climate change mitigation by tree planting or forest conservation

Research question: *Which are the main environmental discourses related with climate change mitigation projects, specifically those based on tree planting and forest conservation?*

In order to search for the discourses already identified for the topic of climate change mitigation through tree planting or forest conservation, a literature review was done. To perform the literature search the multidisciplinary 'MetaSearch' provided by the Wageningen University digital library was used. This portal searches for articles in databases such Scopus and CAB-Abstracts. Additionally, two publications on environmental discourses were used: the Politics of Environmental Discourse (Hajer, 1995) and the Politics of the Earth: Environmental Discourses (Dryzek, 1997). As a first step around 25 publications were selected. From these publications, a historical contextualization of the climate change mitigation and forestry projects was made. Next, only those publications mentioning environmental discourses were used to present the discourses related to the topic. Giving the overlapping aspects of the discourses, and with

the aim of operationalize them, the distinguishing feature of each of the identified environmental discourses were used to formulate new sub-discourses that allows to search for them in the process of coding in the next steps. It is important to inform that the term *sub-discourse* was used for a pragmatic reason: to distinguish it form the four main environmental discourses. Its definition coincides with the discourse definition.

Step 2. Analyzing the discourses in CCB standards

Research question: *Which, out of the previous identified discourses, are present in the CCB standards and how do they relate to each other?*

As a first step, the website of the CCB alliance, and the CCB Standards document were read in order to be familiarized with the material. Then, a detailed reading and coding of the standard's text was carried out. To perform this coding, the distinguishing characteristics from the previously identified environmental discourses were used. By coding the text, the different sub-discourses and the particular story-lines were identified. An analysis, explaining the identified sub-discourses and tracing their relation in the document was presented. The empirical analysis of the website and the Standards document allowed me to complement the characterization of the sub-discourses, and they were presented at the end of chapter five in the discourse analysis section.

Step 3. Analyzing the CCB projects.

Research question: *Which discourses can be identified in the CCB's Project Design Documents and how do they relate to each other?*

Due to time concerns, not all nine approved projects could be analyzed; thus, six projects were selected. In order to make the selection representative, the main criterion used was the type of project. For that reason, two of each kind were selected. Also, the location was considered, avoiding choosing more than two project per country. As a result, the six selected projects were: Project Climate, Apley (United Kingdom), and Native Species Reforestation (Panama), for the case of Afforestation-reforestation projects; The Juma Sustainable Development Reserve Project (Brazil) and Reducing Carbon Emissions from Deforestation in the Ulu Masen Ecosystem, Aceh (Indonesia), for the case of REDD projects; and Return to Forest (Nicaragua) and Restoring a Legacy at Red River National Wildlife Refuge (United States), for the case of ecosystem restoration projects. The three excluded projects were: one avoiding grassland conversion project, since this activity it is out of the scope of this study (planting trees or avoid cutting them); one ecosystem restoration in United States, and one afforestation reforestation project in China.

To perform the empirical analysis, the six project documents were read in order to get familiarized with the material. After that, the projects were coded following the same rationale used for the previous step. Next, each project was described, using the same sequence they have on the document in order to have an idea of the texts under each criterion. Finally, the analysis was based on the sub-discourses formulated on the previous steps. Additionally, a comparison among the different projects was done and the story-lines were identified.

Step 4. Analyzing the results in the context of the current debate

Research questions: *How do the discourses found in the CCB Standards and those found in the projects relate?* and *How are the CCB standards and projects related to the current debate of sustainable development of land-based carbon projects?*

With the information obtained from the previous steps, an analytical discussion about the results and the relation among them and the climate mitigation strategy was elaborated. First, a comparison of the sub-discourses identified in the CCB standards and the projects was done. Subsequently, the sub-discourses were re-contextualized in terms of the environmental discourses of the debate. There, the discursive dominance was completed in terms of main environmental discourses conforming the debate of land-based climate change mitigation projects, in relation to the Climate, Community and Biodiversity construction. In addition, publications about some of the main characteristics of these discourses were used to scale the debate to this study's results, in terms of opportunities and constrains for the Standards or projects, and with the aim to contribute to the understanding of the debate.

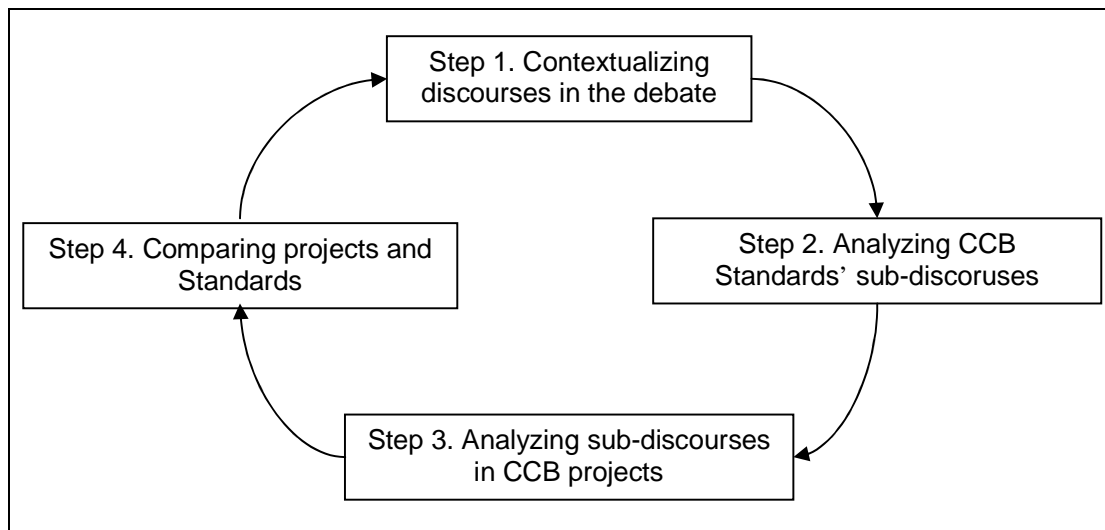


Figure 2. Graphical scheme of the detailed methods

4 ENVIRONMENTAL DISCOURSES AROUND LAND-BASE MITIGATION PROJECT DEBATE

Based on a literature review, this chapter answers the question: *Which are the main environmental discourses related with climate change mitigation projects specifically those based on tree planting and forest conservation?* In order to answer this question, a contextualization of some facts that have contributed to the current understanding of both climate change and the mitigation strategy of planting trees or conserving forests in the last four decades is presented. After that, the major environmental discourses around the topic are outlined. At the end, the common traits in the identified discourses are summarized.

4.1 Climate change mitigation context

In order to approach climate change mitigation accurately, it is useful first to understand how the concept of climate change as we know it today was formed, and how its relation with sustainable development and the inclusion of the forest as part of the strategy were built around that concept. The contemporary discourse of climate change referred to here has been actually shaped in the last four decades. In general terms, climate change narrative has been split into the scientific discourse that acknowledges its causes to anthropogenic activities, and the denial discourse that acknowledges its causes to natural factors (Humphreys, In press). The former and most influential in the academic and policy context is evident in the IPCC reports and has been institutionalized in the Kyoto and CDM mechanisms; the latter, although not as dominant, has been useful for some governments such as the United States to assume a specific position in the debate (Humphreys, In press).

The current concept of climate change took shape from 1985 to 1992 (Hulme, 2008). One technological development that played a decisive role in the progress of the current discourse seems to be related with the creation of the General Circulation Model in the 1960s (Cohen et al., 1998). It resulted from the combination of two research programs, one concerned with the global carbon cycle and its fluxes among the earth, the oceans, and the atmosphere, and the other concerned with numerical modeling of atmospheric behavior (Hart and Victor, 1993 cited in Cohen et al., 1998). In the 1980s, several scientific statements about the dangers of greenhouse gases triggered the emergent need for a wide range of environmental-protection and pollution-control policies (Cohen et al., 1998). Among those are found the World Meteorological Organization conference in 1988, and the subsequent establishment of the Intergovernmental Panel on Climate Change which science-based Assessment Reports¹ became key publications on the topic

¹ First Assessment Report, 1990; Second Assessment Report, 1995; Third Assessment Report, 2001; and Fourth Assessment Report, 2007. (<http://www.ipcc.ch>)

(Liverman, 2009). The First Report in 1990 influenced the 1992 UN Framework Convention on Climate Change, the Kyoto Protocol in 1997 and its Clean Development Mechanism (Liverman, 2009).

Climate change has been tied to the problem of sustainable development. The concept of sustainable development has been included in the IPCC reports (Cohen et al., 1998) and has been explicitly institutionalized by the CDM mechanism in article 12 of the Kyoto Protocol² (UNFCCC, 1998) affecting also the voluntary market. Some years before (1987), the Brundtland report was published; it was an influential publication about sustainable development which also included the problem of climate change. In the last ten years, several scientific publications about the articulation of these concepts have been released. These facts evidence the strong link between climate change mitigation and sustainable development. However, several studies have highlighted the difficulty of achieving these goals simultaneously. As a matter of fact, Granda (2005) argued that the Clean Development Mechanism had failed –so far– to bring development and sustainability benefits. Bäckstrand and Lövbrand (2006) stated the existence of trade-offs between participation and decision making processes, and environmental and development outcomes. Cohen et al. (1998) identified some difficulties derived from the combination of both concepts: the science-driven nature of climate change and the problem-solving nature of sustainable development.

Regarding mitigation in land-based projects, in 1997 the forest issue was positioned in the climate debate when the existence of carbon dioxide net absorbers was brought up (Adger and Brown, 1995. In Boyd, 2006). This added a new meaning to the perception of the forest, incorporating carbon sequestration capacity (Contreras, 2001). Later on, in 2001 the concept of deforestation entered the discourse, and now it is firmly positioned in the deforestation avoidance concept. In the Third Assessment Report, the IPCC acknowledges that near one-quarter of carbon dioxide emissions are due to deforestation, primarily in the tropics (IPCCC, 2001. In Boyd, 2006). Developed and developing countries worldwide have argued that carbon bio-sequestration is an aspect to be compensated (Boyd, 2006). One of the ways to do so is through land-based mitigation projects. Nowadays voluntary and regulated mechanisms are closely related. In the 2000s, the voluntary market started getting stricter; although it is still small in comparison with the regulated one, it is becoming stronger (see chapter 2). Besides, several certification standards have recently been implemented; some examples are: the Voluntary Carbon Standard which first version was launched in 2006; VER+ by TÜV

² Part of Article 12 of the Kyoto Protocol: “ The purpose of the clean development mechanism shall be to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments (...)”

UNFCCC (1998) Kyoto Protocol to the United Nations Framework Convention on Climate Change. United Nations. p. 11

SÜD, released in 2007; and the Climate, Community and Biodiversity standards which are the core of this study, published in 2005 (Kollmuss et al., 2008).

So far, some of the facts that have contributed to the understanding of the climate change mitigation strategy, the proposed solution of planting trees or conserving the forest, and the relationship with sustainable development have been presented (figure 3). In the next section, the different discourses about these topics that have been identified in scientific literature will be recapitulated.

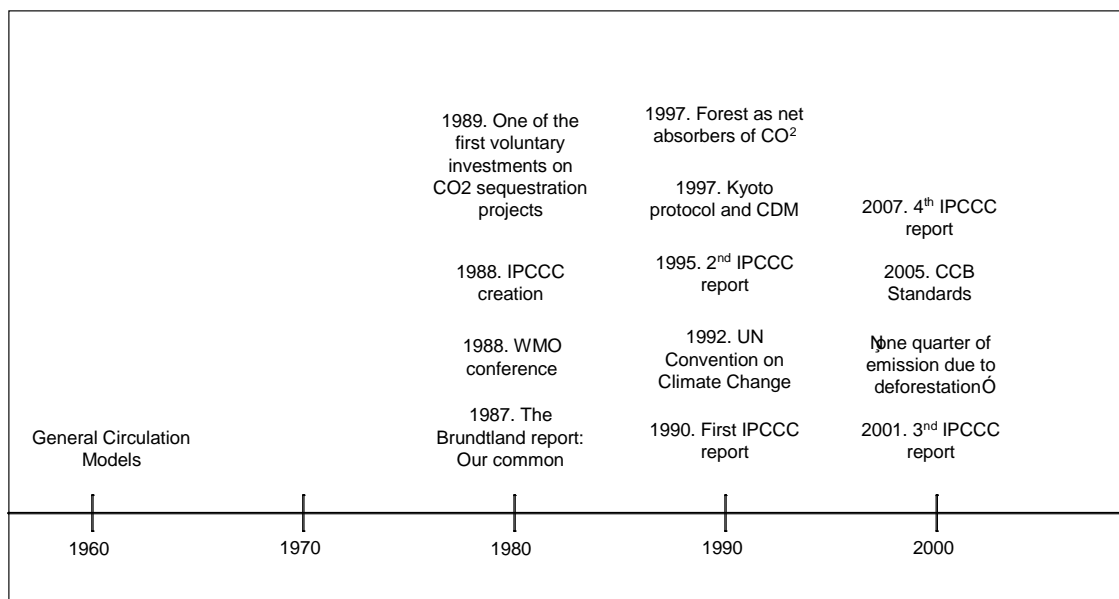


Figure 3. Some of the key facts that influenced to the climate change mitigation construction.

4.2 Climate change mitigation environmental discourses

The discourses present in the debate about climate change regarding forest carbon projects have been defined in different ways in the literature. Identifying such discourses is not an easy task for two main reasons. Firstly there is not a uniform taxonomy. For instance, Ecological Modernization is considered a meta-discourse by most of the authors; however, others approach it as part of a broader narrative (For example Dryzek (1997) includes it in the ‘Sustainability’ meta-discourse). The same occurs with Neoliberalism which is simultaneously named as a discourse and as a trend of Ecological Modernization. Secondly there is not much literature written on that specific issue that includes these discourses and because of that it is necessary to look for them in broader or narrower topics. The lack of a uniform taxonomy makes it impossible to differentiate each specific discourse mentioned in each publication. In any case, the main discourses

are presented and some information from different publications is used to complement them and to specifically relate them with the mitigation strategy.

The authors that most coincide with the topic of this study are Bäckstrand and Lövbrand (2006). Therefore, their interpretations have been taken as a starting point. They identify the relationship of power associated with dominant narratives like 'environment' and 'sustainable development' related to environmental governance. Additionally, they evaluate carbon sequestration projects in tropical ecosystems. As a result, they identify three discourses: 'Ecological Modernization', 'Green Governmentality' and 'Civic Environmentalism'. Humphreys (In press) presents the neoliberal discourse on forestry policies including the concept of climate change. Here, his views are used to complement the Ecological Modernization discourse given the strong emphasis he makes on markets when discussing the mitigation strategy. Cohen et al. (1998) elaborate on the scientific nature of the climate change discourse and the problem-solving nature of sustainable development. Their arguments complement the Green Governmentality discourse and are included here since science and modeling are key elements in building the mitigation strategy. Also, the Sustainable Development discourse is described. This discourse is considered by Dryzek (1997) an environmental discourse included under 'Sustainability' meta-discourse, together with Ecological Modernization.

Two more publications have been used to complement the discourses described here. Liverman (2009) states how the response to climate change at the international level has been framed by what she calls *three key narratives* – 'Dangerous climate change must be avoided', 'the responsibility for climate change is common but differentiated', and 'the market (in the form of carbon trading) is the best way to reduce the danger'. Out of these, only the last one is used here to complement the Civic Environmentalism discourse. The second publication is from Grist (2008) who explains how climate change discourses and policies relate to Sustainable Development mainly in terms of equity, and resource and consumption limits (Figure 4). The four discourses mentioned before are outlined below.

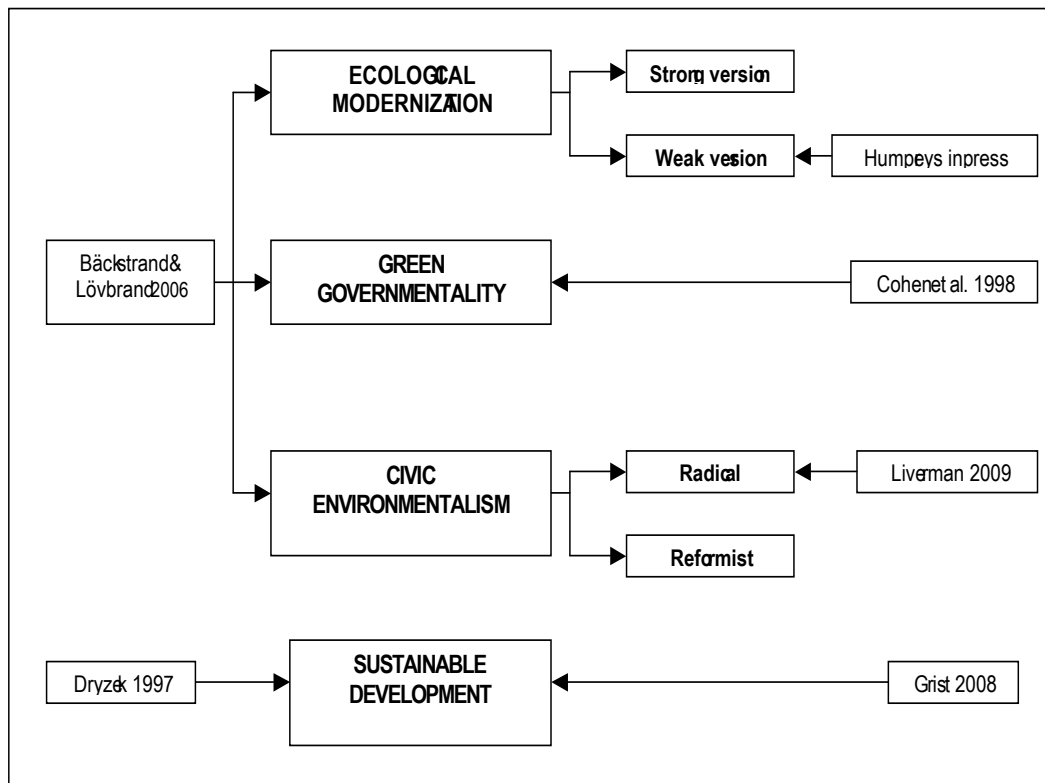


Figure 4. Main discourses and authors identified in the literature review and on which the description was based.

The Ecological Modernization and related narratives or discourses

Ecological Modernization is a discourse that discusses the compatibility of economic growth and environmental protection (Bäckstrand and Lövbrand, 2006). It argues that environmental problems can be worked out in accordance with the work of the main institutional arrangements in society, as a win-win situation (Hajer, 1995). It emerged as an alternative to the problems presented in previous constructions such as ‘limits to growth’ that claimed a more environmental radicalism (Bäckstrand and Lövbrand, 2006). One of the important paradigm shifts attributed to this discourse is that technology is not seen as a negative issue, but as part of the solution to environmental problems (Hajer, 1995). In addition, this discourse understands nature as a public instead of a free good resource, opening the possibility to put an economic price on it (Hajer, 1995). Dryzek (1997) relates this discourse with energy efficiency of national income, per capita emissions of pollutants, and per capita waste generation estimations. This discourse entails the notions of developed countries on clean technologies, flexible and decentralized free market orientation, and collaborative policy-making (Bäckstrand and Lövbrand, 2006). Grist (2008) incorporates green efficiency and green consumption strategies in this discourse; they are presented as alternatives to counteract pollution and

are underpinned by the arguments of anthropogenic climate change resulting from the increment of greenhouse gas levels (Grist, 2008).

Ecological Modernization has two versions, the weak one and the strong one (Bäckstrand and Lövbrand, 2006, Dryzek, 1997, Hajer, 1995). The main difference between them both is that the strong version involves issues regarding social justice, participation and environmental democratization. The weak version does not address these topics, but focuses on the market orientation. It is said to be a technocratic and neo-liberal discourse that does not involve the rethinking of societal institutions (Bäckstrand and Lövbrand, 2006). It focuses on the implementation of effective and efficient managerial solutions to 'unequivocal' environmental problems, which are mainly defined by experts (Hajer, 1995). It is considered that the techno-corporatist aspect leads to a policy making monopolization form scientific, economical and political elites (Dryzek, 1997).

On the other hand, the strong or reflexive ecological modernization includes the participation concept, accepting the presence of diverse actors such as environmental organization and local residents in the policy making. (Hajer, 1995), It conceptualizes politic, economic and environmental problems in open ended terms defined through a participatory process, seeking for a democratic decision making, and including international concerns of environment and development (Dryzek, 1997)

Bäckstrand and Lövbrand (2006) consider the weak version more related with the current construction of climate governance. Regarding the planting trees mitigation strategy, these authors identify a legitimizing discourse that matches the weak version of Ecological Modernization. Three story-lines (referred also as narratives) are described – 'Cost-efficiency', 'Market-flexibility' and 'Maximized Synergies' (Bäckstrand and Lövbrand, 2006). 'Market-flexibility' is evident in the selection of the flexibility mechanism from the Kyoto Protocol in place of more rigid approaches such as taxation strategies. 'Flexibility' and 'Cost-efficiency' are evident in the Clean Development Mechanism, Joint Implementation Mechanism, and Voluntary Market; the argument is that, in order to search for more cost-efficient alternatives to climate change mitigation, it is valid to invest in pollution reduction in countries different from those where pollution takes place. This assertion is based on the premise that the atmosphere does not have geographical boundaries, and so it would be valid to mitigate climate change where the required investment is lower (financially speaking) since the effect of this mitigation would end up being global. According to Bäckstrand and Lövbrand (2006) the CDM projects are seen as market opportunities that increase competitiveness. Accordingly, the concept of 'net emissions' introduces the possibility of including sinks to account in the net balance of greenhouse gases. In sum, cost-efficient and flexibility concepts are used as discursive legitimating strategies. It is argued that the combination of the two concepts underpins the third story-line: 'Maximized synergies' (Bäckstrand and Lövbrand, 2006). This story-line's idea is linked with forestry projects that are perceived as a way of combining low-cost climate change mitigation with sustainable forest management, achieving simultaneously poverty reduction, biological conservation, and climate change mitigation (Bäckstrand and Lövbrand, 2006).

Regarding neo-liberal ideology, Humpreys (In press) investigates the influence of neoliberalism as an ideological discourse on international forest policy. He argues that neoliberalism has underpinned forest certification schemes and tradable emission systems. He explains how forestry policy has been penetrated by three core principles of neoliberalism: 'marketization', 'an enhanced role for the private sector', and 'deregulation and voluntarism'. This is evident in the climate change mitigation strategy, given its strong market component, where the offsets are seen as tradable goods, negotiated in terms of VER (Verified or Voluntary Emission Reductions) or CER (Certified Emission Reductions).

The Green Governmentality and related narratives or discourses

Green Governmentality is, as a global discourse, commonly found in developed countries and it reflects the power of modern administrative states, mega-science, and big businesses (Bäckstrand and Lövbrand, 2006). It is based on the science orientation of resource management. When related to climate change, this discourse becomes evident through the use of computer models and geo-information systems to manage and monitor natural resources and the atmosphere. The key narratives of this discourse are carbon control, scientific precision and standardization (Bäckstrand and Lövbrand, 2006). The term 'governmentality' here refers to the concept proposed by Foucault in the late 1970s: "a multiplicity of rationalities, authorities and agencies that shape the conduct of human behavior" (Bäckstrand and Lövbrand, 2006, p. 54). According to Bäckstrand and Lövbrand (2006), due to the recent global environmental threats, a perception of the need of managing and governing the entire planet has arisen, and a new course of knowledge and expertise to support this fact has been developed.

Here, sound science is seen as a requirement to base decisions on how to solve environmental problems, and it is expressed throughout the Geographic Information Systems and computer modeling to understand, predict and control climate change. This discourse approaches nature as a terrestrial infrastructure subject to state protection, management, and domination (Litfin, 1997 cited in Bäckstrand and Lövbrand, 2006). Cohen et al. (1998) describe the climate change discourse by focusing on its science-driven orientation. This is expressed in the vast use of models to test various scenarios of greenhouse changes, for example. It is argued that this reductionism "encourages modelers to treat representation simply as a technical question of proper parameterization, to be decided in private by experts, rather than a political question to be debated publicly" (Cohen et al., 1998, p. 347).

Bäckstrand and Lövbrand (2006) present a discourse named 'The Operational Discourse: Scientific Precision and Planetary Carbon Control' regarding tree planting as a mitigation strategy. This discourse entered the climate change arena as an operationalization of the Green Governmentality discourse. Carbon control and the fact that forests are considered as sinks gave enough room for experts to come up with the necessary scientific knowledge that would provide credible measurement techniques and verification schemes. Three 'key narratives' are defined for this discourse: 'Carbon control', 'Scientific precision', and 'Standardization' (Bäckstrand and Lövbrand, 2006). The centralized administrative bodies of the CDM regulated mechanisms are said to be part of

this discourse (Bäckstrand and Lövbrand, 2006). However, this discourse can also be associated with the voluntary market, especially when considering the recent tendency to generate certification schemes that rely on science-based complex methodologies to measure and monitor carbon emission and reduction.

The Civic Environmentalism and related narratives or discourses

Bäckstrand and Lövbrand (2006) present this as a heterogeneous discourse that groups some of the contested issues regarding climate change and mitigation projects. Participation and stake-holding are key issues here. People considered to be directly affected by environmental problems should participate in the decision making process for finding solutions. Civic Environmentalism is divided in two trends, the radical and the reformist one. The radical approach is critical against the neoliberal approach; it favors eco-centric ideas and advocates fundamental changes in consumption patterns. This view argues that there are trade-offs between economic, ecological, and social sustainability, and the stakeholder participation is questioned (Bäckstrand and Lövbrand, 2006). The reformist approach promotes a 'participatory multilateralism' and is in line with public-private partnerships between NGOs, businesses and governments. It is seen as a way by which civil society can complement state-centric practices and as an opportunity to the 'greening of the global economic order' (Bäckstrand and Lövbrand, 2006).

Regarding planting trees as a mitigation option, Bäckstrand and Lövbrand (2006) mention 'The Critical Discourse: Carbon Colonialism, Green Deserts and The Necessity for Local Participation'. This discourse opposes Ecological Modernization and Green Governmentality and contests the win-win argument and the synergy between development and environment. The radical expression of this discourse highlights the North-South lack of equity, referring to land-based carbon projects in tropical countries as an 'excuse' by the North to avoid the actual reduction of emissions (Bäckstrand and Lövbrand, 2006). Here, arguments against the ecological and environmental benefits of the projects are included, specifically those related with the risk of emitting what has been sequestered due to tree mortality and the potential negative impacts of planting non-native species and monocultures. Social inequities with respect to land tenure, access to resources and ownership all encompassed under the term 'new colonialism' are also part of this discourse.

Similarly, 'Market as the solution' is a narrative presented by Liverman (2009). It shares essential concepts of Ecological Modernization regarding market orientation and sustainable development, but it is constructed from a critical standpoint. It states that "these narratives [flexibility, economic efficiency, payments for environmental services and sustainable development] of ecological modernization smooth over the profound inequalities generated by flexible mechanisms," (Liverman, 2009, p. 294). The author explains that carbon trading, referred to as a 'new form of colonialism', allows the North to maintain its high consumption rates by investing in inexpensive forestry projects or inefficient industrial projects in southern countries. This narrative also raises a discussion on inequity due to the different prices paid for carbon credits which can be much higher in Europe, and mentions the risk involved in the projects taking place in developing

countries. It is also presented as a way of permitting excessive emissions instead of promoting their reduction (Liverman, 2009).

Instead, the reform-oriented Civic Environmentalism “accepts the reality of the global carbon market and instead focuses on the design of participatory CDM projects that can meet development goals in the South. (...) [S]inks under the CDM can, according to this line of argument, serve as a bridge between developing and industrialized countries, generate local development, enhance public-private stakeholder participation and promote sustainable land-use practices” (Bäckstrand and Lövbrand, 2006, p. 66).

The Sustainable Development discourse

Dryzek (1997) includes the discourse of Sustainable Development, together with Ecological Modernization, in a global meta-discourse called ‘Sustainability’. He defines Sustainability as an integrating narrative that accepts the fact of existing conflicts between ecological and economic values where “solutions are available which, while not pleasing everyone, can respond effectively to a range of key ecological and economic concerns” (Dryzek, 1997, p. 121).

The Sustainable Development discourse refers to environmentally benign growth. At a discursive level, it dissolves the conflict between ecological and economic values (Dryzek, 1997). However, it is said to fail at the level of policies and concrete accomplishments (Dryzek, 1997, Wilbanks, 2003, Cohen et al., 1998). This discourse deals with mutual reinforcement and permanent achievement of economic growth, environmental improvement, population stabilization, peace, and global equity goals by means of intelligently operating natural and human systems (Dryzek, 1997).

According to this discourse, industrialized countries have developed at the expense of their natural resources, and other nations should not follow this path (Dryzek, 1997). In the same line of arguments, economic growth is necessary to alleviate the needs of poor nations. Thus, poverty alleviation is seen as a solution for environmental degradation since it is considered that poverty forces people to abuse their local environment in order to survive (Dryzek, 1997). Hence, Sustainable Development dictates that “economic growth should therefore be promoted, but guided in ways that are both environmentally benign and socially just.” (Dryzek, 1997, p. 129).

Another characteristic of Sustainable Development is that environmental concerns are presented as global problems while solutions lay at local level. For that reason, sustainability should be achieved by the joint effort of international and local organizations (Dryzek, 1997). In the Sustainable Development discourse, the state does not play a role as strong as the one it plays in Ecological Modernization or in Green Governmentality, and there is not much emphasis made on the market; although this last one is seen as a possible ally for achieving sustainable development.

For the specific subject of this thesis, the concept of Sustainable Development used has been one of the topics included in the IPCC reports (Cohen et al., 1998). As mentioned earlier (section 2 of this chapter), it has been institutionalized by the CDM mechanism in article 12 of the Kyoto Protocol (UNFCCC, 1998) affecting also the voluntary market.

As a result, certification and projects might approach sustainable development as part of their narratives.

4.3 Common and overlapping aspects in the identified discourses

Based on the literature review, the main environmental discourses found around land-based climate change mitigation strategy were 'Ecological Modernization', 'Sustainable Development', 'Green Governmentality' and 'Civic Environmentalism'. The CCB standards and projects are expected to express these discourses and concurrently be shaped by them (see chapter 2). These discourses share certain aspects that make it difficult to clearly distinguish the boundaries among them. Hence, in order to link them to the CCB standards or to the CCB projects it is useful to mention some of the common aspects:

- The market-oriented solution to mitigate climate change is present in Ecological Modernization, Sustainable Development and in the reformist version of Civic Environmentalism. However, in the weak version of Ecological Modernization this orientation is the central factor that defines the interaction with natural resources. In Sustainable Development and the reformist version of Civic Environmentalism, market is accepted as one of the possible options to address the environmental problems of climate change mitigation; in the radical approach of Civic Environmentalism, it is seen as a wrong solution.
- The approach on sustainable development is common to Ecological Modernization, reformist Civic Environmentalism and Sustainable Development. However in Sustainable Development, it is an end in itself and it is strongly linked with poverty alleviation to reduce pressure on natural resources. In weak Ecological Modernization it is seen as a result of cost-effectiveness promoted by market strategy. The reformist Civic Environmentalism considers sustainable development as the result of well-designed projects or mitigation strategies that may lead to sustainable practices and local development, only reached if people participation and other conditions are met.
- Green Environmentalism bases decision making on a strong science orientation. This view is shared with the weak version of Ecological Modernization.
- Participation issues are addressed by all discourses but Green Governmentality. In the strong version of Ecological Modernization, participation is related with democracy of decision making. In Sustainable Development, it is related with social justice; local communities are called to participate in finding solutions but they must be assisted. In the radical version of Civic Environmentalism, a lack of real participation is denounced. Finally in the reformist version of Civic Environmentalism, participation is the central issue. There, participatory multilateralism is seen as one of the main conditions to be observed by a project in order to succeed. It emphasizes that the community must be an integral part of the projects and that participation must not be seen as mere and isolated comments on those projects (Bäckstrand and Lövbrand, 2006).

- Synergies or possible alliances are also suggested by all of the discourses. Five kinds of actors may be identified –businesses, NGOs, governments, local communities, and experts. Civic participation includes all of them. In the weak version of Ecological Modernization the main role is played by businesses which can make alliances with governments, communities, or NGOs. In Sustainable development alliances are suggested between big NGOs and local communities, and businesses are also potential allies. In Green governmentality the role of experts, governments, and big businesses is explicit.

Considering the common and overlapping aspects of the environmental discourses defining the current debate of land-based projects to mitigate climate change, an operationalization strategy is necessary to be able to identify the discourses in the empirical phase of this study. For that reason the distinguishing feature of each of the discourses is used to formulate new sub-discourses that allow searching for them in the process of coding the documents related with CCB Standards and Projects (chapters 5 and 6). It is important to inform that the term *sub-discourse* is used for a pragmatic reason: to distinguish it from the four main environmental discourses previously described in the present chapter. Its definition coincides with the discourse definition. After the identification of the sub-discourses, they are analyzed one more time in terms of the environmental discourses, in order to find the dominant discourse (chapter 7) (see detailed methods in Chapter 3)

Therefore, the proposed sub-discourses that are going to be used in the next chapters are as follows. The *market-oriented sub-discourse*, as its name indicates, is focused on the market strategy as a solution to solve environmental problems. It is based on the weak version of Ecological Modernization. The *expert-based decision-making-oriented sub-discourse* is centered on the aspect of having expert knowledge as the main driver to decide and exert control over natural resource management. It is based on Green Governmentality and the weak version of Ecological Modernization. The *participatory-oriented sub-discourse*, which entails some of the democracy features of the reformist Civic Environmentalism and the strong Ecological Modernization. The *critical-oriented sub-discourse*, which comprises the contested arguments about this climate change mitigation strategy alleged by the radical Civic Environmentalism. The *poverty-oriented sub-discourse* that centers on the fact that poverty alleviation is assumed to be the way to solve the environmental problems, since it impedes people to develop in a sustainable way. It comes from Sustainable development discourse. In the next two chapters the discourse analysis of the CCB Standards and the CCB projects will be developed, based on the above-mentioned sub-discourses. There, they will be elaborated in detail.

5 ENVIRONMENTAL DISCOURSES OF THE CLIMATE, COMMUNITY, AND BIODIVERSITY STANDARDS

This chapter aims to answer the research question: *Which, out of the previous identified discourses, are present in the CCB standards and how do they relate to each other?* The CCB standards not only certify projects that are claimed to mitigate climate change, they go beyond by stating that this problem cannot be solved in isolation. Furthermore, the projects aiming to be certified must address other environmental and social problems. The co-benefits emphasized by the CCB standards make them an excellent case to illustrate how this mitigation strategy is being formulated, given that in the Kyoto Protocol and in most of the voluntary projects climate change mitigation is intended to be achieved in combination with sustainable development. Finding the link among the discourses identified in the previous chapter will help understanding how climate change can simultaneously be mitigated by projects following the Standards and produce ancillary benefits.

In the following sections the Standards as well as other documents from the Climate, Community and Biodiversity Alliance website are presented. First, a summary of the relevant documents found in the CCB Alliance website is given, including extracts of texts that reflect the conceptualization of the environmental problems related to the topic. Then, the Standards are described in more detail. Up to now, the CCB Alliance has launched two editions of the Standards. For this chapter, only the first edition is taken into account since, up to this date, all the projects have been certified using it. This edition will also be used for the following chapter. Finally, an analysis of the discourses found is presented.

5.1 The Climate, Community and Biodiversity Alliance' web-site.

The Climate, Community, and Biodiversity Alliance was formed in 2003 as a global partnership formed by non-governmental organizations and companies. This Alliance was created to design the Standards. At present, the CCBA webpage refers to thirteen non-governmental organizations and companies as members³. For developing and managing the Standards, working groups were formed. Also, there are three independent advisory institutions –Centro Agronómico Tropical de Investigación y Enseñanza, CATIE; The World Agroforestry Centre; and the Center for International Forestry Research. They participated in the revision of the Standards based on public comments and field-testing.

³ BP, CARE, Center for Environmental Leadership in Business at Conservation International, GFA Envest GmbH, The Hamburg Institute for International Economics, Intel, The Nature Conservancy, Rainforest Alliance, SC Johnson, Sustainable Forestry Management (SFM), Weyerhaeuser, and Wildlife Conservation Society CCBA (2005a) Climate, Community & Biodiversity Alliance's WebPage.

At present, the alliance has produced two editions of the Standards. In 2004, the first draft of the first edition was written. It received public comments and was field-tested in Indonesia, Tanzania, Peru, Bolivia, Ecuador, Scotland, and Madagascar. Following this, the three independent advising institutions reviewed the Standards. The first edition was released in May 2005. After three years, in February 2008 the CCBA began a process of revision to produce a second edition, which was completed in December 2008 (CCBA, 2005a).

The Alliance's web site includes the vision and goals of the group, the history of the Standards, and indications for certification. Also, it is possible to download the Standards and the projects that are or are being certified. For the purpose of this study, it is important to note that the way they speak about themselves will reflect the discourses they use and in which they are immersed. It will be possible to assess by identifying the terms in which they are telling the story about the environmental problems: climate change and nature degradation; and the social problem: poverty, and the proposed solution –land-based carbon project designed in a sustainable way. Along the text presented (also in the pictures, but they are out of the scope of this study), one can expect to find environmental discourses that influence how the problem is conceived and addressed. Therefore, the contents of the Climate, Community and Biodiversity website are going to be briefly summarized. The capital letters indicate the title of each web-page.

'HOME' "*Confronting climate change. Helping Communities. Conserving biodiversity*" (CCBA, 2005a)-home) is the first phrase of the home-page. Following, there is a presentation of the consequences of rising greenhouse emissions and the necessity to solve these problems simultaneously. Then, there is a reference to the Standards as a tool to help designing and identifying land-based projects that "*simultaneously minimize climate change, support sustainable development and conserve biodiversity.*" (CCBA, 2005a)-home).

"A multitude of problems face our planet. More people live in poverty now than at any other time in history. Rising greenhouse gas emissions pose a dangerous experiment for our atmosphere and threaten human and natural communities. The diversity of life on Earth is dwindling as native habitats are converted for human use. These environmental and social challenges cannot be solved in isolation. Designing resilient actions that address multiple global problems simultaneously is a pressing challenge for humans in the 21st century.

Given the magnitude of these problems, is there anything we can do? A new global alliance thinks there is." (CCBA, 2005a)-home).

'WHO WE ARE'. The second page comprises the presentation of the Alliance, the members and the advising institutions, which were already mentioned earlier.

'MISSION & GOALS'. After that, the mission and goals of the Alliance are presented: to "*[d]evelop standards that evaluate climate, community and biodiversity impacts of land-based climate change mitigation projects. (...) [and to p]romote the CCB*

Standards as a credible means for identifying projects that simultaneously counter multiple global problems.” (CCBA, 2005a)-Mission and goals)

‘CCB STANDARDS’. This page mentions that the Standards evaluate land-based carbon mitigation projects in the early stages of development, promoting the integration of ‘best-practice’ and ‘multiple-benefit’ approaches (CCBA, 2005a). On this page it is possible to access a summary of the standards and a brief history of the two editions that have been launched, where it is possible to download the comments on the drafts and the terms of reference.

‘USING THE STANDARDS’. This describes the certification procedure and mentions the targeted user. The potential users of the standards are grouped as: ‘Project Developers’, who may obtain new investments from multiple founders and supporters, if the project follows the standards; Project Investors, who can identify exceptional initiatives and minimize risks by using them; Governments, who can use the Standards to ensure that projects contribute to national sustainable development goals. At the end, there is a link to the Terms of reference and Guidance for validation.

‘CCB PROJECTS’. Once a project is presented for evaluation, it is published in a table under this link. The table includes all the projects that have obtained or are in the process of validation. Here, project design documents are available, and everyone can submit comments for a period of 21 days while the project is being audited. After that, the comments are still available to be read. Also, the name of the certifier is given, along with the validation and verification reports, and the project status, if it already has one.

Following, there is the link for ‘NEWS & UPDATES’, most of which are written by a member of the board of the alliance, speaking about the standards, or the projects. Also, there are some links for news in the media where the standards are mentioned. Next to that, there is access to the Standards, and it is possible to download them in English, Chinese, French, Japanese, Portuguese, and Spanish. Following, the first version of the Climate, Community, and Biodiversity Standards (English version) will be presented.

5.2 The Climate, Community and Biodiversity Standards

As mentioned earlier, CCB standards focus exclusively on land-based climate change mitigation projects, and they verify the social and environmental benefits generated (CCBA, 2008). They do not include nor verify carbon accounting; in order to do that, it is suggested the use of Clean Development Mechanism approved methodologies or carbon accounting standards. Once the project is formulated, an independent verification body must evaluate it for verification and validation.

The first edition of the Standards (hereafter referred to as the Standards or CCB Standards) comprises fifteen required criteria that must be accomplished to obtain the certification, and eight optional criteria to be ranked ‘silver’ or ‘gold’. That is, some

projects could get a better status, depending on the number of achieved optional criteria⁴. In the second edition, silver status was eliminated, and most of the optional criteria were included as indicators in the required ones. Besides, only one criterion for each component (climate, community or biodiversity) was defined.

The Standards are the materialization of the work of the Alliance. They entail all what a project should achieve in order to be labelled as a ‘multi-benefit’ land-based carbon mitigation project. Also, they are the product of the work of many influential organizations or companies that aim to contribute to climate change, nature conservation and sustainable development problems such as Conservation International and The Nature Conservancy. Besides, they are well known in the voluntary market and the Clean Development Mechanism (Hamilton et al., 2008, Kollmuss et al., 2008). The environmental discourses reflected in the standards document will help me to elucidate the way in which the Alliance is approaching this climate change mitigation strategy. By doing so, it will be possible to see if, at a discursive level, these standards are solving what they considered to be the problem, and how are they dealing with the benefits to climate, community and biodiversity. That is why I consider these standards relevant to assess how environmental discourse influences multi-benefit forestry carbon projects under CCB standards, and ultimately to better understand the debate associated with the co-benefits of the small-scale forestry carbon projects.

The following section will be arranged in two main subdivisions according to the kind of information the Standards document contain –the introductory section and the criteria. The criteria section is arranged in the same way as in the Standards document itself, describing the general, climate, community, and biodiversity sections. Two appendices are presented at the end of the document, one with the literature references to tools and methodologies, and the other with the definition of the terms used. Those are not going to be included in the description or the analysis.

Introductory information of the Standards

As the name indicates, here is where the standards are introduced to the reader. In order to explore the discourses, this section is important because it reflects how their creators perceive the standards, and how they are presented to the readers. Because it is a document to be used for the design, evaluation or identification of a project, its intended readers are project developers, investors, evaluators or governments. In that sense, the text is presented by justifying its importance and utility. In what follows, extracts of these texts are described.

⁴ First edition certification ranking, as it appears in the document (CCBA 2005)

Approved: For projects that satisfy all fifteen requirements.

Silver: For projects that satisfy all requirements and receive at least one point from three different sections (General, Climate, Community, Biodiversity).

Gold: For projects that satisfy all requirements, have a minimum of six points, with at least one point from each of the four sections.

The document starts by indicating what the CCB Standards are, what are they for, and who developed them. This presentation is complemented with the following statements: *“This first edition of the CCB Standards represents the culmination of two years of research and a broad, international stakeholder process. Community groups, NGOs, companies, academics, project developers and others provided comments, critiques, and suggestions during the two-years. In addition, field-tests from Asia, Africa, Europe and the Americas shaped the CCB Standards considerably. A review team considered all comments and field-tests to create the first edition.”* (CCBA, 2005b, p. 2)

The introduction starts by outlining the 21st century challenges regarding climate change: *“Compelling scientific evidence implicates human greenhouse gas emissions in changing the global climate. Poverty persists around the world, and is worsening in many regions. Biodiversity loss, especially in tropical forests, continues. These interconnected problems often reinforce one another, undermining the environment and sustainable community livelihoods.”* It continues by presenting the idea of exemplary project cost-effective addressing climate change, sustainable development and biodiversity conservation or restoration simultaneously. Following, the commercial attractiveness of such projects is given: *“reforestation project with obvious environmental and social cobenefits may attract private investors for the carbon credits, government money for sustainable development and conservation dollars for biodiversity support”* (CCBA, 2005b, p. 4). After that, some arguments to reinforce the importance of multi-benefit projects are mentioned: *“Conversely, poor-quality land management can result in negative tradeoffs between various outcomes. For example, a non-native plantation may sequester carbon, but it is not sustainable if it blocks migratory routes of key species or evicts local people. Although major international agreements call for integrated approaches to global problems, there is little concrete guidance on how to develop such holistic projects”* (CCBA, 2005b, p. 4). Next, the targeted users for the Standards are mentioned: project developers, project investors, and governments (see above in this chapter). Finally, the introduction ends by saying: *“it is hoped that the CCB Standards will foster synergistic, innovative approaches to land management, especially in the various carbon markets”* (CCBA, 2005b, p. 4).

The criteria: general, climate, community, biodiversity, and gold.

The following sections comprise the criteria to be accomplished by the projects. In the standards, these criteria are grouped by theme, according to the benefits they are supposed to deliver (table 1). Each section consists of three to six criteria divided by *concept*, which gives a brief explanation of the idea about what needs to be achieved; and *indicators*, which describes in more detail which products the proponent must generate to be evaluated by the auditors. I will use the same arrangement of the document itself to illustrate the texts to be analyzed. A quotation with the concept, as presented in the Standards will be given followed by a brief summary of the indicators.

Table 1. Sections and criteria of the Climate, Community and Biodiversity Standards.

SECTIONS				
	General	Climate	Community	Biodiversity
REQUIRED CRITERIA	Original Conditions at the Project Site	Net Positive Climate Impacts	Net Positive Community Impacts	Net Positive Biodiversity Impacts
	Baseline Projections	Offsite Climate Impacts ('Leakage')	Offsite Community Impacts	Offsite Biodiversity Impacts
	Project Design and Goals	Climate Impact Monitoring	Community Impact Monitoring	Biodiversity Impact Monitoring
	Management Capacity			
	Land Tenure			
	Legal Status			
OPTIONAL CRITERIA	Adaptative Management for Sustainability	Adapting to Climate Change & Climate Variability	Capacity Building	Native Species Use
	Knowledge Dissemination	Carbon Benefits withheld from Regulatory Markets	Best Practices in Community Involvement	Water & Soil Resource Enhancement

General Section

The six criteria under this section are mainly descriptive. They are intended to illustrate where the project is, what is going to be done, and what are the initial conditions in terms of greenhouse gases, community and biodiversity in the project area. Also, it addresses the legal framework in a general way. Following, the criteria are listed:

G.1. Original conditions in the project area

Concept: *"The original conditions at the project site before the project commences must be described. This description, along with projections (G2), will help determine the likely impacts of the project."* (CCBA, 2005b, p. 8)

Indicators: the indicators include a description of the location, vegetation, climate, soil, geological characteristics, etcetera. Besides, it comprises specific information about climate, community and biodiversity. For climate, it is necessary to estimate the current carbon stocks using methods from the Intergovernmental Panel on Climate Change's 2006 Guidelines or a 'more robust and detailed methodology'. With regard to community, a description including basic socio-economic and cultural information, as well as current land use and tenure within the project area is required. Regarding biodiversity, information must be presented about the threats to biodiversity within the project area. As a final point, IUCN Red List or other nationally recognized list of threatened species must be presented.

G2. Baseline Projections

Concept: *"An analysis of projected land-use trends is necessary to predict likely on-site changes without implementation of a project. This "without-project" future land-use scenario enables comparison of the project's likely impacts with what would otherwise have occurred."* (CCBA, 2005b, p. 9)

Indicators: the additionality issue is addressed here, for it must be proven that the benefits would not have occurred in the absence of the project. It is necessary to describe and analyze the drivers of GHG emissions, carbon stock and non-carbon dioxide green house gases changes associated with the 'without project' scenario. Also, the most likely land use scenario in absence of the project must be described, and its possible implications on local communities, biodiversity, water and soil resources.

G3. Project Design and Goals.

Concept: *"The project must be described in sufficient detail so that a third-party can adequately evaluate it. Projects that operate in a transparent manner enable stakeholders and outside parties to contribute more effectively to the project."* (CCBA, 2005b, p. 10)

Indicators: for measuring this criterion, the required indicators comprise a summary of the project's objectives and main activities. In addition, a map of the project area must be provided, and the potential natural and human-induced risks to the climate, community and biodiversity benefits must be identified. In order to demonstrate transparency, all project documentation (except confidential information) must be accessible at, or near, the project site (CCBA, 2005b).

G4. Management Capacity

Concept: *"The success of a project depends upon the competence of the implementing management team."* (CCBA, 2005b, p. 11)

Indicators: the experience of the management team in implementing land management projects must be demonstrated, identifying the key technical skills and indicating if other organization will support the project. Also, the financial health of the implementing organization must be proven (CCBA, 2005b).

G5. Land Tenure

Concept: *"There should be no significant land tenure disputes in the project area, or the project should fundamentally help to resolve these tenure issues."* (CCBA, 2005b, p. 12)

Indicators: project proponents must guarantee that the project will not generate invasion on private, community, or government property. If relocation of people will occur, it must be voluntary and it will intend to help land tenure problems. Also, the potential 'in-migration' of people from surrounding areas must be identified (CCBA, 2005b).

G6. Legal Status

Concept: *"The project must be based on a solid legal framework (e.g., appropriate contracts are likely to be in place) and the project must seek to satisfy applicable planning and regulatory requirements."*

During the project design phase, the project proponents should communicate early on with relevant local, regional and national authorities and allow adequate time to earn necessary approvals. The project design should be flexible to accommodate potential modifications that may arise to secure regulatory approval." (CCBA, 2005b, p. 13)

Indicators: the project proponents must guarantee that no laws will be broken by the project, and that the project has, or expects to have, approval from the appropriate authorities. (CCBA, 2005b)

G7. Adaptative Management for Sustainability (optional)

Concept: *"Adaptive management is a formal, systematic, and rigorous approach to learning from the outcomes of management actions, accommodating change and improving management. It involves synthesizing existing knowledge, exploring alternative actions and making forecasts about their outcomes³."*

Adaptive management is based upon the premise that ecosystems and social systems are complex and inherently unpredictable. Adaptive management views land management actions as learning opportunities and as potential experiments for systematically testing assumptions and identifying adjustments that could benefit the project. It enables a project to evolve to meet changing or unanticipated needs, and can help ensure that the project realizes its goals over the long term." (CCBA, 2005b, p. 14)

Indicators: to achieve this optional criterion it is necessary to demonstrate that the project will use feedback to improve its outcomes, and that experience is passed on when individuals leave the project. Also the project must demonstrate enough flexibility to implement potential changes and must be committed to its own long term sustainability, for example, by securing payments for ecosystem services, by promoting micro-enterprises, or by establishing alliances with organizations or companies (CCBA, 2005b).

G8. Knowledge Dissemination

Concept: *"Field-based knowledge can be of value to other projects. If actively disseminated, this information can accelerate the adoption of innovative practices that bring benefits both globally and locally."* (CCBA, 2005b, p. 15)

Indicators: for this criterion two indicators are required. Projects proponents must indicate how the relevant lessons learned will be documented and disseminated in order to encourage replication of successful practices.

Climate section

The three required criteria under this section are specifically related with the measurement of carbon dioxide and other greenhouse gases related to the project. They aim to secure that the project will achieve the reduction on the emissions or the sequestration of the carbon dioxide along the project life. Two optional criteria refer to climate change adaptation and withholding a percentage of the credits from regulatory markets.

CL1. Net Positive Climate Impacts

Concept: *"The project must generate net positive impacts on atmospheric concentrations of greenhouse gases."* (CCBA, 2005b, p. 17)

Indicators: the indicators of this criterion must be estimated by using IPCC guidelines or any other methodology approved by the CDM Executive Board. They include the estimation of the net change in carbon stocks and the net change in the emissions of non-CO₂ GHG emissions due to the project activities in the 'with' and 'without' project scenarios. It must be demonstrated the net climate impact of the project is positive⁵ (CCBA, 2005b).

CL2. Offsite Climate Impacts ('Leakage')

Concept: "The project proponents must quantify and mitigate likely negative offsite climate impacts; namely, decreased carbon stocks or increased emissions of non-CO₂ GHGs outside the project boundary, resulting from project activities (referred to as "leakage" in climate change policy)." (CCBA, 2005b, p. 18)

Indicators: for this criterion the expected types of leakages must be determined, and their potential consequences in greenhouse gases emissions or sequestration. Furthermore, a mitigation plan must be described.

CL3. Climate Impact Monitoring

Concept: *"Before a project begins, the project proponents must have an initial monitoring plan in place to quantify and document changes in project-related carbon*

⁵ The net climate impact of the project is the net change in carbon stocks plus net change in non-CO₂ GHGs where appropriate minus any other GHG emissions resulting from project activities minus any likely project-related unmitigated negative offsite climate impacts. Source: CCBA (2005b) Climate, Community and Biodiversity Project Design Standards (First Edition). Washington DC.

pools, and non-CO2 GHG emissions if appropriate, (within and outside the project boundaries). The monitoring plan should state which measurements will be taken and which sampling strategy will be used.

Since developing a full carbon-monitoring plan can be costly, it is accepted that some of the plan details may not be fully defined at the design stage, when projects are being evaluated by the CCB Standards. This will be especially true for small-scale projects." (CCBA, 2005b, p. 19)

Indicators: It is necessary to present a climate monitoring plan. Such plan must mention which and how greenhouse gases pools are going to be monitored. Greenhouse gases other than carbon dioxide must be included if they account for more than 15% of the project's net climate impact (CCBA, 2005b).

CL4. Adapting to climate (optional)

Concept: *"Projects designed to anticipate and adapt to probable impacts of climate change and climate variability are more likely to sustain the benefits generated by the project over the long term." (CCBA, 2005b, p. 20)*

Indicators: project proponents must identify likely regional climate change and climate variability impacts, and indicate the measures to minimize the potential negative impact (CCBA, 2005b).

CL5. Carbon Benefits Withheld from Regulatory Markets (optional)

Concept: *"When some carbon benefits generated by a project are not sold to satisfy regulatory requirements, additional mitigation action will be required elsewhere to meet these requirements. Therefore, withholding a portion of the project's carbon benefits from being used in capped markets will result in greater overall climate change mitigation.*

Moreover, projects that do not sell all their carbon benefits in regulated regimes have the opportunity to experiment with climate change mitigation activities other than the ones eligible under these regimes (such as avoided deforestation, which is not currently creditable under the Clean Development Mechanism). Such experimentation may generate new knowledge that is of value to carbon rule makers and other project developers." (CCBA, 2005b, p. 21)

Indicators: there is a single indicator for this criterion. At least 10% of the total carbon benefits must be withheld from regulated markets. This percentage can be sold in the voluntary market or can be retired (CCBA, 2005b).

Community section

The three required community criteria deal with the improvement of the social and economic well-being of the communities affected by the project. They are focused on the potential impacts of the project on the social and economical factors that could affect

communities in the project area along the project life. Two optional criteria are included: Capacity Building and Best Practices(CCBA, 2005b).

CM1. Net Positive Community Impacts

Concept: *“The project must generate net positive impacts on the social and economic wellbeing of communities within the project boundaries and within the project lifetime. In addition, local communities and other stakeholders should be engaged early on so that the project design can be revised based on their input. Finally, projects should ensure that stakeholders can express concerns and grievances to project proponents and that these concerns are responded to in a timely manner.”* (CCBA, 2005b, p. 22)

Indicators: to achieve this criterion the project proponent must estimate the impacts on communities’ wellbeing resulting from planned project activities. Then a comparison of with and without project scenarios must be performed, and the result must indicate positive benefit. Additionally, a conflict resolution mechanism must be presented.

CM2. Offsite Stakeholder Impacts

Concept: *“The project proponents must quantify and mitigate likely negative social and economic offsite impacts; namely, the decreased social and economic wellbeing of communities or people living outside the project boundary, resulting from project activities.”* (CCBA, 2005b, p. 23)

Indicators: in order to demonstrate that this criterion is achieved, the project proponent must identify the potential negative community impacts that the project activities are likely to cause outside the project zone and describe how they will be mitigated. It must be demonstrated that the project will generate net positive impacts (CCBA, 2005b).

CM3. Community Impact Monitoring

Concept: *“The project proponents must have an initial monitoring plan to quantify and document changes in social and economic wellbeing resulting from the project activities (within and outside the project boundaries). The monitoring plan should indicate which measurements will likely be taken and which sampling strategy will be used to determine how the project affects social and economic wellbeing.*

Since developing a full community-monitoring plan can be costly, it is accepted that some of the plan details may not be fully defined at the design stage, when projects are being evaluated by the CCB Standards. This will especially be true for small-scale projects.” (CCBA, 2005b, p. 24)

Indicators: similarly to the climate monitoring criterion, a monitoring plan to estimate the impacts of the project in selected community variables must be described. The potential variables mentioned are: income, health, roads, schools, food security, education and inequality.(CCBA, 2005b)

CM4. Capacity Building (optional)

Concept: *“Projects that include a significant capacity-building (training, skill building, etc) component are more likely to sustain the positive outcomes generated by the project and have them replicated elsewhere. The project proponents must include a plan to provide orientation and training for the project’s employees and relevant community members with an eye to building locally relevant skills and knowledge over time.”* (CCBA, 2005b, p. 25)

Indicators: A project seeking to achieve this criterion must prove that it is structured to accommodate the community needs, not only project needs; it aims to increase community and women participation; and it is not targeted to elites (CCBA, 2005b).

CM5. Best Practices in Community Involvement (optional)

Concept: *“Projects that use best practices for community involvement are more likely to benefit communities. Best practices include: respect for local customs, local stakeholder employment, worker rights and worker safety.”* (CCBA, 2005b, p. 26)

Indicators: showing that local knowledge and local stakeholders were included in the development of the project. Also, to provide evidence of how stakeholders will fill the employment positions and ‘traditionally underrepresented stakeholders and women’ will have fair chance to fill positions. In addition, the project must comply with international rules on worker rights. Worker safety must be guaranteed; otherwise, project proponents must show how the risks will be minimized (CCBA, 2005b).

Biodiversity section

The three criteria under this section are focused on identifying and monitoring the impacts of the project on the biodiversity. They are directed towards biodiversity in general, as well as to particular vulnerable species and ecosystems.

B1. Net Positive Biodiversity Impacts

Concept: *“The project must generate net positive impacts on biodiversity within the project boundaries and within the project lifetime, measured against the baseline conditions.”*

Projects should have no negative effects on species included in the IUCN Red List of threatened species (which encompasses endangered and vulnerable species) or species on a nationally recognized list (where applicable). Invasive species must not be planted by the project.

Genetically Modified Organisms (GMOs), as a relatively new form of technology, raise a host of ethical, scientific and socio-economic issues. Some GMO attributes may result in invasive genes or species. In the future, certain GMOs may be proven safe. However, given the currently unresolved issues surrounding GMOs, projects cannot use genetically modified organisms to generate carbon credits.” (CCBA, 2005b, p. 26)

Indicators: project proponents must show that the project uses appropriate methodologies to assess changes in biodiversity as a result of the project, and compare

the “with project” and “without project” scenarios, to demonstrate the net biodiversity benefit is positive. In addition, possible negative effects of non-native species on the area’s environment must be described. And if it is the case, project proponents must justify the necessity of using non-native species over native species. All the IUCN Red List threatened species (or species from other nationally recognized list) must be listed and project activities must not negatively affect them. Finally, it must be guaranteed that no invasive or GMOs will be used in the project (CCBA, 2005b).

B2. Offsite Biodiversity Impacts

Concept: *“The project proponents must quantify and mitigate likely negative offsite biodiversity impacts; namely, decreased biodiversity outside the project boundary resulting from project activities.”* (CCBA, 2005b, p. 27)

Indicators: the indicators for this criterion are the potential negative biodiversity impacts that the project may cause outside the project area. They must be identified in order to mitigate them. Also, it has to be demonstrated that the net effect of the project on biodiversity is positive (CCBA, 2005b)

B3. Biodiversity Impact Monitoring

Concept: *“The project proponents must have an initial monitoring plan to quantify and document the changes in biodiversity resulting from the project activities (within and outside the project boundaries). The monitoring plan should state which measurements will likely be taken and which sampling strategy used.*

Since developing a full biodiversity-monitoring plan can be costly, it is accepted that some of the plan details may not be fully defined at the design stage, when projects are being evaluated by the CCB Standards. This will especially be true for small-scale projects.” (CCBA, 2005b, p. 28)

Indicators: one indicator is defined for this criterion. Project proponents must have an initial plan for selecting biodiversity variables to be monitored. Those variables at risk of being negatively affected should be monitored (CCBA, 2005b).

B4. Native Species Use (optional)

Concept: *“In most cases, species that are native to a region will have a higher biodiversity benefit than non-native species. In other cases, non-native species can be more effective than native species for rehabilitating degraded areas or providing fast growing biomass, timber, fruits and other beneficial products. For instance a project may need to use non-native species on severely degraded land to achieve ecological restoration before native species can be reintroduced.”* (CCBA, 2005b, p. 29)

Indicators: If a project seeks to achieve this criterion, it must only use native species to the region, or justify that any non-native species used by the project are better than native species for generating concrete biodiversity benefits (CCBA, 2005b).

B5. Water and Soil Resource Enhancement (optional)

Concept: “Climate change and other factors may stress and degrade water and soil resources at the project site over time. Projects should enhance the quality and quantity of water and soil resources.” (CCBA, 2005b, p. 30)

Indicators: project proponents must show how project activities will improve water and soil resources (CCBA, 2005b).

5.3 Climate, Community and Biodiversity Standard’s discourse analysis.

As it was mentioned before, considering the discourses previously identified in the debate of multi-benefits climate change mitigation projects (see chapter 4), the main aspects that differentiate each discourse have been used to provide a basis for discourse identification according to the CCB standards and the CCBA website. For this purpose, new *sub-discourses* have been named using the most prevalent characteristics of each discourse found in literature that relate to the facts encountered, and the story-lines have been identified (table 2).

1. The market-oriented sub-discourse.

This sub-discourse is based on the weak version of Ecological Modernization (Bäckstrand and Lövbrand, 2006). According to Bäckstrand and Lövbrand (2006), the weak version is dominant in relation to forestry climate change mitigation. The market rationale is seen as a means to mitigate climate change and at the same time, to adequately manage natural resources. Here natural resources are translated into commodities: forest into tons of carbon dioxide and timber; and water, biodiversity, clean air, etcetera into environmental services among others. Ownership and land rights allow individuals to trade environmental services and this ultimately brings benefits to the communities, the environment and the climate. In addition, the market ability to auto-regulate generates cost-efficient projects from which the environment and the economy also benefit. To materialize this strategy, this sub-discourse suggests possible alliances among businesses, communities, and governments.

The market-oriented sub-discourse is present in the Standards’ introductory section and website, and it emphasizes the fact that multi-benefit projects are more likely to attract diverse investors. In addition, this discourse is evident in the assertion that Standards are used to generate credibility and a greater market competitiveness. Despite being clearly manifested in the introduction, the market-oriented sub-discourse is only reflected directly in some criteria and indicators; for example, in the payment for environmental services or the strategy of withholding credits from the regulated management. In this last one, it shows how the auto-regulation inherent to market strategy could contribute to climate change mitigation since the purpose for this withholding is generating additional or voluntary mitigation action.

2. The expert-based decision-making-oriented sub-discourse

This sub-discourse is derived from Green Governmentality (Bäckstrand and Lövbrand, 2006) according to which science will set the limits and will provide the information to

better understand, manage and control natural resources. Thus, governments or administrative bodies define the necessary measures to mitigate climate change based on the information produced by experts. The argument to support these decisions is underpinned by avoiding or solving environmental problems and promoting sustainable development. This sub-discourse mentions possible alliances between scientists or experts and governments or big businesses.

The expert-based decision-making-oriented sub-discourse is present in the CCB Alliance website, in the Standards' introductory section and in most of the criteria. The introduction of the Standards' document and the website refer to scientific evidence of anthropogenic climate change. In the same way that in Green Governmentality (Bäckstrand and Lövbrand, 2006), standardization in itself is a form of expressing this sub-discourse since evaluators are the ones who determine whether or not the criteria are achieved while experts define these criteria. By setting up the limits and the variables to be monitored some control can be exercised, for example on land use. This becomes evident as Standards are presented as a tool for governments to ensure projects that contribute to sustainable development and to meet numerous international obligations.

Climate and Biodiversity criteria and indicators refer almost exclusively to the expert information that needs to be generated in order to monitor and control the benefits of those two components. The definition of these criteria clearly assumes that designing the appropriate methodologies will guarantee benefits to avoid exceeding GHG emission or sequestering carbon dioxide or to protect threatened and endangered species. However, at least in the case of biodiversity, this assumption excludes other possibilities of addressing the improvements made in terms of biodiversity, for instance by not only taking into account the listed species but also other important ones –bushmeat, medicine plants, or sacred species (interestingly, this issue is addressed in the second edition when the High Conservation Values Concept is being discussed).

3. The participatory-oriented sub-discourse

This sub-discourse is based on the reformist version of the Civic Environmentalism discourse (Bäckstrand and Lövbrand, 2006) and the strong version of Ecological Modernization (Dryzek, 1997, Bäckstrand and Lövbrand, 2006, Hajer, 1995). It claims that projects can achieve climate change mitigation and co-benefits only under certain conditions. Multi-level participation and transparency are crucial to ensure community benefits and equity. The climate change mitigation strategy suggested by this sub-discourse includes participatory projects that promote community empowerment. This sub-discourse recognizes possible alliances between NGOs, businesses and governments.

The participatory-oriented sub-discourse is evident in the introductory text of the website and the Standards' document when it emphasizes that standards are being produced by researchers and various groups of stakeholders. In the criteria section, some of the indicators reflecting the participatory-orientated sub-discourse are: participation, transparency, and no-relocation of people. This sub-discourse is also evident when some of the indicators present ways to ensure the conditions those projects should observe in order to be really effective in reaching the social benefits they aim.

4. The poverty-alleviation-oriented sub-discourse

This sub-discourse is based on the Sustainable Development discourse (Dryzek, 1997). Under the basic assumption that economic and social development might not be achieved at the expense of natural resources, poverty alleviation is seen as the main solution to achieve proper development without putting environment at stake. Therefore, economic growth should be not only promoted but also guided to be environmentally benign and socially just (Dryzek, 1997). Climate change is considered a global problem that can be solved locally. In the case of forestry or forest-conservation climate change mitigation projects, local communities must be directly involved in the solution since pressure on natural resources in rural areas is primarily exerted by individuals living in these areas. If people improve their economic wellbeing, the pressure on natural resources is expected to cease; that is the reason for which local communities should be allied with international organizations. Hence, the main possible alliances suggested in this sub-discourse are between big NGOs or businesses and local communities.

The poverty-alleviation-oriented sub-discourse is present in the introductory section of the CCB standards when it associates the problem of poverty to the pressure exerted on natural resources, especially in tropical forests. On the website, this is also manifested when global environmental problems are linked with poverty problems. In addition, the poverty alleviation sub-discourse is present specifically in some indicators related to job opportunities for local stakeholders and to the assistance to local communities for creating economic alternatives once the project is over.

To summarize, Although the *market-oriented* sub-discourse seems not to be “physically” present in the criteria, it is prevalent in the introduction and in the concept of trading and marketing climate benefits. This fact might position the *market-oriented* discourse as dominant within the CCB standards, even when this is not evident in the text. Consequently, the market oriented discourse may primarily act as legitimating of the carbon commoditization strategy in which this Standards are embedded. In addition, this sub-discourse also plays operationalization role when it is reflected in some of the criteria that a project should achieve in order to be accepted. Likewise, the expert-based decision making sub-discourse, is mainly prevalent through the criteria section, through which the use of scientific knowledge to underpin natural resource management is operationalized. At the same time, standardization and monitoring make part of the certification concept, which gives weight to this discourse in the social construction of the CCB Standards. The participatory-oriented sub-discourse is present in both the criteria and the introductory sections through community participation and transparency concepts, and it is complementing the win-win story-line of the market-oriented sub-discourse. The *poverty-alleviation* sub-discourse is also evident in the Standards when the reduction of poverty is conceived as a way to solve environmental problems. The only discourse not evident in the Standards was the one derived from the radical version of Civic Environmentalism, which I named the *critical-oriented* discourse. The result of the assessing for the presence of the sub-discourses in the Standards can be seen in the Annex at the end of this document.

In conclusion, market oriented and the expert-based decision making sub-discourses are dominant, and they are complemented by the participatory oriented in a greater extent and the poverty alleviation in a lesser extent. The logic that supports the relationship among these discourses could be as follows: climate, community and biodiversity benefits can be reached simultaneously by selling carbon credits. To guarantee those benefits, the expert-based knowledge dictates how to conveniently manage natural resources; and in order to ensure benefits for the community and the environment, participation and transparency must be guaranteed, and poverty must be reduced.

Table 2. The Story-lines of the sub-discourses representing the Climate Community and Biodiversity Standards.

Sub-discourse	Story-lines
Market-oriented sub-discourse	<ul style="list-style-type: none"> • Multi-benefit projects are more likely to attract investors • Payment for Environmental services payments contributes to generate long-term sustainability • Market has de capacity to regulate over land use change (additionality) • Selling carbon credits or offsets contribute to implement projects that mitigate climate change. • Climate change mitigation, community development and biodiversity conservation can happen simultaneously, resulting in a win-win situation.
Expert-based decision-making-oriented sub-discourse	<ul style="list-style-type: none"> • Expert information to decide how better understands and manages natural resources • Monitoring climate and biodiversity using scientific methodologies will guarantee that benefits are brought.
Participatory-oriented sub-discourse	<ul style="list-style-type: none"> • Community participation, transparency, and no forced relocation of people are conditions to ensure social benefits. • Certain condition should be met to ensure social benefits – community participation, transparency, and no relocation of people.
Poverty-alleviation-oriented sub-discourse	<ul style="list-style-type: none"> • Economical development may cause pressure on natural resources. • Poverty conditions should be improved in order to reduce pressure on natural resources

6 ENVIRONMENTAL DISCOURSES IN THE CLIMATE COMMUNITY AND BIODIVERSITY PROJECTS

In this chapter the research question *Which discourses can be identified in the CCB's Project Design Documents and how do they relate to each other?* The Climate, Community and Biodiversity standards certify land-based projects including activities such as afforestation-reforestation, reducing emission from deforestation and degradation (REDD), and ecosystem restoration (CCBA, 2005a). According to the CCB's website, up until this date (May 23rd, 2009) 35 projects are aiming to be certified by the CCB standards. Out of those projects, nine have been approved, eight of which have obtained gold status, and one has obtained silver status. The approved projects are found in different types and locations. Three projects are committed to reduce emissions from deforestation and degradation (so-called REDD projects); one of these projects involves avoiding grassland conversion and it is located in the United States, the other two involve forest ecosystems and take place in Brazil and Indonesia. Three projects deal with forest ecosystem restoration, two of which are located in the United States, and one in Nicaragua. The remaining three are reforestation projects, and they take place in the United Kingdom, Panama, and China.

For this study, six projects have been selected (for the criteria used, see chapter 3): The Juma Sustainable Development Reserve Project, and Reducing Carbon Emissions from Deforestation in the Ulu Masen Ecosystem, Aceh, for the case of REDD projects; Return to Forest, and Restoring a Legacy at Red River National Wildlife Refuge, for the case of ecosystem restoration; and Project Climate, Apley, and CO₂OOL-USA/Futuro Forestal Native Species Reforestation, for the case of afforestation-reforestation projects. This Chapter briefly describes each of the projects following their written structure, which is the structure found in the CCB standards (in all of the cases, except for one project) because it allows the documents to be compared. In addition, the description includes several extracts textually cited from the project-designed documents with the intention of reflecting the way ideas are presented. At the end of each project description, a brief analysis is presented; and at the end of the section, a comparison of the sub-discourses found in all of the projects is given. The result of the assessing for the presence of each sub-discourse in the projects can be found in the Annex, at the end of this report.

6.1 The Juma Sustainable Development Reserve Project

This project aims to reduce emissions from deforestation (REDD project) by the establishment of a protected area for sustainable use in a region claimed to be under great risk of deforestation. It takes place in the state of Amazonas, Brazil. In September 2008 the project was rated Gold by Tüv Süd; all the optional criteria were approved to get this rank.

General section

G.1. Original conditions in the project area. The document presents a detailed description of the project's area, including geographic location, hydrology, geology, geomorphology, vegetation covers and deforestation estimations. Also, it describes the current carbon dioxide stocks, based on the results of a biomass estimations project carried out during ten years, and using IPCC methods, plus two more detailed models. It includes a community description, including factors such as housing, education, health, transport, current land use, among others. The Juma project accounts for 339 families living in 35 communities inside the reserve area. Regarding biodiversity general description, the document mentions several inventories that have been performed emphasizing the species found in the IUCN red lists. (Anonymous, 2008b).

G2. Baseline Projections. To define the most likely land use scenario in the absence of the project. The document focuses on the historical deforestation drivers and land-use change dynamics. It states: *“The future scenario is very clear: if the infrastructure predicted for the State of Amazonas, such as the paving of highways, is implemented, and if the historic trends elsewhere in the Amazon continue, the state of Amazonas will rapidly be occupied by large expanses of pasture and agricultural fields, and millions of hectares of forest will disappear in the process.”* (Anonymous, 2008b, p. 31). A simulation model designed for the Amazon region for predicting the future scenario, is used. As a result the most probable scenario without project is deforestation. The choice of this scenario, and the model itself is supported by the statement: *“The most advanced simulation models indicate that in the coming decades the State of Amazonas will see a rapid increase in its deforestation rates. SimAmazonia I, a deforestation simulation model developed by a consortium of research institutions and published in Nature, indicates that in the coming decades the State of Amazonas could lose up to 30% of its forest cover by the year 2050 (“business as usual” scenario). This volume will emit more than 3.5 billion tons of CO₂ into the atmosphere¹⁹.”* (Anonymous, 2008b, p. 31). Additionally, the social and environmental risks associated with the selected scenario are identified: expected deforestation will affect biodiversity due to habitat fragmentation and habitat lost; and it will be detrimental to community livelihoods, because they are considered highly dependent on the quality of the natural ecosystems.

G3. Project Design and Goals. The aim of the Juma project is to control deforestation and its GHG emission in an area under great land use pressure. This is going to be done by developing and implementing the management plan and by the generation of funds from carbon credits. The management plan expects results in four areas: monitoring and law enforcement, income generation through sustainable business, Community development, education and scientific research, and direct payment for environmental services. The carbon credits' trading is presented as a means to be able to implement the management plan: *“[The carbon credits] will create the conditions to attract investors and bring to the State the resources to implement consistent, robust and sustainable policies for controlling and monitoring deforestation. (...) The project will result in significant improvements in the quality of life of local communities.”* (Anonymous, 2008b, p. 40). In this section, participation and transparency are addressed. It is affirmed that local communities and stakeholders were involved in the project design, through

public hearings and workshops; and they are going to be involved in the management plan and decision making.

G4. Management Capacity. Under this criterion, the project document describes the management team. Four organizations are directly involved in the implementation of this project: The Amazonas Sustainable foundation, which is the implementing organization; The Climate Change State Center and the State Center for Protected Areas within the Secretariat of Environment and Sustainable Development of the Government of the state of Amazonas; and the Institute for Conservation and Sustainable Development of Amazonas. This section also includes the financial capacity evidence of the implementing organization (Anonymous, 2008b).

G5. Land Tenure. Traditional communities live inside the reservation areas. Their specific land tenure is not mentioned, but it is said that the reserve is conceived for those communities to live there: *“The principal objective of the RDS category of protected area is to preserve nature while simultaneously ensuring the conditions and tools necessary for the reproduction and improvement in the livelihoods and natural resource management practices of traditional communities. Private lands inside the Reserve are going to be expropriated or exchanged, however, it does not involve relocation of people, since no one lives in these lands.”* (Anonymous, 2008b)

G6. Legal Status. Under this criterion the document presents the legal international (mostly based on the Rio Convention), and national (federal constitution) frameworks that support the Juma project. Payment for environmental services and financial mechanisms for conserving natural resources are mentioned here. In addition the Reserve Deliberative Council is illustrated. This Council is the judicial body for the management of a protected area, which *“... comprises all the relevant local institutions and actors in the area of the Reserve, including representatives of the communities located within the reserve, municipal governments around the Reserve, government agencies and the local business community, among others, with the presidency of the Council occupied by the State Center for Protected Areas (Centro Estadual de Unidades de Conservação).”* (Anonymous, 2008b, p. 69)

G7. Adaptive Management for Sustainability (optional). The document states that tools for measuring and controlling biological and socioeconomic variables are going to be used for reviewing the achievements. This is considered to be the basis for decision-making, and for incorporating the lessons learned during implementation. The long-term sustainability of the project’s benefits is attributed to payment of environmental services, since this investment will provide the funds to community capacity building (Anonymous, 2008b).

G8. Knowledge Dissemination. According to the document, all the activities related to the Project are going to be documented through written reports, and the results are going to be presented in scientific and general events, and to the communities. (Anonymous, 2008b).

Climate section

CL1. Net Positive Climate Impacts. The target of the project is to prevent carbon dioxide emission by conserving forests. According to the project estimations, from 2006 to 2050 more than 189 millions tons of carbon dioxide are going to be prevented. It is based on the assumption that approximately 210 million tons would be released if the project does not take place. All the calculations are based in SimAmazonia model (Anonymous, 2008b). The data used for these estimations were based in a scientific publication that included different Amazonian ecosystems, and compared with the IPCC values. (Anonymous, 2008b).

CL2. Offsite Climate Impacts ('Leakage'). The project considers that no leakage is going to happen. The surrounding areas are going to be monitored for assessing migration. Instead it is considered the project will have positive impacts in the surrounding areas in terms of decreasing deforestation (Anonymous, 2008b).

CL3. Climate Impact Monitoring. For monitoring climate impact the project will use satellite images for assessing deforestation, and will develop a participatory monitoring plan and surveillance program involving communities (Anonymous, 2008b).

CL4. Adapting to climate (optional). Under this criterion, it is argued that by preventing deforestation, the project will contribute to adaptation through "assisting in reducing the contribution of the Amazon's deforestation to global warming." (Anonymous, 2008b, p. 88)

CL5. Carbon Benefits Withheld from Regulatory Markets (optional). According to the document, all the credits will be sold in the voluntary market. In addition, non-permanence 10% buffer will be created as an investment risk management strategy.

Community section

CM1. Net Positive Community Impacts. The communities' benefits attributed to this project are related with improvements in the quality of life of local communities. To establish the communities' net benefits a 'Sustainability Matrix' was used. It considered 27 different socio-economic indicators of great importance in community development. *"Improvement in the quality of life of the local communities depends on the identification of each community's needs, from the outcomes of the Sustainability Matrix method. Through the matrix, the local population identifies the actual conditions of the community for each one of the issues, such as education, housing, health, energy, trash collection, water, sewage, environmental monitoring, etc".* (Anonymous, 2008b, p. 98). In the document, the matrix is presented together with the expected net benefits for each variable. Additionally, the participatory process and the model for grievance resolution are described.

CM2. Offsite Stakeholder Impacts. According to the document, no negative social impacts outside the project area were identified. Instead, the document affirms that the project will bring community benefits outside its boundaries (Anonymous, 2008b).

CM3. Community Impact Monitoring. The monitoring is going to be based on the matrix mentioned earlier. *“The survey generates a range of information that feeds the database and qualifies the family in the Sustainability Matrix. According to this table, the community chooses, in a participative way, the priorities for its sustainable development.”* (Anonymous, 2008b, p. 102)

CM4. Capacity Building (optional). To accomplish this optional criterion the project proponents explain how communities and stakeholders are involved in the project implementation. According to them *“The project will provide organizational, management and technical capacity building activities to underscore the ownership of the local people’s management of the Reserve, as well as to insure their involvement in decision-making and implementation of programs and in conservation and sustainable development efforts.”* (Anonymous, 2008b, p. 103)

CM5. Best Practices in Community Involvement (optional). The text under this criterion mentions again the participatory process used in the creation of the reservation area. *“Local communities in the Juma Reserve identified the “Sustainable Development Reserve” as the type of Protected Area that would allow them to balance improving their livelihoods with maintaining the environmental quality of their forests. It is important to point out that the teams that conducted these studies have extensive knowledge and experience in the reality of the Amazon”* (Anonymous, 2008b, p. 106). It is stated that communities are going to be trained in order to give them the opportunity to be hired within some of the project’s programs. Also, it states that the project will follow all the laws and regulations regarding worker rights.

Biodiversity section

B1. Net Positive Biodiversity Impacts. The document affirms that by preventing deforestation biodiversity and environmental services will be conserved. Also, it considers the monitoring as a benefit itself, because it will make possible to identify and prevent any negative impact. *“The main assumption of the program is that through scientific research on the Juma Reserve’s biodiversity (e.g., ecology of species, dynamics of populations, etc.) the subsidies to improve the Management Plan of the Reserve will be obtained, helping also to identify the needs and opportunities for the next research and monitoring activities. (...) These data can help to generate measures for instructing the communities about how to use the natural resources in a sustainable way, without affecting either their needs or the resources.”* (Anonymous, 2008b, p. 122). In addition, it states that no exotic species or genetically modified organisms were used.

B2. Offsite Biodiversity Impacts. No negative impacts on the biodiversity are recognized, instead it is said that the project will bring positive biodiversity impacts outside its boundaries (Anonymous, 2008b). Under this criterion, the importance of the total revenues of at least US\$ 189 million is emphasized. *“These resources would allow the full implementation of conservation and sustainable development policies and measures throughout the region of the Juma Reserve, not only within its boundaries, as mentioned in B2.1 and B2.2”* (Anonymous, 2008b, p. 115).

B3. Biodiversity Impact Monitoring. According to the project, the flora and fauna species that are going to be monitored are those used by communities. If a decline is detected, management and protection actions will be undertaken. To perform this monitoring, participatory methods will be used. (Anonymous, 2008b)

B4. Native Species Use (optional). According to the document, no exotic species are going to be used within the reserve, “*except those that are already part of the traditional production of local communities (e.g., fruit trees, pasture, grasses).*” (Anonymous, 2008b, p. 123)

B5. Water and Soil Resource Enhancement (optional). To achieve this optional criterion, the project document elaborates how conservation measures will allow forest and river preservation, benefiting water and soil resources.

Juma project discourse analysis

According to this project, the proposal of paving of two large highways in the area will result in a large loss of forest by 2050. In order to prevent deforestation and hence mitigate climate change and benefit communities and the environment in the reservation area, the project will implement four main activities: strengthening of environmental monitoring and control; income generation through promotion of sustainable businesses; community development, scientific research and education; and direct payment for environmental services (Anonymous, 2008b). The funds for implementing these activities will come from Marriot International which was agreed to commercialize the credits.

The original condition of the area is described in a section devoted to biophysical and social descriptions which uses a technical style. The expert-based decision-making-oriented sub-discourse is clear when this information is used to support arguments about protection or land-use change; it is the case of carbon stock estimations and the biological importance of the reservation area. The same occurs in the baseline projections where the choice of land-use scenario is based on prediction models, and where the environmental and social risks are defined based on such predictions. The expert-based decision-making-oriented sub-discourse is also implied in the project goals and the adaptive management capacity since the aim of implementing the project is deforestation control through law enforcement and monitoring. At this point, this sub-discourse and the market-oriented sub-discourse could overlap since in these sections carbon funds are presented as essential to make the management plan possible.

Not surprisingly, the expert-based decision-making-oriented sub-discourse prevails in the climate section in which the central point is the estimation and monitoring of greenhouse gas emission avoidance based on different prediction models estimations. The same occurs in the biodiversity section with some affirmations about monitoring and researching biodiversity as a way of instructing communities for better use. This fact resembles the expert-based knowledge used in the name of environment and sustainable development.

In two of the main project activities, the participatory-oriented sub-discourse is present in the form of participation and transparency concepts, for instance the education and

training of local communities to devolve power and ensure participation. Also, it is explicitly affirmed that communities are being and will be involved in the decision-making processes for designing and implementing management plans, and this in turn demands the community empowerment for decision-making. In general, most of the text in the section about the community is devoted to the participatory-oriented sub-discourse, for example in the definition of community indicators for the social model.

In the climate monitoring criteria and in the biodiversity section, participatory monitoring and surveillance programs are mentioned. However, in these criteria, the document validates participation as a way to increase awareness for conservation and to make monitoring more efficient; this could show that instrumental participation may reduce implementation costs. It is important to notice that in the participatory-oriented sub-discourse, participation is an end in itself for the community to be empowered and to actually have a stake in decision-making. In this specific case, although the project deals with participation, it may not be participatory-oriented but can refer to the market-oriented discourse through the cost-efficiency story-line.

Statements about the ‘no-relocation’ of people reflect the participatory-oriented sub-discourse since this is considered one of the conditions to be met by the project in order to get benefits for the community. The land tenure criterion, for example, emphasizes this point and explains that traditional communities live inside the reservation area. In addition, in the legal status criteria this sub-discourse is evident when the involvement of different governance actors is stated. They are said to participate together with local institutions, regional governments and community members.

The market-oriented sub-discourse is evident in the project goals, especially when the payment for environmental services is mentioned. Likewise, the legal status criteria present the generation of funds from carbon credits as a means to achieve law enforcement and control on the one hand, and to improve quality of life on the other. In addition, the strategy of withholding the credits from the regulated market reflects the market-oriented sub-discourse while it aims to prove that projects will bring additional benefits on climate mitigation. This project will create an investment risk buffer as part of an investment risk strategy.

In the baseline predictions, the poverty alleviation sub-discourse could be emerging at any rate when it mentions the pressure on natural resources exerted by development that has caused or will cause forest loss, and will negatively affect forest-dependent communities. In addition, some of the social indicators used in the social model are devoted to reducing poverty by generating income.

In summary, the *expert-based decision-making-orientation* sub-discourse is strongly present in this project. This can be explained by the assumption that science will provide the necessary information for the adequate estimation and subsequent management of the different indicators such as atmospheric carbon dioxide, threatened species, and socioeconomic indicators. The *participatory-oriented* sub-discourse is also evident, especially in the section about the community. Basically, the document makes explicit emphasis on the community empowerment and its participation in decision-making.

These two discourses are supported and complemented by the *market-oriented* sub-discourse which plays an essential role on the conception of the project itself even though it is not as conspicuous as the other two discourses mentioned before. The climate benefits produced will be traded in the market to ensure project implementation and the money obtained from it will allow governments to monitor climate and control natural resource management, and will be used to implement programs ensuring the community's participation and empowerment. Poverty alleviation is present as a proof of environmental degradation that deserves to be solved. In that sense, it supports the *expert-oriented* sub-discourse.

6.2 Reducing Carbon Emissions from Deforestation in the Ulu Masen Ecosystem

The Ulu Masen project is intended to reduce emissions from deforestation and forest degradation. It is located in the Indonesian Province of Nanggroe Aceh Darussalam, in one of the largest continuous blocks of tropical forest in Sumatra. The project is carried out by an alliance among the Aceh provincial government; Fauna and Flora International, an environmental NGO; and Carbon Conservation Pty Ltd, a company that will act as the project developer (Anonymous, 2007b). Rainforest Alliance audits the project. As a result, it was rated 'Silver'. To award this degree the project achieved five out of the eight optional criteria. The criteria not achieved were: Adaptative Management for Sustainability, Best Practices in Community Involvement, and Water and Soil Resource Enhancement

G.1. Original conditions in the project area In first instance the document defines the area in terms of its type of ecosystem, and its legal protection status: "*The mountains of the Bukit Barisan range are considered as giving rise to two distinct but connected ecosystems, the Ulu Masen ecosystem, which forms the northern-most forest and the Leuser ecosystem reaching from the southern part of Aceh into the province of North Sumatra. The Gunung Leuser National Park lies within Leuser ecosystem, a large landscape protected by presidential decree. While the National Park status provides a strong legal status for protection, the Leuser Ecosystem is a multi-functional landscape and provides limited legal protection due to conflicting laws that give authority to provincial and district government for land use planning.*" (Anonymous, 2007b, p. 6)

This section provides a biophysical description in terms of geology, climate, and vegetation. Under a subsection called 'carbon' the project explains the use of the IPCC guidelines and more detailed models to set de values and greenhouse gases estimations. Under a subsection called 'communities' the project characterizes the population living in the area. It starts by presenting poverty aspects: "*Aceh today remains one of Indonesia's poorest provinces. Almost 50 percent of the population lives below the poverty line¹⁶, (...). Aceh Province is typical of many resource-rich regions, in that wealth from exploitation of resources has not greatly improved the welfare of the majority of the population. Rural communities in particular have been alienated from resources to which they can claim traditional rights. Much of this failure to convert resource wealth into community development results from policies that override customary tenure often facilitated by corruption.*" (Anonymous, 2007b, p. 12). Finally, under a subsection called

'biodiversity' a list with 'endangered and protected' mammals present in the area is given; and their major threats are identified (habitat loss and fragmentation).

G2. Baseline Projections. The text under this criterion starts explaining why it is complicated to estimate the most likely land use scenario, attributing the lack of regulation of these forested lands until recently due to the civil conflict, new threats to the forest such as illegal logging, and unsustainable industrial logging practices. After that, the document elaborates on the extended deforestation risk, mentioning that Indonesia has the highest deforestation rate in the world today. Then, this section presents three different scenarios and ends by selecting one, based on a model that includes 87 variables to predict the deforestation rate. The following subsection determines the carbon emission that would be emitted if the project does not take place based on the different possible crops. Subsequently, the communities' baseline scenario is presented, based on the economic alternatives without the project, and their impacts on the economy and some ecosystem services. Next, the predicted 'without project' scenario for biodiversity is presented focusing on habitat lost, degradation and fragmentation effects. Finally, the baseline predicted scenario of soil and water resources is presented, emphasizing water contamination and soil erosion.

G3. Project Design and Goals. The text under this section explains the main goals and describes the main activities that are going to be undertaken. In addition, it presents a summary of a risk assessment in which the measures to tackle permanence are outlined. The ultimate goal of the project may be summarized by these introductory statements: *"The project proponents can, with adequate carbon finance, institute measures that will reduce legal and illegal deforestation, promote reforestation and foster sustainable community forest management. (...). A substantial portion of carbon finance will be deposited into these [carbon-financed] funds and will directly benefit local communities and forest guardians"* (Anonymous, 2007b, p. 35). By preventing deforestation, project proponents will help Aceh achieve a sustainable future that also preserves critical and highly-threatened habitat for biodiversity and develop a sustainable community model for the use and conservation of forest. The document affirms that the project will contribute to avoid 85% by using carbon finance for land reclassification, permanently eliminating the legal possibility of land conversion and logging. In addition, it explains the mechanisms to involve and benefit communities and the documentation and publication process.(Anonymous, 2007b)

G4. Management Capacity. In this section the project describes the institutions directly involved in some detail. For the provincial government, the document speaks about its commitment with this kind of projects, and the difficulties the government has gone through because of the recent tsunami, arguing that there is a transition to a more transparent and sustainable government (Anonymous, 2007b). The description of Fauna and Flora International highlights experiences in conservation projects, and mentions that one of their projects *"is the largest project in Indonesia, the Aceh Forest and Environment Project, is the largest World Bank funded project in the Indonesian forestry sector and with 13 million USD"* (Anonymous, 2007b, p. 45). Regarding Carbon Conservation, its experience in REDD projects is mentioned. In addition, this section includes a description of the management team, and their responsibilities and budget.

G5. Land Tenure and G6. Legal Status. These two criteria are joint in the project formulation document. The text under this section presents the legal framework for the land, mentioning that in this country there is a law that regulates ecological services. Also, the document affirms that no involuntary relocation of people will be necessary. In addition the potential immigration could be caused because outsiders could note the community benefits. However, according to the documents, this will be prevented since *“social norms in the area and social cohesion that is part of everyday life in villages (in and outside the project) are strong to deter significant in-migration”*, and the project will have time to prevent in-migration since the payments for carbon sequestration will be made after deforestation rates are verified (Anonymous, 2007b, p. 49).

G7. Adaptative Management for Sustainability (optional). The evaluators did not approve the achievement of this criterion. According to the Validation Audit Report, the project document does provide evidence that *“actions and monitoring programs are designed to generate reliable feedback that is used to improve project outcomes”*, and that the project is committed to long-term sustainability (Hayward and Afiff, 2007, p. 35). However, the project lacks a management plan for sharing and documenting information of decision, actions, and outcomes; and it fails in demonstrating enough flexibility to incorporate potential changes (Hayward and Afiff, 2007).

and G8. Knowledge Dissemination. This project formulation document does not mention these two criteria. However, the validation report states that Knowledge dissemination was achieved considering that *“the project will probably be of great value to the understanding of REDD projects in Indonesia and elsewhere in the world”* (validation report p 36). In addition, the validation report affirms that a supporting document, which is not available on the website, mentions indicators to meet the objectives for raising conservation awareness (Hayward and Afiff, 2007)

Climate section

CL1. Net Positive Climate Impacts. According to the document, by avoiding the 85% of the deforestation in the project area, the net positive climate impact will be approximately 27 million tons of carbon dioxide over 30 years (Anonymous, 2007b).

CL2. Offsite Climate Impacts (‘Leakage’) This section of the documents discusses how leakage will be caused, monitored and mitigated. The potential identified leakages are: activity shifting (deforestation could move to a nearby forest), and market effect (market demand, supply causing an increase or decrease in emitting activities elsewhere). The way for preventing leakage, presented by the document is by the large-scale nature of the project, by providing economic alternatives to the inhabitants of the area. Also, the document mentions that the provincial government has declared a moratorium on all logging in natural forests (Anonymous, 2007b).

CL3. Climate Impact Monitoring. The document affirms that the project is committed to developing a monitoring plan following IPCC guidelines (Anonymous, 2007b).

CL4. Adapting to climate (optional). The text under this criterion affirms that: *“This project deals with adaptation. “This project fundamentally will help Sumatran fauna and*

flora adapt to climate change. By conserving the largest contiguous block of Sumatra forest at the northern end of the island, the ability of climate-sensitive species to adapt will be enhanced.” (Anonymous, 2007b, p. 54)

CL5. Carbon Benefits Withheld from Regulatory Markets (optional). The document lacks a section under this name, however in the validation reports it is confirmed that 20% of the credits will be withheld from regulated markets (Hayward and Afiff, 2007)

Community section

CM1. Net Positive Community Impacts. In this section, the consultation process is described, emphasizing the equitable carbon financial distribution. In addition, the document explains the direct financial support to communities: *“To address the complexity of providing financial incentives to protect bio-carbon stocks while supporting the livelihoods of forest dependent communities, several funding mechanisms will be designed and tested”* (Anonymous, 2007b, p. 58). Sustainable timber product fund, financial support through deposition accounts, revolving loan fund for small-scale enterprise development, and monitoring and law enforcement deposition accounts are the four possible funding mechanisms mentioned.

Regarding participation it is mentioned that *“The project has been conceived to ensure that stakeholder confidence and commitment will be built through a participatory and transparent process. All levels of government and civil society have been invited to contribute to the design and implementation of project activities and initial community consultations have begun. In particular, traditional Mukim² leaders have a critical role in the management of land and natural resources in Aceh’s rural communities, typically being responsible for between three and eight villages. Though their authority was undermined during the years of conflict, Mukim leaders are now formally recognized under Aceh’s Special Autonomy Law”* (Anonymous, 2007b, p. 2). Besides, the project document states that workshops and meetings will be held to *“better define how stakeholders should be defined, identified, engaged and encouraged to fully engage project design and implementation”* (Anonymous, 2007b).

CM2. Offsite Stakeholder Impacts. The identified negative community impacts due to project activities are loss of income from a reduction in illegal logging, and decline in offsite livelihoods of illegal wildlife traders or users. Small-scale community enterprise loans, implemented by the project, are referred as the way of mitigating those impacts. (Anonymous, 2007b)

CM3. Community Impact Monitoring. The document states that a monitoring plan of community livelihoods will be developed by the end of 2008. Under this section the text mentions that forest and timber trade will be monitored by supporting the conservation management agencies to perform routine monitoring and patrolling activities. In addition, the text under this section mention that *“Civil society organizations (CSOs) will be supported to conduct independent monitoring of forest crime (e.g. illegal local timber processing capacity, locations and activities of illegal sawmills, and illegal timber exports and transportation.”* (Anonymous, 2007b, p. 65)

CM4. Capacity Building (optional). For supporting the achievement of this criterion the document states: “*Project proponents will strive to bring capacity in sustainable forest management to the area. By moving forward with this project, area citizens, academics, government officials and others will have the opportunity to engage a variety of skills and emerging ideas for forest conservation and management.*” (Anonymous, 2007b, p. 60)

CM5. Best Practices in Community Involvement (optional). This criterion is not explicitly addressed in the document. The validation report affirms that although the project demonstrates solid foundation of local knowledge, local stakeholder consultation needs to be improved. For that reason, this criterion was not approved (Hayward and Afiff, 2007).

Biodiversity section

B1. Net Positive Biodiversity Impacts. The project’s goal is to reduce 85% of the potential deforestation. “*Overall the project expects to create significant improvements to biodiversity conservation by avoiding habitat loss and degradation in northern Sumatra.*” (Anonymous, 2007b, p. 61). According to the document, if the project does not take place great habitat degradation and fragmentation will occur, risking the viability of many species in the area. (Anonymous, 2007b)

B2. Offsite Biodiversity Impacts. According to the document, the project does not anticipate off-site negative impacts on biodiversity (Anonymous, 2007b).

B3. Biodiversity Impact Monitoring. According to the document, flora, fauna, water quality and soils will be monitored. In addition a wildlife trade monitoring program for the Sumatra rhino and Tiger will be implemented (Anonymous, 2007b).

B4. Native Species Use (optional). The texts under this section affirms that non –native species will be used in community gardening. Non-native native timber is likely to be used in sustainable community forestry due to better growth rates (Anonymous, 2007b).

B5. Water and Soil Resource Enhancement (optional). According to the document, by reducing deforestation water and soil resources will improve (Anonymous, 2007b). In addition the text under this criterion affirms that that water and soil conditions will be monitored. It is not clear whether this criterion was achieved or not, since in the summary table of the validation report it appears as not approved, but the detailed information indicates that the two indicators for this criterion were evaluated positively.

The Ulu Masen project discourse analysis

Climate change mitigation in this project will be achieved by avoiding the emissions that deforestation could cause in an extended forest area. The problem addressed by this project may be summarized as follows: the area where the project is going to take place is a resource-rich region with a poor population; this condition has been accentuated by the political conflict, the recent tsunami, and the economic development of the region including market demand and the current legislation for timber extraction. The proposed

solution to this problem is forest conservation; the management plan and activities associated with it will be possible due to carbon investments

The expert-based decision-making-oriented sub-discourse prevails in the description of the project's current conditions and baseline projections when describing the area in terms of carbon dioxide content and the models used to estimate it. This discourse is evident in the monitoring schemes. Similarly, the emphasis on the legal protection status and the description of ecosystem types in this section suggests that expert orientation may underpin land-use decision-making. Likewise, this discourse can be associated with law enforcement and the land-use reclassification mentioned throughout the document. The expert-oriented sub-discourse is also evident in all of the biodiversity criteria which speak mainly about conservation and deforestation avoidance as a means of protecting endangered habitats and species, improving water and soil quality, etc., and at the same time, linking some of these facts with trade control and use of natural resources. The use of ecological services and land regulation institutions is emphasized in the land tenure and legal status.

The poverty-alleviation-oriented sub-discourse is present in the general section and the section about the community where the level of poverty population, the current negative impacts on the forest, and the negative effects on the economic welfare and the ecosystems are illustrated. As a result, the proposed solution that provides an economic alternative to improve welfare (the four funding mechanisms) can also be linked with this discourse. Likewise, in the section about the benefits for the community the suggested solution to mitigate pressure on natural resources deals again with providing economic alternatives to local communities.

The market-oriented sub-discourse can be identified in the conception of project-designed goals that use carbon credit trading as a means to reduce deforestation. One of the leakages identified by this project is caused by the market. The market-regulating capacity emerges when supply-demand dynamics may affect carbon emission levels (pollution), hence economic alternatives given to the people in the area would play a preventive role against leakage. The market-oriented sub-discourse is also present in the criterion about withholding credits from regulated markets, as explained in the previous project.

The participatory sub-discourse is present in the project design goals through the explanation of the mechanisms for community involvement and the documentation of public participation. This discourse is evident when encouraging and facilitating independent civic society monitoring and when encouraging to the Mikim (local government at village level) to have a stake in the planning processes. The section about the community is mainly dedicated to explaining the participative process. It includes community consultation and mentions the fact that civil members and governments have been invited to participate in the project design and implementation. By reading the text it is not possible to elucidate their concept of participation; however, the text suggests that the community takes part in the decision-making process. This argument is supported by the fact that according to the validation report, the consultation process needs to be

improved so the criteria referring to participation named Best Practices in Community Involvement has not been approved (Hayward and Afiff, 2007)

In brief, the *expert-based decision-making-oriented* sub-discourse is the most prevalent in this project. The main aspect of this project is the protection and management of natural resources (based on scientific assumptions). However, three discourses complement this environmental protection goal: the *poverty-alleviation-oriented* and *participatory-oriented* sub-discourses which underpin economic benefits and community participation respectively, and the *market-oriented* sub-discourse. Although the latter is not evident in most of the criteria, it is presented as a means to make the project possible by trading environmental services and this gives it weight. In addition, the market auto-regulation ability is reflected in the conceptualization of this document. First in the assertions about the market dynamics that affect land-use change and second to prove it as an additional marketing strategy, both of which imply the need of regulating natural resource management.

6.3 Paso Pacifico – Return to Forest

Return to Forest intends to restore 406 hectares of dry and tropical humid forest ecosystem in Nicaragua. The restoration consists in planting native species in private lands previously dedicated to extensive cattle grazing. The project is presented by Paso Pacifico, a non-governmental organization from California, located in Nicaragua (Validation report). The carbon benefits will be sold in the voluntary market through the non-profit organization CarbonFund.org. In April 2008, the project was ranked Gold by Rainforest Alliance. All the optional criteria were achieved to get this rank.

G.1. Original conditions in the project area. Under this section the text describes the biophysical, climatic and socio economic aspects of the project area. The biophysical information includes the specific location, and other aspects such as topography, hydrology, soils, ecosystems, and climate. The communities are characterized, including factors such as density, poverty level, level of potable water, and education. The document presents a summary of the findings from a complete study performed for this project. The biodiversity description consists of the lists of the threatened species, and includes the selection of two key species: the Spider Monkey and the Yellow-naped Parrot. (Otterstrom et al., n.d)

G2. Baseline Projections. The text under this criterion describes the most likely land use scenario and its implication in climate, community, biodiversity, and water and soil resources. The most likely land use scenario identified was cattle-ranching. In that case it is stated that communities would have both positive and negative impacts due to truism; biodiversity would decrease slowly; and water and soil quality would decrease or stay the same in the project area (Otterstrom et al., n.d)

G3. Project Design and Goals. This project formulates three broad goals in order to “*increase carbon storage while protecting biodiversity and supporting sustainable communities (...)* 1. *Decrease atmospheric greenhouse gases through the restoration of*

tropical forests. 2. Promote alternative and sustainable livelihoods among rural communities by creating alternative sources of income through reforestation activities, reserve management activities, eco-tourism, and through payments through ecological services 3. Conserve Central America's threatened forest ecosystems and wildlife by restoring currently fragmented and unprotected forests, thereby improving water and other ecosystem services." (Otterstrom et al., n.d, p. 43). This criterion also describes the major activities, which includes: strengthening of landowners' relationship, nurseries developing, carbon stock measuring, and planting. Stakeholders are defined by dividing them in two groups: landowners where planting is taking place and local community members that have been hired by the project; and the other community members who indirectly benefit from the project. Finally, transparency is demonstrated by explaining how the project documents are going to be available for communities, the general public and the scientific community.

G4. Management Capacity. Under this criterion the management team is introduced, as well as the partnership with organisations that advise and train project members. In addition the financial status of the implementing organization is presented (Otterstrom et al., n.d).

G5. Land Tenure. The texts under this criterion affirm that all properties included in the project are legally owned, and participation in the project is voluntary. For participation in the project, a contract between each landowner and Paso Pacifico has been signed. Additionally, no in-migration risks are mentioned (Otterstrom et al., n.d)

G6. Legal Status. Under this criterion, compliance with the law is demonstrated by outlining the regulations related with forestry projects, labour laws, and Paso Pacifico legal status (Otterstrom et al., n.d).

G7. Adaptative Management for Sustainability (optional). To achieve this criterion, the project has designed management and monitoring plans for trees, biodiversity, community ecotourism and sustainable agriculture projects, and education programs. The text describes how these plans can be improved, based on the results. In addition, in it the most viable sources of funding considered by the project are mentioned: eco-tourism micro-enterprises, payment for ecosystem services, grants from international donors, and entrance fees for private reserves, among others. (Otterstrom et al., n.d)

G8. Knowledge Dissemination To achieve this criterion the Strengths, weakness, Opportunities, Threats method is going to be used every two years to evaluate projects. Also, it mentions that researchers from universities and other institutions have been invited to provide input for improved project management. Also, it is assured that lessons learned will be presented to the various audiences that will be invited. (Otterstrom et al., n.d)

Climate section

CL1. Net Positive Climate Impacts. The project intends to benefit climate by decreasing the atmospheric greenhouse gases through the restoration of tropical forests. It is expected that over 40 years near 170,000 tCO₂e will be sequestered. It is considered

that the project helps to mitigate climate change impacts by reversing deforestation trends and by improving watershed and wetland protection. Non-permanence is addressed in this section by mentioning facts such as the creation of private reserves that will be registered with the Nicaraguan ministry of Environment, having a binding contract with landowners, and providing financial and other in-kind incentives in order to enable reforestation. Finally, permanence issue is also supported by the statement: *“All landowners participation in this project appreciate and value biodiversity and carbon stocks found in forests. However, non have the technical expertise to implement a native forest restoration”* (Otterstrom et al., n.d)

CL2. Offsite Climate Impacts (‘Leakage’). The text under this criterion mentions two potential negative leakages: shifting of cattle ranches elsewhere, and increasing greenhouse gases emission due to transport for eco-tourism and reforestation activities. The former is going to be mitigated by withholding 20% of the carbon from the market, for the latter, emissions were calculated and subtracted in the net benefit estimations. Additionally two possible positive leakages are mentioned: increasing tree planting and increasing biomass in existent degraded forests (Otterstrom et al., n.d)

CL3. Climate Impact Monitoring. The document describes a monitoring plan for tracking carbon sequestration that will be performed every five years. (Otterstrom et al., n.d)

CL4. Adapting to climate (optional). The document mentions the likely impacts of climate change and climate variability in forest plantations. It is stated that by reversing deforestation the ecosystem will be improved and then become more resilient to climate variability and climate change (Otterstrom et al., n.d)

CL5. Carbon Benefits Withheld from Regulatory Markets (optional). According to the document, all the credits generated are going to be sold in the unregulated voluntary market, and 20% of these credits are going to be withheld from sale in the voluntary market.

Community section

CM1. Net Positive Community Impacts The document affirms that community benefits of Return to Forest project cannot be seen in isolation from other Paso Pacifico activities that seek to promote sustainable livelihoods in local communities. To have a detailed projection of the net community benefits, reference is made to a supporting study. However, this section presents a summary table with indicators such as income, access to services (water, electricity, education, etc), and food security. Participation is referred in this section as a matter of meetings, consultations and agreements in which landowners, community members, and governments have been involved. (Otterstrom et al., n.d)

CM2. Offsite Stakeholder Impacts. The text under this criterion describes the potential impacts on communities, concluding that the net balance is positive. The impacts mentioned are: loss of previous job opportunities, which will be mitigated through training and new job creation; and change in culture due to increased tourism and research visitors, which will bring more job opportunities. (Otterstrom et al., n.d)

CM3. Community Impact Monitoring. Under this criterion a table with the ‘livelihood factors’, the indicators, and the frequency to be monitored is given. The variables considered are: education, health, economic, demographics and well being. (Otterstrom et al., n.d).

CM4. Capacity Building (optional). To achieve this criterion, the text describes the training characteristics that the project will include. It illustrates how training will accommodate the need of communities, will be targeted to a wide audience and to women, and will increase community participation (Otterstrom et al., n.d).

CM5. Best Practices in community Involvement (optional). To prove the fulfilment of this criterion, the document affirms that reforestation and plantation management are consistent with agricultural culture; hence it is compatible with local customs. In addition it is said that community members fulfilled reforestation job positions and all the contracts were made according to the Nicaraguan labour law. (Otterstrom et al., n.d).

Biodiversity section

B1. Net Positive Biodiversity Impacts In the document, the major identified threats to the biodiversity are habitat fragmentation and degradation. The project is said to contribute to reducing these threats by reversing habitat degradation. Besides, the project implementation will contribute to improve soil and water resources. *“The RTF project is an important step towards reducing this threat to biodiversity because it will reverse habitat degradation at reforestation sites, and slow degradation in neighbouring areas. New private protected areas will be established at reforestation sites. Thus, this project will significantly increase the area of land in western Nicaragua under protection.”* (Otterstrom et al., n.d, p. 82)

B2. Offsite Biodiversity Impacts. The potential negative impacts identified in this document are increase in garbage production due to increase in consumption patterns, and wildlife hunting shifted to another area. To mitigate these impacts, the project will establish an education and recycling program, and will provide alternatives to hunting. (Otterstrom et al., n.d)

B3. Biodiversity Impact Monitoring. The text under this criterion describes the monitoring plan to track biodiversity and water quality.

B4. Native Species Use (optional). The document affirms that only native species are going to be used in the project (Otterstrom et al., n.d).

B5. Water and Soil Resource Enhancement (optional). To achieve this criterion, the document illustrates how restoring native ecosystems will contribute to improving specific soil and water characteristics.

Return to forest project discourse analysis

The problem described in this project consists of assuming climate change as a risk for societies in general and for poor communities and threatened ecosystems in particular. Therefore, the project proposes the solution of restoring ecosystems and increasing the

sustainability of local communities in order to strengthen their capacity to respond or to adapt to climate change

In this document, two of the project goals which are related to the expert-based decision-making oriented sub-discourse because they involve expert research to determine greenhouse gases and threats to ecosystems are: greenhouse gases reduction through the restoration of the tropical forest, and the conservation of threatened forest ecosystems. The expert-oriented sub-discourse is evident in the baseline projection specifically about carbon stocks and biodiversity predictions. In the climate section, the monitoring and expert knowledge that will set the basis for decisions on project management is an indication of this discourse. Other facts that illustrate the presence of this discourse are the insinuation about the lack of technical knowledge to conserve forests, and the inclusion of the experts' opinions to improve management quality. Most of the conceptualizations in the biodiversity section refer to experts' knowledge to understand and manage habitat degradation and deforestation in order to restore habitat. Some of the tools used to underpin these arguments are the red lists of endangered species, the monitoring of those species and the analysis of habitat fragmentation.

The market-oriented sub-discourse is reflected in one of the project goals where income comes from the payment for environmental services and for reforestation activities. Likewise, the section about adaptive management for sustainability mentions how funds are raised from environmental services payments and other economic alternatives used to prove that the project is financially sustainable. Private land ownership suggests the market-oriented sub-discourse since it illustrates the autonomy of landowners to decide over land use. This argument is also employed in the legal status section where it mentions that the only formal approval required is between the landowners and the implementing organization. In this sense private agreements operate as land-use and natural resource management regulators. Permanence and additionality issues are addressed by this project following the market-oriented sub-discourse and are seen as the private binding contracts to preserve the forest and to keep the financial support brought by such initiative. One of the leakage effects described in the document is associated with market dynamics; this defends the idea that market demand elsewhere could contribute to project leakage. In the same order of ideas, a buffer risk conceptualization makes part of the solution to stop this and other kinds of leakage that have been identified. The option of withholding a percentage out of the credits reflects the market-oriented sub-discourse in this project, as well as in the CCB standards and in the previously mentioned projects.

The participatory-oriented sub-discourse is present in this document where the main activities are being defined, i.e. 'stakeholder relations strengthen' and 'working with community members'. However, this last point does not clearly state the participatory process. Although participation is not mentioned in the adaptive management criterion, the participatory-oriented discourse is evident in the flexibility of the story-line or in the possibility of adjusting the project to the lessons learned; this will become one of the conditions to measure success. In this sense, the criterion of knowledge dissemination addresses this concept of incorporating the lessons learned. In the section about the community, the participatory-oriented sub-discourse is evident in most of the criteria, for instance in the description of grievance and conflict resolution mechanisms. In the

capacity building and community involving criteria which aim to promote and implement community participation, the consultation processes and involvement in the project through generating jobs are emphasized.

Finally, the poverty-alleviation-oriented sub-discourse is present in some of the community criteria in the form of jobs offered to local communities to increase their income, and some of the indicators defined for community identification and monitoring are related with economic wellbeing. In the biodiversity section, the poverty-alleviation oriented sub-discourse refers to natural resource pressure due to consumer patterns as it is mentioned in the offsite potentially negative impacts. In this case, it is conceptualized as a problem which solution lays in education and in the implementation of programs such as recycling in order to reduce such pressures.

In short, the *expert-based decision-making oriented* sub-discourse in this project is prevalent and it is used as a way of providing the knowledge necessary to achieve better management and to decide over natural resource management on private lands. The *market-oriented* sub-discourse is important in the conception of this project since it is present in one of these goals and will directly benefit landowners through payment received from environmental services. Also it is present in the concept of privatization which will grant individuals with the power to decide over their natural resources. To a certain extent, the *participatory-oriented* and *poverty-alleviation-oriented* sub-discourses overlap and reinforce each other due to economic benefits brought from job generation. Job generation is presented as a way of building capacity and involving the community while contributing to poverty reduction. However, the *participatory-oriented* sub-discourse is also evident in other aspects such as the incorporation of learned lessons, the involvement of local community and conflict resolution mechanisms; and the *poverty-alleviation-oriented* sub-discourse is also present in the form of unsustainable development exerting pressure on natural resources.

6.4 Restoring a Legacy at Red River National Wildlife Refuge.

This project involves ecosystem restoration in the Red River National Wildlife refuge in the state of Louisiana, United States. In total 1,182 acres of private agricultural land within the boundary of the refuge will be purchased. The intention is to restore these lands to their native bottomland hardwood forest habitat and then add it to the Refuge for long-term protection and stewardship. The project will be carried out by a partnership between the US Fish and Wildlife Service and The Conservation Fund's Go Zero® Program. Besides, the company Environmental Synergy Inc. will participate in the project formulation by providing afforestation and carbon quantification. Scientific Certification Systems, Inc., rated this project 'Gold'. To obtain this status, all the optional criteria were achieved.

G.1. Original conditions in the project area. The text under this criterion starts by describing the location and the legal status (National Wildlife Refuge) of the area. The climate, geology, topography, soils, and hydrology, and vegetation are also described. Regarding carbon stocks, the document states: "*The global climate change benefits of*

reforestation projects are widely recognized. Land use change—especially deforestation—is a significant component of increasing atmospheric CO₂ levels and a cause of global warming.⁸ Thus, restoring forestland represents a natural way to reduce these effects and combat climate change” (Anonymous, n.d, p. 13). To estimate the carbon sequestration rates for the project, a model based on the IPCC guidelines will be used. This section describes the communities in terms of the population density, education level, and household income. The communities in the area are referred to be among the poorest in the United States: “the median household income for Natchitoches was \$25,722.¹² The average median household income for Louisiana in 2000 was \$32,566;¹³ the median for the United States was \$41,994.¹⁴ In 2004, the median household income in Natchitoches Parish was \$28,309 and the median household income in Louisiana was \$35,216.¹⁵ The median household income for the United States in 2004 was \$44,334.¹⁶ Overall, Louisiana generally ranks among the poorest states in the nation” (Anonymous, n.d, p. 14). In addition, this section describes the current land use and land tenure at the project site, and the current biodiversity, including the IUCN Red List Threatened Species.

G2. Baseline Projections. The text under this section describes the likely land use without the project, stating that agriculture, commercial, or residential uses would be possible in the area. Consequently the carbon stocks without the project would not change significantly for the case of agriculture, or would increase for the case of the other two potential uses. According to the document, the land would most likely remain in private ownership, as it was before the project. Regarding biodiversity, the text speaks about potential adverse impacts on biodiversity, due to the probable land use scenarios. Similarly, water and soil would be potentially negatively affected (Anonymous, n.d).

G3. Project Design and Goals. According to the document, the three primary goals of the project are: “[d]ecrease the effects of climate change via carbon sequestration; [r]estore Louisiana’s bottomland hardwood forest and wetland ecosystems; [and c]reate long-term community benefits in the form of recreational lands under the management of USFWS – hunting, fishing, wildlife photography, wildlife observation, environmental education and environmental interpretation” (Anonymous, n.d, p. 18). Accordingly, the major activities of the project are mentioned. These are: contributing to the ongoing monitoring research, carbon stocks estimations, site preparation and planting, and project monitoring and verification. In addition, a project timeframe of 100 years is mentioned. This section also includes the identified risks to climate, community, and biodiversity benefits, stating that “trees are planted in protected areas that have long-term management plans to ensure accuracy and certainty of carbon sequestration” (Anonymous, n.d, p. 21). Stakeholders are defined and identified. Those are: the Conservation Fund, The Conservation fund donors, The US Fish and Wildlife Service, ESI/ESI Contractors, the previous landowner, and Friends of the Red River National Wildlife Refuge, representing local community. Finally, the process transparency is supported by a period of public comment and project information availability.

G4. Management Capacity. The management team and their functions are described under this section. The United States Fish and Wildlife Service will be in charge of the Refuge management. The Conservation Fund shares the management responsibility of

the project. And ESI will provide the planting and monitoring services for this project (Anonymous, n.d).

G5. Land Tenure. According to the document, the land was acquired from one private land owner, who sold the land voluntarily (Anonymous, n.d).

G6. Legal Status. This section describes the legal framework that supports the reserve, established by federal laws. In addition, the document affirms that the labour laws were considered in the project design (Anonymous, n.d).

G7. Adaptive Management for Sustainability (optional). To demonstrate this optional criterion, four points are developed: the generation of reliable feedback to improve project outcomes; the production of annual reports and the maintenance of a database with all the information to document decisions; the design of the project being able to adapt to changes in order to ensure project flexibility; and the commitment with long-term sustainability (Anonymous, n.d).

G8. Knowledge Dissemination. As part of this criterion, the document elaborates on the documentation of project lessons learned through the website, and the dissemination of information. According to the document, knowledge dissemination will be done in workshops of the United States Fish and Wildlife Service's Climate Change Strategic Plan, and by publishing the project's results (Anonymous, n.d).

Climate section

CL1. Net Positive Climate Impacts. According to the document, the project aims to sequester 259 metric tons of carbon dioxide equivalent per acre at year 50, and 328 metric tons equivalent per acre at year 100. These estimations were based in a model developed by the consulting organization, based on the IPCC guidelines. To support the model, the document expresses: *"In 2007, ESI led an extensive research effort to build upon earlier predictive models of carbon sequestration in this region. The 2007 initiative involved a consortium of leaders in forest science and carbon project development, drawing on expertise from representatives of ESI, Winrock, The Nature Conservancy, the Yale School of Forestry and Environmental Studies, the USDA Forest Service Center for Bottomland Hardwoods Research in Stoneville, Mississippi and the U.S. Geological Survey."* (Anonymous, n.d, p. 31)

CL2. Offsite Climate Impacts ('Leakage'). According to the document, leakage caused by this project is not a major concern, because there is not much remaining native forest to be replaced by agriculture, and the farmers in the area are willing to take their land out of agricultural production (Anonymous, n.d).

CL3. Climate Impact Monitoring. The text under this section describes how the monitoring is going to be implemented. It states that monitoring plan belongs to a bigger initiative: *"The monitoring plan that governs the Red River Restoration Initiative was developed in 2001 by Winrock for ESI with the objective of establishing a scientific basis for measuring carbon stock changes over time on reforestation sites with similar*

characteristics in the Lower Mississippi Alluvial Valley (“LMAV”)” (Anonymous, n.d, p. 35).

CL4. Adapting to climate (optional). This section starts by explaining the anticipated change in temperature in the area, supported by scientific publications; and it also speaks about some climatic events such as El Niño and hurricanes in a regional scale. Then, the measures to anticipate climate change impacts are presented. One of the arguments given is the use of native species, with the ability of better adapting to the area, also the fact of reversion of deforestation rate is mentioned (Anonymous, n.d).

CL5. Carbon Benefits Withheld from Regulatory Markets (optional). All of the carbon benefits generated by the Red River Restoration Initiative will be withheld from regulated GHG markets and will be retired upon their sale (Anonymous, n.d).

Community section

CM1. Net Positive Community Impacts According to the document, the community impacts on communities are based on the fact that *“The Go Zero Tract, which was previously private farmland with no public recreation value, can now be enjoyed by the entire public and especially residents in the surrounding communities of northern Louisiana. The Tract will provide numerous recreational opportunities to local residents, including hunting, fishing, wildlife photography and observation, environmental education and interpretation.”* (reference, P 41). Activities such as hiking, bird watching, photography and hunting are expected to increase fitness, health and wellbeing amongst community members (Anonymous, n.d). In addition, the project is expected to have a positive impact on the economy of neighbouring communities. The stakeholder participation in the project is supported by the fact that community residents are integral members of the Go Zero project team. Also, community members were given the opportunity to express their opinions on the restoration project through the CCBA web site and the Fund’s web site, and other channels as the Red River NWR visitor center. In addition, this section includes a description of the procedures for conflict and grievance resolution (Anonymous, n.d).

CM2. Offsite Stakeholder Impacts. According to the document, no negative offset impacts are expected because the farmer who sold the land to the project is moving to another farmland already in his possession, and no jobs will be lost due to the land-use change (Anonymous, n.d).

CM3. Community Impact Monitoring. The text under this section describes the monitoring of community benefits, which will be focused on the community use of the ‘Go Zero Tract’. The surveys to register community benefits will be held every five years (Anonymous, n.d).

CM4. Capacity Building (optional). According to the document, *“the project will increase knowledge transfer across the public and private sectors regarding the science of carbon sequestration”* (Anonymous, n.d, p. 48). In addition, the text affirms that information related to the project is available for all public, without particular preference

for elites; and it mentions the inclusion of women as members of the team (Anonymous, n.d).

CM5. Best Practices in Community Involvement. In order to demonstrate this criterion, the document mentions that the project was developed with strong knowledge of local customs. It explains that local inhabitants are enthusiastic about hunting, fishing and outdoor activities. Furthermore, worker rights and worker safety issues are addressed under this section (Anonymous, n.d).

Biodiversity section

B1. Net Positive Biodiversity Impacts. The text under this criterion mentions that restoring the bottomland hardwood forest will be significantly positive, since “*Red River NWR is an especially important area for many bird species, including migratory. However, the agricultural lands that existed on the GO Zero Tract before the land was restored did not –and could not–support a large variety on birdlife*” (Anonymous, n.d, p. 52). According to the document, without the project, the land would remain in agricultural production, or would become commercial or residential, which could have adverse impacts on biodiversity. In addition, the documents refer to a loss of threatened species and confirms that no exotic species and no genetically modified organisms are going to be used.

B2. Offsite Biodiversity Impacts. According to the document, the project will only cause positive effects on biodiversity within and outside the project area (Anonymous, n.d).

B3. Biodiversity Impact Monitoring. The text under this section affirms that biodiversity monitoring is already taking place, and annual reports are being produced. In addition, every five years surveys of richness in bird species will be carried out (Anonymous, n.d).

B4. Native Species Use (optional). The text under this criterion confirms that trees planted will be native (Anonymous, n.d).

B5. Water and Soil Resource Enhancement (optional). According to the document, water and soil will benefit due to the cessation of agriculture. Some of the identified benefits on those resources are improvement of water and soil quality, reduction of erosion, improvement of flood control (Anonymous, n.d).

Red River project discourse analysis

In the project formulation document, the contribution of deforestation to climate change is emphasized, and particularly in this region where agriculture is the main responsible for forest loss. This project is said to contribute to the problem’s solution by selling voluntary carbon offsets to obtain funds that will be used to restore the ecosystem in a reservation area. According to the document, restoring these lands will make water and air cleaner and biodiversity will be restored for wildlife and people (Anonymous, n.d).

The expert-based decision-making-oriented sub-discourse is implied when speaking about the widely held recognition of atmospheric carbon dioxide increment due to deforestation; subsequently, forest restoration is presented as a way to fight this. In order to prevent environmental risks, natural resources should be better managed. In this project this kind of management is supported by expert estimations. In that sense, carbon emissions are a point of reference for similar land-use scenarios and for environmental risks towards biodiversity, water and soil. In addition, two out of the three objectives are dedicated to reducing carbon dioxide or restoring the ecosystem, and the principal activities are mainly set to monitoring and evaluating carbon stocks. The expert-oriented discourse is also present in the management capacity criterion; the organizations involved are described, and their experience in this kind of projects and in natural resource management is highlighted. Finally, the expert-oriented sub-discourse is prevalent in the sections on climate and biodiversity where deforestation and forest management are explained in terms of carbon emissions and carbon contents, and special emphasis is made on endangered species.

The participatory-oriented sub-discourse is present in the general section and the section about the community. In the former the transparency concept is addressed as a way of observing national policies and the information available on the CCB Alliance's website and on the location where the project will take place. In the section about the community, participation is related to education with the community residents as part of the project team and the different stakeholders as collaborators in the design and decision-making process. In addition, it is said that the comments made by the community on the project were taken into consideration in the project design. It is important to note that most of the benefits for the community mentioned in this project refer to access to recreational services.

The poverty-alleviation-oriented sub-discourse is explicit in this project. Here the economic aspect is emphasized when the community is being described, and the community is presented as one of the poorest in the United States. In the section about the community, one of the benefits identified is the contribution of the project to the neighboring communities' economy due to the income obtained from recreational activities promoted by the project and the direct short-term employment opportunities. The poverty-alleviation-oriented sub-discourse is also present in the biodiversity section when it refers to habitat degradation caused by agriculture development, implying pressure on natural resources due to unsustainable development practices story-line.

Finally, the market-oriented sub-discourse is almost absent in this project, except for the optional criteria of withholding carbon credits from regulated market as mentioned earlier. This implies a market auto-regulation ability that influences natural resource management.

In short, the *expert-based decision-making oriented* sub-discourse could be considered prevailing in this project. Science will provide the necessary information for the adequate estimation and management of carbon dioxide (and other gases) found in the atmosphere. Biodiversity and climate will benefit from an adequate expert-oriented management. On the other hand, communities will benefit from the project by being offered the

opportunity of using the forest for their own enjoyment and the performance of recreational activities. The *participatory-oriented* sub-discourse is referred to as the community involvement in decision-making since some of the stakeholders are part of the project team. The *poverty-alleviation-oriented* discourse refers mainly to job generation, indirect economic benefits for the neighboring communities, and unsustainable pressure on natural resources. Interestingly, the *market-oriented* sub-discourse is not explicitly present in the document, although the idea of getting economic benefits from environmental services is part of this discourse.

6.5 Project Climate Apley

Project Climate is an afforestation project that plans to cultivate 9.06 hectares with native species in Lincolnshire, UK. The implementing organization is a company named Land & Capital Group (L&CL), which aims to generate voluntary carbon offsetting from this project. Rainforest Alliance certified the project, ranking it 'Gold'. For that, this project achieved all the optional criteria, except from CM5-Best practices in community involvement.

In the introduction, the document makes reference to the Kyoto protocol, the voluntary carbon markets, and some United Kingdom Government's initiatives that support climate change mitigation. Marketing carbon credits produced in the United Kingdom is presented as the best alternative to mitigate climate change in that country. This affirmation is based on the following arguments: "*There has been an increasing degree of negative publicity recently surrounding overseas projects, particularly in the developing world (...). UK customers will find a native project more attractive because of:* • *Increased transparency and integrity. (They can physically visit the project and it is developed under the scrutiny of UK legislation)* • *The benefits to local UK amenities, community, biodiversity and landscape* • *Costs of measures to reduce UK GHG emissions being borne by UK consumers, in the UK, so avoiding Carbon Colonialism*" (Anonymous, 2007a, p. 5).

G.1. Original conditions in the project area. The text under this section briefly describes the current conditions of the area, and specifies that lands are going to generate carbon credits. It indicates that various studies were performed to prove land eligibility in terms of legal, environmental and socio economic aspects (Anonymous, 2007a).

G2. Baseline Projections This section describes the 9.5 hectares to be planted as 'intensively farmed arable lands', which are likely to continue if the project does not take place. It presents the economical and environmental implication of this current scenario. In addition, it affirms that the without project scenario would have little economical impact on local communities, arguing the reduced size of the area; and it would have neutral or negative impact on water and soil (Anonymous, 2007a).

G3. Project Design and Goals. The text under this criterion states that the primary goal is "*to develop carbon credits for UK businesses and individuals who wish to "voluntarily" offset their GHG emissions*" (Anonymous, 2007a, p. 8). Next, the

objectives are presented: “ 1. Reduce GHG emissions and capture carbon to help mitigate the effects CO2 on climate change. 2. Develop community benefits through creating amenable forest in an area of historical and conservational significance. 3. Create and increase the biodiversity of indigenous and semi-indigenous species within an area of historic biodiversity, in an increasingly urbanised, developed country.” (Anonymous, 2007a, p. 8).

G4. Management Capacity. The company is introduced here, as well as the management team. It concludes by saying: “*The L&CL group therefore has the necessary farming, technical, ecological, scientific, commercial, legal and financial expertise to manage this Project. Any additional expertise or advice will be sought from the commercial market or academic organisations.*” (Anonymous, 2007a, p. 11)

G5. Land Tenure. It is stated that the implementing company owns the land. In addition, the disadvantages of overseas projects are used to highlight the strength of this project in terms of permanence: “*Most LULUCF [Land Use, Land Use Change and Forestry] projects are located overseas and lease their project site, which limits the project manager’s ability to make long term commitments or to react to changing circumstances that were not envisaged when the lease was originally signed. Permanence can be a problem for projects structured in this manner. However, permanence is a significant strength of the Apley project.*” (Anonymous, 2007a, p. 11)

G6. Legal Status. This section indicates that the intended activities are in conformance with the United Kingdom’s laws and regulations. In addition, the document states that an Environmental Impact Assessment is going to be performed (Anonymous, 2007a)

G7. Adaptative Management for Sustainability (optional). The text under this criterion starts by saying: “*The PC business plan envisages that many UK residents will more readily contribute and appreciate a carbon offset project based in the UK. It is hoped they will value its transparency, closer regulation and the local amenity and aesthetics provided by the resulting woodland.*” (Anonymous, 2007a, p. 13). The document supports this statement by the fact that the annual directors’ report will contain comments on trading and business activities, together with a review of the project progress; this report will be public. In addition, a consultant ecologist will annually inspect the project site.

G8. Knowledge Dissemination. For achieving this criterion the project proponents explain that a website is available. This website will contain information about the carbon credits marketing, flora, fauna and soil surveys, matters of general interest, etcetera (Anonymous, 2007a).

Climate section

CL1. Net Positive Climate Impacts. This section makes reference to the IPCC to estimate greenhouse gases emission or reduction. According to the estimations, in one hundred years, the project will sequester 23.058 Tons of carbon dioxide equivalent. This is compared with the 5.805 tons that will be emitted in the ‘without project’ scenario’ (Anonymous, 2007a).

CL2. Offsite Climate Impacts ('Leakage') Under this criterion the document states that the project will not cause a corresponding reduction in tree planting elsewhere, and the agricultural production will not be compensated either. To avoid the possible leakage due to transport to the area, the project will involve nearby stakeholders, such as conservation groups, schools or neighbour farms, to supply labour. Also, pictures of the plantation will be placed on the website to avoid visits from the credit purchasers (Anonymous, 2007a).

CL3. Climate Impact Monitoring Arguing the high costs of carbon-monitoring plans, the project states that visual monitoring will take place annually. Every lost tree will be replaced. In addition, carbon pools will be assessed every five years (Anonymous, 2007a).

CL4. Adapting to climate (optional). To accomplish this criterion the project mentions the global warming risks. One of these is the death of the trees that are unable to adapt to the temperature variation. To deal with this threat, the project affirms that this is unlikely to happen in their plantation due to climate conditions and species characteristics; however, all dead trees will be replaced (Anonymous, 2007a).

CL5. Carbon Benefits Withheld from Regulatory Markets (optional). The document states that all the credits are going to be sold in the unregulated carbon market. However, 10% is going to be withheld, in case that in the future, credits are sold in the 'regulated voluntary or certified market' (Anonymous, 2007a).

Community section

CM1. Net Positive Community Impacts. The document defines the local community as "*anyone who may wish to visit the woodland for a walk, nature visit, picnic or day trip*" (Anonymous, 2007a, p. 18). Due to the fact that no one lives on the project site it is argued that there are no possible negative community impacts on local community or economy. Therefore, the positive community impacts are said to be the significant social amenity to the local community visiting the lands (Anonymous, 2007a).

CM2. Offsite Stakeholder Impacts. According to the project, stopping farming may have an initial negative economic impact, but it may be outweighed by additional employment opportunities and the economic activities after the initial phase of the project. (Anonymous, 2007a)

CM3. Community Impact Monitoring. Attributed to the size of the project and the high costs of monitoring plans, the project affirms that community impacts monitoring will consist of documenting records of project employees and visitor numbers (Anonymous, 2007a)

CM4. Capacity Building (optional). To achieve this optional criterion, the project affirms that involving local schools in monitoring will be considered. Additionally, it is stated that gender equity is guaranteed because of the location of the project in a developed country.

CM5. Best Practices in Community Involvement (optional). To achieve this criterion, disadvantages of projects in developing countries are mentioned: *“Due to the nature of CDM projects, most are delivered in developing or third world countries, with expertise and finance from outside the indigenous culture. Developers attempt to assimilate and accommodate local politics, ethics and customs. As UK natives, the PC management team is developing a project within its own culture. Therefore our ethical, moral and business practises match that of the community affected by the project.* (Anonymous, 2007a, p. 20). In addition, the indirect employment opportunity is mentioned to argue community involvement; and the high degree of United Kingdom’s workers protection to argue workers rights. It is important to mention that this criterion was not achieved according to the validation report (Jeffreys and Hellier, 2008).

Biodiversity section

B1. Net Positive Biodiversity Impacts Agriculture and land use change is attributed to the biodiversity problem in the project area. Besides, the use of herbicides, pesticides and fertilizers are said to be contributing to the decrease of flora and insect biodiversity. It is stated that the baseline biodiversity of the project area is very low; therefore, the positive impacts on biodiversity are guaranteed: *“The Project plan is based on reforesting the area using native species of broad leaved trees and providing an environment for fauna and flora to flourish (...) It is clearly apparent that there are huge net positive biodiversity impacts arising from this Project without conducting any form of monitoring. The adjacent ancient woodlands (Hardy Gang Wood) provide an existing wildlife haven. Flora and fauna will migrate naturally onto the Project site.”* (Anonymous, 2007a, p. 21)

B2. Offsite Biodiversity Impacts. According to the document, no offsite negative impacts on the biodiversity are caused by the project. Additionally, no exotic species are going to be used. (Anonymous, 2007a)

B3. Biodiversity Impact Monitoring. To fulfil this requirement the monitoring plan proposed by the project is an annual visit to assess biodiversity. If an unforeseen negative impact is identified, a stronger monitoring plan will be designed (Anonymous, 2007a).

B4. Native Species Use (optional). Under this criterion, the texts mentions the species that are going to be planted, emphasizing the fact that they are native (Anonymous, 2007a)

B5. Water and Soil Resource Enhancement (optional). Two positive impacts on water and soils are mentioned to support this criterion: stopping nitrate contamination of water, enhancing soil fertility, and improving the structure of soil. (Anonymous, 2007a)

Project Climate Apley discourse analysis

This project addresses climate change mitigation as a problem to be solved by planting trees. Marketing carbon credits is the proposed mechanism to make the project happen. By planting native trees biodiversity, soil and water will benefit from the project. The community will benefit as well since it will be given a place to enjoy nature.

In most of the indicators, the expert-based decision-making-oriented sub-discourse was evident by the credit given to scientific data to define the limits in greenhouse gases calculations, and also to support biodiversity improvement. The IPCC reports and guidelines were used along the document to support affirmations about climate change risk and biodiversity conservation. In fact, the main argument underpinning land-use change from agriculture to forestry is based on climate change risks. Additionally, the document refers to reports carried out by a consultancy agency to base the estimations for climate, community and biodiversity. The expert-based decision-making-oriented sub-discourse is prevalent in all the sections of the Standards except the one about the community where the participatory-oriented sub-discourse is more extended, but I will come to this point later.

The market-oriented sub-discourse is more extended in the introduction where the concept of the project is formulated. As mentioned before, carbon credit marketing is presented as an essential condition for this mitigation strategy to succeed. In fact, the document is formulated in some parts as a business plan, written to sound credible and persuade investors. This is evident for instance in the management capacity criteria where texts strengthen the credibility of the implementing company by arguing its technical, ecological, scientific, commercial, legal and financial expertise to manage the project. The document highlights the risks and disadvantages of investing in a third world country project.

Interestingly, the critical-oriented sub-discourse is present in this document (a detailed description of this sub-discourse will be presented at the end of this chapter). However, it is used to demonstrate the advantages of implementing the project in a developed country. Hence, most of the story-lines referring to the radical version of Civic Environmentalism (see chapter 4) are used to show why it is difficult to invest in a third world country project –carbon colonization, lack of equity, risk of permanence, etcetera. Transparency is guaranteed in this project by making public annual progress reports and by implementing the project in the same country in which the credits will be sold. In that way, consumers have the possibility to go to the location.

The participatory-oriented sub-discourse is seldom evident in the text. Participation here is referred to the possible inclusion of community groups to perform some activities. Equity is assured by the fact that the project takes place in a country where this is a given, and transparency is addressed as the access of credit purchasers to the plantation since it takes place in the same country.

As a conclusion, the *expert-based decision-making-oriented* discourse, and the *market-oriented* discourse are prevalent in the formulation of this project. In a general way, this project differs from the CCB standards in that the emphasis on the *participatory-oriented* sub-discourse is not that prevalent in this project. The *participatory-oriented* sub-discourse is not very evident in the documents and it sometimes overlaps the *critical-oriented* discourse, for example in concepts such as transparency and equity which could be participatory story-lines. However and at the same time, the project's location is presented as an advantage in opposition to projects located in the developing world.

6.6 CO₂OOL-USA/Futuro Forestal Native Species Reforestation

This project is an afforestation-reforestation project. It will be carried out in private rural lands of Panama. Beside the carbon credits generation, commercialization of the wood is also intended in part of the areas reforested. The area to plant up to the year 2005 was 570 ha, the plantations were catalogued as Teak (*Tectona grandis*) plantations, native species, riparian forests and protection forests. The project proponents are CO₂OOL-USA and Futuro Forestal. The credits generated will target both the regulatory and voluntary markets (Anonymous, 2008a). Rainforest Alliance ranked this project ‘Gold’ after evaluation. According to the Rainforest Alliance’s Verification Report, two of the optional criteria were not achieved: ‘CM5. Best Practices in Community Involvement’, and ‘B4. Native Species Use’. This document presents a different structure than the previous described projects. The description will follow the document’s structure, although it does not make reference to CCB indicators, for this is the available document on the CCB’ Website

A. Project description, type, location and schedule

General description. The text under this section explains the aim of the project: “[o]ur aim is to integrate our carbon mitigation reduction activities into a broader institutional framework and seek enduring mechanisms for marketing tCERs to individual, corporate and institutional clients.” (Anonymous, 2008a, p. 1). Subsequently, the three components that form the project are given. In short, sustainable timber plantations, through reforestation for protection and extraction, and through protection of existing secondary forest due to their ‘ecological values and state of development’ are the named ways to mitigate and reduce carbon emission and mitigate climate change. This section also explains the additionality concept related to this project, naming economical, technological and financial barriers preventing this project from happening; for instance the text expresses: “*This project would not be undertaken without the additional revenue expected from the sale of ecosystems services, specifically carbon credits as tCERs.*” (Anonymous, 2008a, p. 2). The text under this section describes three main objectives –to be economically profitable, to generate ecological benefits, and to have a social positive impact. (Anonymous, 2008a)

Proponent submitting the project. The text under this section mentions the companies developing the project, and their function, and gives a summary of the relevant experience. According to the document, the company has vast experience in this kind of projects, and has developed and implemented methodologies for measuring and monitoring carbon dioxide in land-based projects. The text states: “*CO₂OOL-USA has been providing carbon sequestration, carbon credit auditing, accounting, sales and brokerage services to its international clients for over eight years.*” (Anonymous, 2008a, p. 3)

Type of project. This section affirms that carbon dioxide is the targeted greenhouse gas, and the project will consist of sequestration and conservation activities (Anonymous, 2008a).

Location of the project. The text under this section gives location data, such as country, nearest city and coordinates (Anonymous, 2008a).

Expected schedule. This section presents the project start date, and time of the expected credits. Also, it mentions the phase in which the project is at the moment of writing the document and the position of the host country on CDM projects: *“The Host Country encourages actively A/R CDM project activities. The Designated National Authorities (DNA) – ANAM – are strongly committed to make Panama a favourable host for the development of A/R CDM projects”* (Anonymous, 2008a, p. 6) .

B. Expected environmental and social benefits and risks.

Environmental benefits and risks In order to describe the most likely scenario in absence of the project this section explains the land use change dynamic, explaining how slash and burn techniques have been used to convert most of the land from forest to grasslands. Subsequently, the negative environmental impacts of extensive cattle ranching are presented: *“[t]he negative environmental impacts of extensive cattle ranching are well-known (deforestation, soil compaction, erosion, prevention of natural vegetation re-growth). All together, such impacts are known to directly contribute to decreasing soil productivity and soil regeneration capacity, which limit future land use options.”* (Anonymous, 2008a, p. 8). The section concludes by confirming that cattle ranching may be the most likely land use, if the project does not take place.

This section also includes the estimation of carbon sequestered or conserved, which is 40.110 ton of carbon dioxide equivalent ‘up to the moment’, 325,977 available in the year 2012, and 881,370 available in 2017. After that, the ‘leakage’ concept related to this project is elaborated, concluding that it is unlikely that the project generates leakage due to displacing cattle ranging or due to shift in wood collection (Anonymous, 2008a). This section finalizes by outlining the local environmental benefits, some of which are: the contribution to restoring habitats and enhancing local biodiversity, the creation of diverse habitats by employing native species, the regulation of hydrological regimes and the reduction of fluvial erosion, among others.

Socioeconomic benefits and risks. This section enumerates the benefits that the project will bring to communities. It compares the high employment rate offered by the project in comparison with a cattle ranching employment. According to the document, the jobs provided will bring economical benefits to marginalized segments of the country, mentioning that the wages will be superior to the country’s minimum wage. Another benefit mentioned is related with the creation of new firewood and non-timber product sources for local livelihoods. Also, this section mentions alliances with international development agencies in order to train workers and promote reforestation. No risks are mentioned under this section; however, the text refers to further documents, in which both benefits and risks are given in more detail.

Native Species Reforestation project discourse analysis

This project identifies problems with land-use dynamics: the forest has been replaced by land inefficiently used by the so-called extensive cattle ranching. By changing this

pattern through tree planting, the project will mitigate climate change and at the same time the community and biodiversity will benefit from it. These benefits will be achievable due to the profit generated by the carbon credits marketing. Forest plantations will contribute to sort this problem out since they are planned to be economically profitable for the project sponsors and for the project proponents; they will generate ecological benefits such as biodiversity improvement, ecosystem connectivity, and habitat regeneration and protection. Besides, the project is also thought to have positive social impacts on local communities and employees.

Before speaking about the discourses identified in this project, it is important to remember that the document available on the CCB website has a different structure from the other projects described. It is absolutely crucial to mention that the criteria and the indicators were not explicitly elaborated. This document consists of a more general description of the project. The detailed information may be present in the annexes or other documents not presented.

The market-orientation sub-discourse is prevalent in the general description of the project. The fact that the project's aim is focused on carbon credit markets gives way to this sub-discourse because most of the activities are then described in terms of improving or supporting this market. For instance, this is evident in the additionality issue which is addressed as a lack of resources needed to undertake this kind of project. Also, one of the objectives is fully dedicated to guaranteeing the project's economic profitability. In addition, this discourse is evident in the document when it describes the implementing company and mentions its experience in commercializing carbon credits.

The poverty-alleviation-oriented sub-discourse is also prevalent in this document, but mainly in the 'expected environmental and social benefits or risks'. It is linked to the environmental and social sections. In these sections, emphasis is made on the detriment of natural resources due to unsustainable economic development. Subsequently, social benefits are focused on generating employment and favoring the economically marginalized population; getting global NGOs in touch with local communities is also suggested in this section.

In some statements the expert-oriented sub-discourse was identified; for instance, when supporting the company's technical experience in developing and implementing carbon-associated methodologies, and when emphasizing the strong support of the Panamanian government to afforestation-reforestation projects, explicitly mentioning the administrative body.

The participatory-oriented sub-discourse may also be present in the general description of the project's components, specifically sustainable timber plantations which management is going to be passed on to the community. However, the document is not very detailed and does not elaborate on that point.

In summary, the *market-oriented* sub-discourse and the *poverty-alleviation-oriented* sub-discourse are similarly widespread in this project. Market orientation is prevalent in the conception of the project, its goals and the presentation of planned activities, and poverty

alleviation primes the presentation and supporting arguments of social and environmental benefits and risks. The *expert-based decision-making-oriented* sub-discourse is definitely present in regard to all carbon estimations, monitoring and leakage, and the arguments related with the administration bodies of the Kyoto Protocol.

6.7 Environmental discourses along CCB projects and story-line identification

As it was mentioned before, considering the discourses previously identified in the debate of multi-benefits climate change mitigation projects (see chapter 4), the main aspects that differentiate each discourse have been used to provide a basis for discourse identification according to the CCB standards and the CCBA website. This section includes the analysis of how this *sub-discourses* are defining and being defined in the projects. At the end, the identified story-lines are outlined (table 3).

1. The market-oriented sub-discourse

This sub-discourse is present in various forms in all the projects. In most projects it is relatively obvious except for the Red River Project which is part of a government protected-area program and in which the benefits of selling carbon are mentioned only a few times. However, all the projects are implicitly embedded in a market strategy of commoditizing environmental services. Additionally, some projects (Return to Forest and Juma) are very specific about paying environmental services to communities as part of the project activities. The Project Climate project presents carbon credit marketing as an essential condition for the project to succeed, and in the Native Species Reforestation project, the focus is on carbon credit markets and most of the activities are then described in terms of improving or supporting this strategy. Therefore, the market-oriented sub-discourse is present in all of the projects at different degrees.

In different ways, the market ability to potentially regulate natural resource management is illustrated in some of the projects. For example, the elaboration of the 'leakage' concept in Ulu Mansen and Return to Forest projects refers to the fact that supply and demand forces could influence land use change. Also, private land tenure rights can act as land use regulators since as it is expressed in the Return to Forest project, the owner has the autonomy to decide over land uses and by signing the contract, the permanence of the project can be granted. As a matter of fact, marketing carbon credits was also presented as a way to achieve deforestation reduction (Ulu Masen and Return to Forest projects) and law enforcement (Juma project) which could also indirectly act as land use regulators. Finally, strategies like withholding the credits from regulated markets or the buffer account creation also define how the market forces can regulate natural resource management since these strategies imply the permanence of the trees planted and the additionality of the project.

Finally, two projects (Juma and Project Climate Apley) show that including communities in monitoring activities could imply a reduction of transaction costs. This kind of conceptualizations belongs to the cost-efficiency story-line of the market-oriented sub-discourse.

2. The expert-based decision-making-oriented sub-discourse

The expert-based decision-making-oriented sub-discourse is present in all the documents and in several criteria. The main assumption of this discourse is that experts will generate information using models, assess biodiversity, inventory vegetation biomass, etc. This information will be used to decide how to better manage natural resources, in the name of environment. In some of the projects, such Juma and Ulu Masen Ecosystem, the prediction models are the base to define possible land-use changes. Another characteristic of how this sub-discourse is evident in most of the projects is that forest carbon content has become a concept to define forest and forest management. As a matter of fact, carbon content should eventually increase and will be the evidence of benefited climate. Also, its monitoring should be performed to ensure this fact.

Most of the conceptualizations in the climate and biodiversity sections refer to expert knowledge for the understanding and the management of habitat degradation and deforestation. The expert-based decision-making-oriented sub-discourse is implied when it informs about the worldwide recognition of carbon dioxide increment in the atmosphere due to deforestation. The IPCC reports and guidelines are used by some documents to support affirmations about the risk of climate change and about biodiversity conservation, like in the Project Climate Apley project. In addition, expertise is highlighted to support a better qualification of the implementing organizations, as in the Red River project. In the Return to Forest project, the lack of technical knowledge is assumed to be a barrier to forest conservation and the opinion of experts are considered to improve forest management quality.

In this sense, law enforcement and control over land use is another key aspect of this sub-discourse. This case is evident in the Juma, the Ulu Masen Ecosystem and the Red River projects which make part of governmental protection programs, and the case of private reservations as in the Project Climate, the Return to Forest and partially in the Native Species Reforestation projects. This discourse can also be associated with law enforcement. The Ulu Masen Ecosystem project illustrates this specific case where control over land-use change is explicitly mentioned, and along the implementation of project the licenses for timber extraction will be reversed, land use will be redefined, and community controlling patrols will be created.

The expert-based decision-making-oriented sub-discourse is also evident in the biodiversity sections of all projects. The biological importance of the species or ecosystems is another definitive aspect of this discourse. Red lists and biodiversity assessments are scientific instruments to support this argument which deals mainly with conservation and deforestation avoidance as a means of protecting endangered habitats. Monitoring here is also a way to indicate that biodiversity benefits are reached all along the project lifetime.

2. The participatory-oriented sub-discourse

In the Civic Environmentalism discourse illustrated by Bäckstrand and Lövbrand (2006) and in the participatory-oriented sub-discourse of the present thesis which derives from

the former, the concept of participation involves the empowerment of the community and their actual participation in decision-making. This is present in all the projects. Participation is addressed in different ways, from people being consulted about the project to people being involved in decision-making processes. Nevertheless, sometimes it was difficult to elucidate whether the concept involved community empowerment, devolution or involvement in decision making. However, in the following paragraphs, the participatory-oriented discourse will be presented to reflect the different views of the documents.

Many projects claim that communities are involved in decision making during the design or implementation of the project, as the Juma, the Ulu Masen Ecosystem, and the Red River projects. Although most of the documents speak about community involvement to some extent, the lack of detailed information often impedes a full understanding of what they exactly mean. For instance, the Native Species Reforestation project affirms that timber plantation management is going to be passed on to the community which could imply devolution of power. In the Juma project, participation is related to education and training in order to devolve power to local communities. Some projects refer to the participation of different stakeholders together with local and national institutions as well as community members who currently are or will eventually be included. Consultation is another way for projects to refer to participatory schemes, for example by mentioning the consultation process, by asking communities to define social indicators (Juma project), or by including community comments in the project design (Red River project)

Transparency is another element related to the participatory-oriented sub-discourse; most of the projects include it since it is part of the CCB standards. In some documents, it is understood as a documentation mechanism of the community participation, for example in the Ulu Masen project. Meanwhile other projects refer to the publication of the project design documents or their results, or the observance of the law as is the case of the Red River project. Grievance and conflict resolution are also indicators originally associated with transparency in the Standards, as well as in many projects, as in the Return to Forest project in Nicaragua. Additionally, the Project Climate addresses transparency as the access of credits purchasers to the plantation since it takes place in the same country where the credits are issued.

Two other concepts that could complement the participatory-oriented sub-discourse are the no-relocation of people from their living area due to project activities and the incorporation of learned lessons. These are mentioned in the CCB standards and in some projects as a way to achieve benefits for the community.

4. The poverty-alleviation-oriented sub-discourse

This sub-discourse is present in all the projects but in the Project Climate project. Not all of them are focused on the poverty alleviation component of this sub-discourse; there are also remarks about natural resource pressure. Compared to other sub-discourses like the expert-based decision-making or the market-oriented, this discourse is not prominently present in the documents. However, one might consider that the poverty-alleviation-oriented sub- discourse is implicitly present due to the fact that these projects are local

solutions to climate change understood as a global problem which is one of the story-lines mentioned by Dryzek (1997).

One of the forms of this sub-discourse is the emphasis on unsustainable development due to the pressure exerted on natural resources. In this sense, the Juma project makes emphasis on the environmental risks of developing new roads, the Ulu Masen project speaks about how the unsustainability of industrialized timber extraction impacts negatively the forest and community welfare. Projects like Return to Forest, Red River and Native Species Reforestation comment on the unsustainability of economic development and its negative effects on natural resources.

Another way to express the poverty-alleviation-oriented sub-discourse is by remarking on the poverty condition of the communities involved in or affected by the project (Juma, Ulu Manen, Return to Forest and Red River projects). This could be used as a means to justify project execution. This argument is present in the many projects, in the description section and also as the poverty issue is operationalized by monitoring some economic indicators, specifically in Return to forest and Juma projects.

The most evident way to address this sub-discourse is by presenting a solution to poverty. It is assumed that by solving the poverty issue, the pressure on natural resources will decrease. The projects propose different ways of fighting poverty: offering new economic alternatives to the current use given to the land, for example changing from agriculture to forestry or to private reserves, generating direct jobs derived from project activities, or funding mechanisms.

5. The critical-oriented sub-discourse

This sub-discourse is based on the radical version of Civic Environmentalism (Bäckstrand and Lövbrand, 2006). It is a counter-argument of the market-oriented sub-discourse that regards market not as a solution to climate-change mitigation, but as a factor to worsen it (in terms of increasing GHG). Trade-off between potential co-benefits is acknowledged in this discourse. It also entails North-South inequity issues, and criticizes projects in tropical countries on the account of the perpetuation of imposed interests from the North at the expense of real benefits for the South. Moreover, it recognizes the possible environmental risk that land-based projects could cause due to potential re-emission or lack of permanence.

The critical-oriented sub-discourse was not identified in the CCB Standards; however, it is important to note that one sentence in the introductory section warns against the potential trade-offs if projects are not designed in observance of the Standards. This sub-discourse was expressed in Project Climate Apley, from the United Kingdom. The critical-oriented sub-discourse is used as a means to demonstrate the advantages of implementing the project in a developed country highlighting the difficulties of investing in a third world country project. According to this document, a project settled in the UK is more credible and avoids permanence risks and carbon colonialism.

In this sub-discourse, the concept of carbon colonialism refers to imposing external cultures and practices to the communities or to the area where the project takes place.

Credibility and integrity are argued by the fact that consumers have the possibility to verify and enjoy the benefits when the project takes place in the same country where the credits are issued. Permanence in overseas projects is considered a limiting aspect since the implementing organization has to deal with long unforeseen difficulties regarding long-term commitments or possible changes on the initial conditions.

In summary, although each project represents a particular way to express and incorporate discourses, the expert-based decision-making oriented sub-discourse is prevalent and easily distinguished in all the projects, and in many of their criteria, the market-oriented and the participatory-oriented sub-discourse complement it and are complemented by it in most of the projects. The same occurs with the poverty-alleviation-oriented sub-discourse, but only in some projects. The expert-oriented sub-discourse is related to generating scientific arguments to manage natural resources. It is generally present in all the documents, especially in the climate and biodiversity sections, where the use of monitoring and scientific estimations of indicators are necessary. The market-oriented sub-discourse also acts as a way to regulate natural resource management and as a means to obtain funding to make the projects viable. At the same time, this discourse is also implicit in this kind of projects through concepts like environmental services trading and cost efficiency, which gives weight to the power of this sub-discourse. The participatory-oriented sub-discourse is present in all the documents at different degrees, it focuses mainly on the section about the community and in some of the criteria of the general sections. According to this discourse, for the projects to actually provide benefits for the community some conditions –participation, transparency and no forced relocation of people– should be met. The poverty-alleviation-oriented sub-discourse is addressed in most of the projects as a mean to reduce pressure on natural resources and so improve the economical welfare of communities. Finally, the critical-oriented sub-discourse is part of one of the projects to support the advantages of investing in developed countries instead of developing countries. The story-lines for each of the identified sub-discourses are outlined in table 3.

In conclusion, it is not possible to establish one single dominant discourse for all the projects as a whole, since each of them corresponds to its own reality. Instead it can be said that *the market-oriented, the expert-based decision-making-oriented* and *the participatory-oriented* sub-discourses are prominent in a different extent, responding to the social construction of the Standards together with the specific context of each project.

Table 3. The Story-lines of the sub-discourses representing the Climate Community and Biodiversity projects.

Discourse	Story-line
Expert-based decision-making-oriented sub-discourse	<ul style="list-style-type: none"> • Expert information is used to decide how better understand and manages natural resources. • Monitoring will define how the benefits are brought. • Control over land use change and law enforcement should be exerted in order to prevent environmental risks or to solve environmental problems. • Carbon content, sequestration and emission are essential concepts defining forest and its management.
Participatory-oriented sub-discourse	<ul style="list-style-type: none"> • Community participation, transparency, and no forced relocation of people are conditions to ensure social benefits. • Community participation comprises involvement on decision making process and empowerment. • Community participation refers to the involvement of community members in project activities • Community participation involves consulting community members about the project and addressing their comments. • Transparency enables people participation.
Market-oriented sub-discourse	<ul style="list-style-type: none"> • Selling carbon credits or offsets contribute to implementing projects that mitigate climate change. • Direct payment for Environmental services payments benefit communities. • Market has the capacity to regulate over land use change (leakage, privatization, additionality) • Reducing transaction cost by involving communities in some actives may result in cost efficient projects.
Poverty-alleviation-oriented sub-discourse	<ul style="list-style-type: none"> • Economical development may cause pressure on natural resources. • Poverty conditions should be improved in order to reduce pressure on natural resources.
Critical-oriented sub-discourse	<ul style="list-style-type: none"> • In overseas projects, permanence is problematic since it may difficult long term commitments • Developing projects in the same country where the credits will be sold avoids imposing foreign cultures and practices • Credibility and integrity are improved when a project is developed in the same place where the credits are sold.

7 ANALYSIS

This chapter answers to the questions: *How do the discourses found in the CCB Standards and those found in the project relate?* and *How are the CCB Standards and projects related to the current debate of sustainable development of land-based carbon projects?* In the first section, it compares the way in which the different sub-discourses were evident in the Standards and in the Projects. After that, it re-contextualize these sub-discourses in terms of the debate of climate change mitigation strategy described in chapter four in terms of the environmental discourses. It assess for discursive dominance, as a result of the analysis of the previous chapters.

7.1 Comparing the CCB standards and CCB projects

Four discourses were identified in the debate around land-based climate change mitigation projects –Green Governmentality, Ecological Modernization, Civic Environmentalism and Sustainable Development. Based on their common and distinctive aspects and the empirical analysis of the CCB standards and projects documents, five new discourses were formulated –*expert-based decision-making-oriented, market-oriented, participatory-oriented, critical-oriented* and *poverty-alleviation-oriented* sub-discourses. Four out of the five sub-discourses were found to be present in the Standards and all of them were identified in the projects. However, ideas were manifested in various ways. The following paragraphs show how these five sub-discourses diverge or converge while comparing and contrasting the CCB standards and the CCB projects.

The market-oriented sub-discourse is present in both the Standards and the projects. This discourse is remarkably evident in the introductory section of the Standards and in the CCB Alliance website where the advantages of multi-benefit projects for attracting investments are mentioned. In addition, emphasis is made on the assumption that social and environmental problems must be solved concurrently. This assumption is represented is the story-line ‘climate, community and biodiversity problems can be solved simultaneously producing a win-win situation’ that epitomizes the CCB standards (tables 2 and 3). In addition, the concept of the climate change mitigation strategy includes the trading of environmental services. In the projects, the commoditization of atmospheric carbon dioxide is represented by the story-line ‘Selling carbon credits or offsets contributes to implementing projects that mitigate climate change’ (table 3). In some cases the resources obtained from the selling are viewed as a way to make the project implementation possible; in other cases, the economic benefits are part of the project concept itself.

The market-oriented sub-discourse is present in the different criteria of the section about climate, community and biodiversity without necessarily being linked with one particular section. One exception is the case of the optional criterion: ‘Carbon Benefits Withheld from Regulatory Markets’ is present in all the evaluated documents and linked to the market regulation ability story-line. This strategy suggested by the CCB standards and

implemented by all of the projects is used to guarantee real additionality under the assumption that credits sold outside any formal reduction commitment will represent additional benefits for the climate. In this order of ideas, the story-line ‘market has the capacity to regulate over land use change’ is represented in the Standards by the additionality concept associated with the withholding strategy (table 2). In the projects, this story-line also includes the concepts of leakage and privatization (table 3). In some projects leakage is understood as the result of market dynamics that will determine land use. Privatization is materialized in agreements signed between landowners and project implementers to conserve the forest on their lands, for example. In a similar way leakage, additionality and privatization will influence the way natural resources are managed.

The direct payment from environmental services (other than carbon dioxide sequestration) is another shared story-line. In the Standards, it is related with one possible alternative to ensure the long-term commitment of the community and hence the long-term sustainability of the project while in some projects it is presented as one way communities benefit from projects (tables 2 and 3).

The cost-efficiency story-line is implied in the whole concept of the climate change mitigation strategy by implementing projects in countries where the production of credits is less expensive and can be used to mitigate climate change in the entire world. This story-line is represented in some projects when ideas like reducing transaction and involving local communities to achieve a more efficient monitoring are discussed.

The expert-based decision-making-oriented sub-discourse is present in the Standards and in the Projects as well. Overall, the concept of standardization relates with the expert knowledge that defines, monitors and estimates indicators, and ultimately provides information for managing natural resources. This rationale is represented by two shared story-lines: ‘Expert information is used to decide how to better understand and manage natural resources’ and ‘Monitoring will define how benefits are being brought’. The former is evident in the Standards’ general section when it emphasizes the use of the IPCC reports to support arguments about climate change and the methodologies to be used; as a consequence, most of the projects refer to them (tables 2 and 3). The latter story-line is manifested mainly in the climate and biodiversity sections of both the Standards and the projects and in the section about the community of some projects. Monitoring is the way to demonstrate that carbon dioxide is being sequestered, biodiversity is being improved or not negatively affected, and community welfare is being improved. Therefore, variables are defined to operationalize benefits generated by the project in each component, for instance carbon dioxide, threatened species richness, and household incomes. In sum, expert information is considered the basis for making the appropriate decisions regarding natural resource management, and monitoring is essential to guarantee that projects will provide benefits for climate and biodiversity

In addition two more story-lines are further developed in the projects (table 3). First, ‘Carbon content, sequestration and emissions are concepts defining forest and its management’ which is derived from previous story-lines. Here, the conceptualization of forest depends on carbon dioxide emissions (deforestation) or sequestration (reforestation, restoration, or avoiding deforestation), and on the place where biodiversity

and other environmental services are placed. This idea underpins the necessity for management and monitoring. Consequently, the benefits obtained are understood in terms of carbon sequestration or the avoidance of carbon emissions, the protection of endangered species, and the improvement of water and soil quality. The second story-line is 'Control over land change and law enforcement should be exerted in order to prevent environmental risks or to solve environmental problems'. This story-line may be implied in the Standards when it brings it forward as a tool for governments to ensure that projects contribute to sustainable development and to meet multiple international obligations. However, it becomes clear when projects refer to national reservation areas management plans, redefinition of licenses for timber extraction and law enforcement.

The participatory-oriented sub-discourse is also present in the Standards and in the projects, mostly in the general section and the section about the community. This discourse is evident in the way some indicators are formulated to ensure the conditions projects should accomplish to effectively bring social benefits. In the Standards, the story-line stating 'community participation, transparency, and no forced relocation of people as conditions to ensure social benefits' is easily recognizable (table 2). As a result, community participation, transparency, and no forced relocation concepts are also present in the projects. However, participation is a quite heterogeneous concept expressed very differently throughout the projects and it leads to three story-lines –participation as a way of getting the community involved in project activities, participation as the community commenting on the project, and participation of the community in the decision-making process and empowerment (table 3). The different meanings of the term determine the practices, the activities and the relationship among stakeholders involved in the projects.

The story-line 'transparency enables people participation' is shared by the Projects and by the Standards (tables 2 and 3). In the Standards this story-line is based on the assumption that the more people know about the project, the more they can contribute to it. This is what the publication of the project design document on the website seeks by leaving an open comment space. In addition, the Standards encourage projects to make documents accessible to local communities and encourage them to develop a grievance mechanism. These same arguments are reflected in most of the projects, and in some of them, transparency is conceived as a way to gain investor or consumer credibility which complements the market-oriented sub-discourse.

The poverty alleviation sub-discourse is also present in the CCB standards and in the projects; however, it is less prominent compared to the three previous sub-discourses. The poverty-alleviation-oriented sub-discourse is mainly present in the general section and in the section about the community. In both the Standards and the projects, it refers to the assumption that economic improvement due to project implementation will decrease the anthropogenic pressure on environment and will allow the implementation of sustainable practices. In this order of ideas, two story-lines are shared by the projects and the Standards: 'economical development may cause pressure on natural resources' and 'poverty conditions should be improved in order to reduce the pressure on natural resources' (tables 2 and 3). The former story-line is mentioned in the Standards and developed in several projects; it is associated with agricultural practices that pollute water and soil, road paving, unsustainable timber extraction, and deforestation among others.

The second story-line is present in both the projects and the Standards implying that project implementation can offer economic alternatives to poor communities and can change unsustainable practices. The contribution of projects to reduce poverty is mainly addressed through the generation of jobs, financial mechanisms and other economic alternatives that result from the project activities or the revenues from selling credits.

The critical-oriented sub-discourse was the only sub-discourse not shared by the Standards and the projects. It refers to the negative consequences or difficulties of this climate change mitigation strategy. Nevertheless, in the Standards texts it is acknowledged that if projects are not formulated and developed in an adequate way, trade-offs among climate, community and biodiversity benefits can occur. The critical-oriented sub-discourse is present in one of the projects –Project climate, UK– and is used as a means to prove the advantages of investing in the project, and thus it can be associated with the market-oriented sub-discourse.

To sum up, The market-oriented sub-discourse is present in the CCB standards and projects. The concept of mitigating climate change by trading with carbon dioxide belongs to this discourse and thus is implied in the whole concept. The market-oriented sub-discourse is not specifically linked with climate, community or biodiversity benefits in the criteria, except from the two already mentioned (withholding credits and environmental service payments). The expert-based decision-making oriented sub-discourse is prevalent and easily distinguished in the CCB standards and in all the studied projects. It is present in many of the criteria, mostly in those related to climate and biodiversity benefits. The widespread presence of this discourse can be explained by the fact that standardization provides indicators that allow experts to evaluate the project's design and progress. The participatory-oriented discourse is present in the CCB standards and projects and it is mainly linked with community benefits. The poverty-alleviation-oriented sub-discourse is addressed in most of the projects as a means to reduce the pressure on natural resources that would in turn improve the economic welfare of communities. Finally, the critical-oriented sub-discourse is part of one of the projects to support the advantages of investing in developed countries rather than in developing ones.

To conclude, all of the sub-discourses are present in both the Standards and the projects except the *critical-oriented* sub-discourse. The comparison of the discourses in the projects and in the CCB standards leads to the conclusion that overall the market oriented, the expert-oriented decision making, and the participatory oriented discourses are dominant and they complement each other. The *poverty-alleviation-oriented* sub-discourse is also shared and supports the benefits for the community and biodiversity. The *critical-oriented* sub-discourse seldom occurs. However, the institutionalization and positioning of each sub-discourses and the links among them occurs in different ways depending of the project context.

7.2 Contextualizing the CCB standards and projects in the current debate

In the previous section, the dominance of the market-oriented, expert-based decision-making-oriented and participatory-oriented sub-discourses in the standards and projects was concluded. Consequently, terms such as marketization, standardization, and participation have been proved to influence the way in which the solution to the environmental problem is constructed by the standards and by the projects. This section answers the research question: *How are the CCB standards and projects related to the current debate of sustainable development of land-based carbon projects?* The links among discourses may shed some light to achieve a deeper understanding of it.

According to Hajer (1995), in the Ecological Modernization discourse the environmental concerns are internalized by political, economical and social institutions with concepts that make environmental degradation computable, and allow them to be incorporated in terms of costs and benefits. Bäckstrand and Lövbrand (2006) mention the compatibility of economic growth and environmental protection as a characteristic assumption of ecological modernization. The CCB standards are conceived under this premise which is evident every time the concept of standards is presented. Hajer (1995) also refers to the economic value granted to nature and the concepts mentioned –payment for environmental services, carbon credits trading, and the fact that the forest acquires a value for its carbon content– illustrate this aspect of the discourse. From the climate-change mitigation strategy perspective, air has become a tradable good, and forest value is understood in terms of its carbon content. What I have called the *market-oriented* sub-discourse is in line with all these assumptions; it has been illustrated by the empirical findings present in the CCB standards and projects.

Ecological Modernization has been analyzed in its two versions –the weak or technocratist one, and the strong or reflexive one (see chapter four). In its weak version, this discourse emphasizes the role of science in finding effective cost-effective solutions to environmental problems where expert organizations play a central role (Hajer, 1995), and Christoff in (Dryzek, 1997). This aspect is similarly found in the Green Governmentality according to which science underpins the administration of individuals, populations and natural environment (Bäckstrand and Lövbrand, 2006). According to Bäckstrand and Lövbrand (2006), the Green Governmentality discourse is particularly dominant in the field of climate change. Green Governmentality is depicted in the CCB standards and projects through the expert-based decision-making discourse using IPCC or carbon methodologies or biodiversity estimations which are defined and implemented by experts and in the concept of standardization itself. In the CCB standards and projects, this argument supports the need for an adequate definition of the environmental problem and consequently traces what is considered adequate to manage natural resource (evident in land-use change and natural resources control). In some projects, the governmentality aspect is stronger, especially when this construction is used to explicitly favor government administration over natural resources.

According to Bäckstrand and Lövbrand (2006) the technocratic aspect of Ecological Modernization and Green Governmentality ignores equity and poverty issues by favoring the cost-effective environmental problem-solving over social justice. However, in the

case of the CCB standards some aspects could balance or complement these assumptions; the concept of participation plays a central role. The strong Ecological Modernization discourse suggests a reconsideration of participatory practices; it calls environmental organizations and local residents to participate and emphasizes the importance promoting independent opinions (Hajer, 1995), and Christoff in (Dryzek, 1997). This integrating vision seeks to contextualize the opinion of experts in order to deliberate and be open to the many possibilities for the construction of problems and solutions (Hajer, 1995). These arguments are also represented by the Civic Environmentalism discourse, as referred to by Bäckstrand and Lövbrand (2006) who affirmed that strong Ecological Modernization is closely related with Civic Environmentalism and Sustainable Development. Furthermore, these arguments could even have to deal with a more thoughtful version of Green Governmentality which, according to Bäckstrand and Lövebrand (2006), includes views that acknowledge local social complexities and ‘invite local actors in the creation of just and credible institutions’. In the CCB standards and projects these assumptions are related with participation and transparency in what I described as the participatory-oriented sub-discourse; there is great emphasis made to creating spaces that allow different opinions from various stakeholders. Regarding participation, when this concept is translated from the standards to the projects many nuances emerge thus its definition acquires a different meaning (chapter 5)

In their article, Bäckstrand and Lövbrand (2006) mention that the Ecological Modernization and Green Governmentality discourses dominate the negotiation on land-use change and forestry projects in the CDM. However, this study considers a different arrangement of the discourses for the case of the CCB standards and projects. This can be supported by the fact that these authors considered that outside the negotiation context, more participatory and community-based frameworks were emerging which “seek to turn the optimistic win-win policy rhetoric of ecological modernization into practice by creating democratic, transparent and participatory projects that consider the needs and aspirations of local communities” (Bäckstrand and Lövbrand, 2006, p. 69). The CCB standards and, to some extent, the CCB projects fit this description.

In summary, the CCB social construction of the climate change mitigation strategy is dominated by Ecological Modernization; features from the strong and weak versions are present and at the same they are complemented by other discourses. Overall, the Ecological Modernization is dominant in the sense of market strategy and in the concept of solving environmental problems by granting them an economic value. Weak Ecological Modernization is present mostly in regard to the standardization and technocratization of the CCB standards, also in agreement with the Green Governmentality discourse. However, this is complemented by the strong version of Ecological Modernization and the Civic Environmentalism discourse which counterpart the discursive exclusion of scientific knowledge, incorporates other views through participation and seeks contextualization.

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Now that the findings have been characterized in terms of the current debate around land-based climate change mitigation strategy, it is important to see what this discursive characterization could imply for the climate change mitigation strategy. Reflections on that will be exposed in the next chapter.

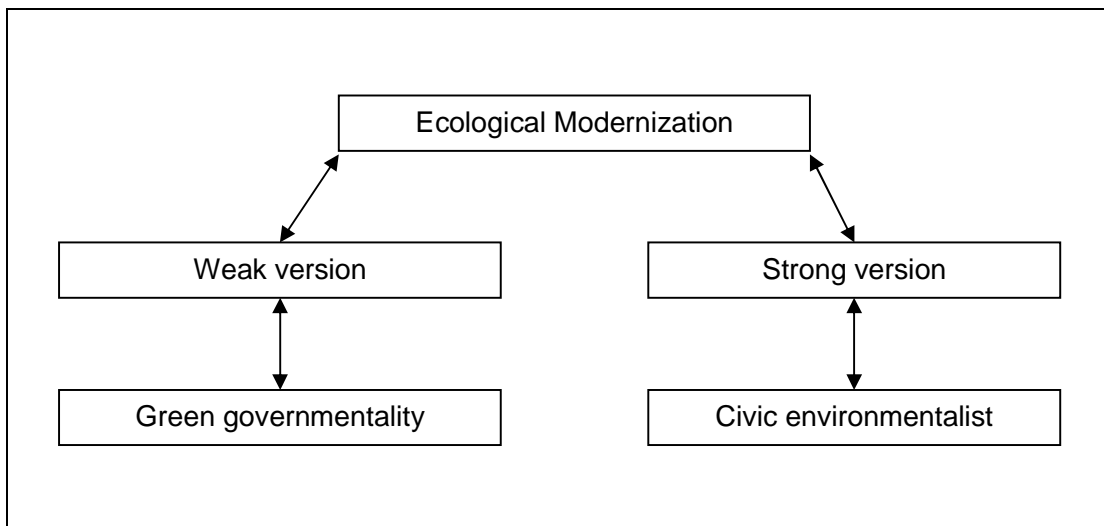


Figure 5. Schematic representation of the discursive characterization of the Climate, Community and Biodiversity Standards and projects.

8 DISCUSSION AND CONCLUSIONS

This chapter comprises the conclusions corresponding to each of the research question answered by this study, and a reflection on the implications that those answers might have on the climate change mitigation strategy. The final section of this chapter presents a personal reflection regarding the scope, outcomes and approach of the present study.

8.1 Conclusions

- With regard to the research question –*Which are the main environmental discourses related with climate change mitigation projects, specifically those based on tree planting and forest conservation?*—It is possible to conclude that the discourses known as Ecological Modernization Green Governmentality, Civic Environmentalism and Sustainable Development are present in the current debate of climate change mitigation in general and of land-based carbon projects in particular.

-In order to answer the second research question of this study – *Which, out of the previous identified discourses, are present in the CCB Standards and how do they relate to each other?*—a new formulation of five sub-discourses was done. This respond to the overlapping character of some key concepts of the environmental discourses. Four sub-discourses were positioned in the social construction of the CCB Standards: *expert-based* decision-making-oriented, market-oriented, participatory-oriented, and poverty-oriented sub-discourses. The identified sub-discourses complement and reinforce each other. The market oriented and the expert-based decision making sub-discourses are dominant. Market oriented sub-discourse is part of the concept of land-based climate change mitigation projects. Expert-based decision-making-oriented sub-discourse is the most common discourse found among the criteria. The participatory oriented sub-discourse is also prominent and it is specially linked to the community section, together with the Poverty alleviation sub-discourse it underpins the benefits that the Standards should bring to community and environment. The logic that supports the relation among these discourses could be: climate, community and biodiversity benefits can be reached simultaneously by selling carbon credits. To guarantee those benefits, expert knowledge defines what and how to estimate the projects' indicators; and projects should be done in participatory and transparency way.

-From the research question –*Which, out of the previous identified discourses, are present in the CCB Standards and how do they relate to each other?*—it can be concluded that there is not one discourse for all the projects as a whole, since each of them corresponds to its own reality. Instead, it can be said that market-oriented, expert-based decision-making-oriented and participatory-oriented sub-discourse are prominent to a different extent, responding to the social construction of the Standards. The specific relation among discourses depends on the context and the specific cases of each project.

-Regarding the question –*How do the discourses found in the CCB Standards and those*

found in the projects relate?— it can be concluded that all of the sub-discourses are present in both the Standards and the project documents, except the critical-oriented sub-discourse. By comparing the discourses among the project documents and in CCB Standards can be concluded that overall the marked-oriented, the expert-based decision-making oriented, and the participatory-oriented sub-discourses are dominant, along the documents, and they complement each other. The poverty-alleviation-oriented sub-discourse is also shared, and supports the community and biodiversity benefits. The critical-oriented sub-discourse seldom occurs. However, the institutionalization and positioning of each projects and its links with the rest of them occurs in different way depending of the project.

-Finally, form the research question *–How are the CCB standards and projects related to the current debate of sustainable development of land-based carbon projects?*—it can be concluded that, overall, the social construction of the climate change mitigation strategy of the Climate, Community, and Biodiversity Standards, and their projects is dominated by Ecological Modernization, in which its characteristics forms of strong and weak version are present, and at the same this discourse is complemented by other discourses. Ecological modernization is dominant in the sense of the market strategy and the concept of solving environmental problems though giving economical value to nature. Weak ecological modernization is present the form of standardization and technocratization of the Standards, also coinciding with Green Governmentality discourse. However, this is complemented by the strong version of Ecological Modernization and the Civic Environmentalism discourse which counterpart the discursive exclusion of scientific knowledge, incorporates other views through participation and seeks contextualization.

8.2 The environmental discourses of the CCB Standards and projects; potential opportunities and constraints.

This study compiles the environmental discourses around the multi-benefit land-based climate change mitigation debate. Ecological Modernization, Green Governmentality, Civic Environmentalism (Bäckstrand and Lövbrand, 2006) and Sustainable Development discourses provide the basis to analyze the discursive formations within Climate, Community and Biodiversity Standards and six of the nine approved projects. Although all discourses were found to be complementing each other, it was possible to identify that the dominant environmental discourse that is represented and shapes the Standards and, to some extent, the projects, is a form of Ecological Modernization with elements from its weak and strong versions, and complemented by Civic Environmentalism and Green Governmentality. At this point it is important to reflect on the implication these findings could have in the social construction and the practices of land-based climate change mitigation projects in terms of opportunities and constraints.

Although the debate about land-based climate change mitigation comprises critical standpoints which suggest trade-offs among the co-benefits of this kind of projects (see chapter 1), the CCB standards are generally referred to as one of the alternatives that guarantees multi-benefits projects (Kollmuss et al., 2008, CCBA, 2008). By analyzing the Standards and projects' discourses, it is evident that they are conceived to address the

benefits for the three different components (climate, community, and biodiversity). However, there are some aspects that could make those benefits difficult to come about. The discourses can bring some clues about the strong points of these standards and also about their possible pitfalls or constraints.

One of the greatest strengths found in the Climate, Community and Biodiversity Standards is the integration of the three components. This shows the win-win story line and implies that projects try to solve environmental and development goals simultaneously. The projects point out this integrative approach addressing all the components, although it is obvious that each project formulates each component in terms of its own reality. This results in different ways of interpreting and putting the Standards into practice. In addition, although the proposed participatory and transparent scheme is not exclusive from these Standards, the emphasis made is remarkable and it might represent the legitimate intention to include many standpoints in the project development. Furthermore, the use of standardized and robust methodologies for estimating carbon dioxide dynamics and biodiversity values allow these projects to be compared with other projects within a specific time frame; and it constitutes one way to quantify the values associated with climate and biodiversity. The orientation towards a market strategy could result in the projects not depending only on external economic aid (if transaction costs are overcome and the market dynamics favors them) and it could represent economic alternatives for the projects implementers or the communities benefiting from the projects.

However, it is also useful to ponder the possible difficulties implied in the CCB standards and embedded in the way they are conceived and communicated. As mentioned before, the CCB standards aim to guarantee that approved projects bring benefits to climate, community and biodiversity in order to make development and environment compatible. However, some aspects such as marketization, technocratization, and participation can imply negative turns or difficulties in the CCB standards and future projects. Pondering these constraints is important in order to identify and consider them when approaching the debate.

The so-called neo-liberal influence of the Ecological Modernization discourse has different implications in the climate-change mitigation strategy in general, and thus in the Standards and Projects in particular. One of its distinctive facts is that a common public good can be regulated not mainly by the state, but by market-based policies or practices (Humphreys, 2008, McAfee, 1999, Humphreys, In press). For instance in the case of 'avoided deforestation' by giving stand forests an economic value, their conservation can be motivated since preserving them can become more profitable than clearing them to implement other productive activities (Humphreys, 2008), In that aspect though, certain critics related with market dynamics and equity have arisen. McAfee (1999) concludes that if conservation depends on forest value based on the comparison with other economic alternatives, the strategy is not too promising. Besides, Humphreys (2008) when referring to 'avoided deforestation' and related practices mentions that the earnings that developing countries would receive are not predictable, and depend on fluctuations in the international price of carbon. In addition, some authors consider that market forces tend toward stability instead sustainability –that is, seeking the most profitable outcomes

which not always coincides with the most biodiversity or community friendly practices (Humphreys, In press). An historical example is the experience of the once promising products as rubber and sugar which used to be very profitable. However, due to their export-dependency, the priorities were determined by outsiders rather than by the needs of domestic economies and local communities (McAfee, 1999). The same could occur with the carbon market. Indeed, the Stern Review affirms that carbon market could play an important role in the long term, but it recognizes short-term risks in building strong carbon markets inherent to the lack of agreements to increase the demand on carbon credits (Stern, 2007)

According to McAfee, (1999), the valuing of nature is framed in a global context which entails some difficulties since, from the global perspective, local particularities on the perceptions of this value are lost. In this sense the forest concept based on the price of carbon is reductionist. It is important to mention that the second edition of the Standards incorporates cultural and intrinsic values through the High Conservation Value Concept (CCBA, 2008), but this is not reflected in the carbon price. Although these critical standpoints towards marketization are not directly addressed by the Standards because they do not issue carbon credits, the context in which they are embedded affects their construction and practices, since it cannot be seen in isolation.

A more direct implication of the Standards' market orientation is the access to the commercialization of climate benefits and even the project formulation; this involves equity issues, as mentioned in the Civic Environmental Discourse (see chapter 4). Firstly, the formulation and certification of these projects is expensive, and because of this the communities that do not have the necessary funding can end up excluded. In addition, the access to international markets, where carbon credits are traded, can also make the project dependent on brokers. This last point is mentioned by Liverman (2009) which acknowledges a difference of as much as 25 Euros between the prices paid to the producers and the sale prices in the European market.

The technocratization of the weak Ecological Modernization and Green Governmentality implies generalization and simplification. This fact is related to the standardization and the scientific conception to understand not only climate change but also the forest, and it might produce a reductionist conception of the environmental problems. The social and ecological complexity might be ignored in the attempt to define, standardize, and universally agree on the carbon content of forest (Fogel 2002 cited in Boyd, 2006). If forests are conceived only in terms of carbon and biodiversity levels, there is the risk to exclude other aspects or values. Although the CCB Standards and some of the projects partially address this issue through some of the community criteria, where participation is required, context should be carefully considered in order to really take into account the social complexity, and it may be necessary to guarantee real inclusion of the community in decision making. Elgert (2009) affirms that the use of scientific knowledge to base decision making is not a limitation, but it is said to be incomplete and insufficient for sustainable development policy. To clarify, technical knowledge and standardization are useful for comparison and measurement; however they represent the only possible way to interpret nature and environmental problems. In this order of ideas, projects should take this into consideration and try to balance the simplification/contextualization issue. For

the case of ecological complexity, complex-likely ecosystems might be implemented by using a mix of native species, even when only a few may obtain the certification.

As mentioned earlier, globalization is another inherent characteristic in the conception of the climate change mitigation strategy and the CCB construction. Some critical standpoints have been identified. It is said that if environmental problems are created at a global level, they must be solved in global contexts leading to provide outsiders with authority and control over resources (Elgert, 2009). In addition, the role of expertise in decision making is supposed to represent universal and objective interpretations of the environmental problems which leaves very little room for democratic deliberation (Elgert, 2009). Hence, this reductionist character of the technocratic construction may reinforce top-down-approach politics (Cohen et al., 1998, Boyd, 2006), leading to exclusion or prohibition. (Contreras, 2001). However, it is important to mention that in the discursive level of the CCB Standards these consequences may be ameliorating their integrative character. Technocratic aspects could be compensated with participatory approaches and promote the inclusion of different views. Also, as suggested earlier, requesting the use of native species may favor natural complexity since generally non-native species are only associated with uniform monocultures. These facts give project designers the option to decide on the extent these pitfalls are to be addressed; for instance, if participation is not strong enough in the projects to give voice to other perspectives, then the technocratic aspect can turn dominant and have the already mentioned consequences.

The reductionist or de-contextualizing nature of both economic and technocratic aspects that have been addressed previously by some authors calls for a re-politization of the concepts. McAffe (1999) suggests a more democratic and open approach where more local views are included to value nature. According to Elgert (2009), environmental problems should open a space for deliberative governance to supplant evidence-based policy. In this order of ideas, participation could counteract the exclusionary consequences of technocratization. In fact, it is said that participatory development emerged as the recognition of the limitations of top-down approaches (Mosse, 2001). It seeks to increase the involvement of marginalized communities in decision-making processes (Cooke and Kothari, 2001).

This concept could also face some shortcomings in the projects, if it is just understood as the involvement of communities without legitimate participation in decision making or devolution of power. Besides, the different types of participation can be approved and this does not necessarily lead to a more deliberative or reflexive decision making. Participation is formulated in the Standards and in the projects in different ways. In the Standards, this can express an end in itself; community empowerment can be the result of well-formulated projects that observe the Standards. This may be reflected in some of the projects when speaking about the involvement of communities in decision making or devolution of power. However, the participatory discourse can also be a means to reinforce the market-oriented or the expert-based decision-making discourse in which case empowerment or bottom-up approaches may not be included. This should be carefully considered when formulating and evaluating the projects since it could imply

top-down approaches. In addition to this limitation, even well-accepted practices as participatory approaches have had to face difficulties. For instance, it has been identified that the local knowledge may be structured or constructed in the very same participatory planning process, suggesting that it may even be determined by it. In this sense, it is argued that project actors are not passive facilitators but also influence the process with their own interests or realities (Mosse, 2001). Another example is the conclusion that, in some cases, participation may influence power relationships between elite groups and less powerful actors (Cooke and Kothari, 2001). Finally, participation can also be used as an instrument to reduce costs, instead of being an end in itself (Mosse, 2001). Having said that, I would like to clarify that it is not my intention to suggest whether these limitations are the specific case of the Standards or of one particular project, instead they are a call for more nuanced and reflective approaches to the formulation and implementation of the projects.

In conclusion, at a discursive level the CCB Standards are part of an integrative construction. They share neo-liberal, technocratic, and social discourses that manifest the opportunity to bring benefits to climate, community, and biodiversity, and hence to reach the win-win situation. These characteristics represent both opportunities and constraints for the climate change mitigation strategy; in particular for the projects certified under CCB Standards. Some of the discursive characteristics and possible links among discourses can make the win-win ideal situation difficult to reach in the operationalization of the projects. The CCB Standards seem to be well represented and balanced at discursive level in order to promote multi-benefit projects; still a more reflective, deliberative and contextualized approach is necessary when translating them into projects.

8.3 Personal reflection: the approach, the scope, and the outcomes this study.

As mentioned in the theoretical framework (chapter 2) discourse analysis lacks of a unified methodology to follow. In this study, this fact turned to be both a difficulty and an opportunity. On the one hand, during the early stages of the research was difficult to visualize how the process of analysis was going to take place. On the other hand, this also represented an opportunity as it gave me freedom to choose and to adapt others approaches to what better fits for the study.

In this order of ideas, I chose to combine Foucauldian genealogical approach and argumentative discourse analysis. The genealogical approach allowed me to have a kind of 'snapshot' of the problem. In that case, the contextualization of the current debate was very useful, and the final results of the study represent an interpretation of the discourses in the debate. Argumentative discourse analysis approach was used in the search for regularities in the texts and story-lines. Based on that, I analyzed the implications on my findings on the practices associated with the discursive formations, in the context of the environmental problem of this study.

The written material that I had access to, did not allow me to indicate coalition formation, and discourse structuration (as explained in chapter 2). For that reason, I made clear how

I assessed for discourse domination. However, it does not mean that coalition formation and discourse structuration are not taken place, which it means is that this study assumes the discursive struggling for power, although it does not have access to the whole process to define those.

Another relevant aspect to address here is my selection to analyze written documents, instead of making interviews, for example. This selection was based on two reasons. Firstly the scope, since by reviewing the project design documents I had more material to analyze in the time frame of this study. Interviews would have given me more access to personal perceptions about the projects and the standards, but it would be more difficult to access to the same amount of projects, and the same amount of information. Secondly the possibility to compare, since all these documents are located in the formulation stage and all of them were written following the CCB Standard's structure (except for one). All the projects have different certification and starting date, some of which are very recent. If I had opted for evaluating other reports (i.e. annual reports), the different stages of the project would become a limitation, since they would be in different moments of advance.

In that sense, I must remark on the availability of information. In accordance with transparency principles, all the documents are available from the general public. This opens a big opportunity to develop research on this kind of projects, and also it can encourage a process of learning since other project proponents can see how the projects are being formulated, which tools are being used, etcetera. In particular, it makes my job much easier to find all the information in a single place.

According to Saunders and co-workers (2007), reliability relates with the findings consistency; and it can be threatened by participant error, participant bias, observer error, and observer bias. The *participants* in this case are the project proponents, who uttered the discourses. Because this study is based on a constructivist approach, the participant reality, perceptions, motivations, personal interpretation, of the project proponents contribute to the construction of the discourses, so it is part of the results, and not a bias or error.

Regarding with the observer error and bias. It concerns to myself, the way I interpreted the results and the way as my reality biases this interpretation. According to Taylor (2001) constructivist approaches do not usually claim to access the truth of reality but to offer an interpretation, which is inevitably partial. So, to a certain extent it is unavoidable to include my own reality in the process of selection and interpretation. One of the strengths of this study, based on which I am confident with the consistency of the results, regards to the way to perform the discourse analysis. First, it was done systematically and in a consistent way (see annex). In this sense, it is repeatable although it is not the case to expect the same results. Instead they could be contested or agreed with based on the same empirical support. Second, the basis for the analysis was well supported with published literature on the topic, based on empirical and theoretical works.

One limitation associated to this study can be the lack of understanding of the topic itself. As I mentioned in the introduction, it has been framed as a complex problem, and I must

agree with that affirmation. When approaching to the climate change mitigation and land-based projects, many fields of knowledge are encountered. Some of the terms used are particular for this context, such as additionality, leakage, and adaptation. It also includes economical concepts and implications. For the case of the standards, to understand basic concepts about biodiversity is also necessary. The social sphere and the historical context of the emergence of this climate change mitigation strategy are also complex, and even contradictory. On the one hand, some authors claim for lack on equity, while part of the initial aim of the strategy was to bring development and benefit all the parties involved. In my personal experience I had the opportunity to access to the topic during my internship, where I was involved in a formulation process and where I reviewed different certification schemes. However, I still have the feeling that there is much more to be learnt, not only in the field of climate change, but also in the one of discourse analysis.

I would like to finish this reflection by saying that I see this study as a basic approach to the understanding of one applied case of the climate change mitigation Strategy. Subsequent studies can be done focused on the implementation phase of this kind of projects. Here I departed from the Standards to the projects. Another study could start by analyzing the project proponents' perceptions about the Standards, on even more, those from the project beneficiaries. Also, it would be very interesting to compare different certification standards schemes at a discursive level, to see which orientation prevails among the Standards, and the possible implications

REFERENCES

- ANONYMOUS (2007a) Project Climate, Project Development Document (PDD) for Land Use, Land Use Change & Forestry (LULUCF) project at Apley, Lincolnshire, UK, developed to The Climate, Community & Biodiversity Alliance Standards. Apley, Lincolnshire.
- ANONYMOUS (2007b) Reducing Carbon Emissions from Deforestation in the Ulu Masen Ecosystem, Aceh, Indonesia ~ A Triple-Benefit Project Design Note for CCBA Audit. Aceh, Indonesia, The Provincial Government of Nanggroe Aceh Darussalam (Aceh), Fauna & Flora International, Carbon Conservation Pty. Ltd
- ANONYMOUS (2008a) CO2OL-USA/Futuro Forestal Native Species reforestation in Panama for Land Use, Land-Use Change and Forestry (LULUCF) Projects
- ANONYMOUS (2008b) The Juma Sustainable Development Reserve Project: Reducing Greenhouse Gas Emissions from Deforestation in the State of Amazonas, Brazil. Version 5.0. Banco do Planeta, Fundação Amazonas Sustentável, Secretaria do Meio Ambiente e do Desenvolvimento Sustentável do Governo do Estado do Amazonas.
- ANONYMOUS (n.d) Restoring a Legacy at Red River National Wildlife Refuge. United States, The Conservation Fund
- BÄCKSTRAND, K. & LÖVBRAND, E. (2006) Planting Trees to Mitigate Climate Change: Contested Discourses of Ecological Modernization, Green Governmentality and Civic Environmentalism. *Global Environmental Politics*, 6, 50 -75.
- BOYD, E. (2006) Scales of Governance in Carbon Sinks: Global Priorities and Local Realities. IN REID, W. & ETAL (Eds.) *Bridging Scales and Epistemologies: Linking Local Knowledge and Global Science in Environmental Assessments*. Washington DC, USA., Island Press.
- CARABINE, J. (2001) Unmarried Motherhood 1830-1990: A Genealogical Analysis. IN WETHERELL, M., TAYLOR, S. & YATES, S. J. (Eds.) *Discourse as Data: a Guide for Analysis*. London, Sage Publications in association with The Open University
- CCBA (2005a) Climate, Community & Biodiversity Alliance's WebPage.
- CCBA (2005b) Climate, Community and Biodiversity Project Design Standards (First Edition). Washington DC.
- CCBA (2008) Climate, Community & Biodiversity Project Design Standards Second Edition. Arlington, VA, CCBA.

- COHEN, S., DEMERITT, D., ROBINSON, J. & ROTHMAN, D. (1998) Climate change and sustainable development: towards dialogue. *Global Environmental Change*, 8, 341-371.
- CONTRERAS, A. P. (2001) Forests as social construction: political ecological reflections on the production of knowledge in forest management and governance. *held in Chicago*. Chicago.
- COOKE, B. & KOTHARI, U. (2001) The Case for Participation as Tyranny. IN COOKE, B. & KOTHARI, U. (Eds.) *Participation: The new Tyranny?* . London, Zed Books.
- DRYZEK, J. S. (1997) *The Politics of the Earth: Environmental Discourses*, New York, Oxford University Press.
- ELGERT, L. (2009) From Evidence to Discourse: Taking Sustainability Seriously. *4th International Conference in Interpretative Policy Analysis: Discourse and Power in Critical Studies*. University of Kassel, Germany.
- ESTRADA, M., CORBERA, E. & BROWN, K. (2008) How do regulated and voluntary carbon-offset schemes compare? *Tyndall Working Paper No. 116*,. Tyndall Centre for Climate Change Research.
- GOTTWEIS, H. (2003) Theoretical strategies of poststructuralist policy analysis: towards an analytics of government. IN HAJER, M. & WAGENAAR, H. (Eds.) *Deliberative Policy Analysis: Understanding Governace in the Network Society*. Cambridge, Cambridge University Press.
- GRANDA, P. (2005) Sumideros de carbono en los Andes Ecuatorianos. Impactos de las plantaciones forestales del proyecto holandés FACE-PROFAFOR sobre comunidades indígenas y campesinas. *Acción Ecológica*.
- GRIST, N. (2008) Positioning climate change in sustainable development discourse. *Journal of International Development*, 20, 783-803.
- HAJER, M. (1995) *The politics of environmental discourse: Ecological modernization and the policy process*, Oxford, Clarendon Press.
- HAJER, M. (2005) Coalitions, Practices, and Meaning in Environmental Politics: From Acid Rain to BSE IN HOWARTH, D. & TORFING, J. (Eds.) *Discourse Theory in European Politics. Identity, Policy and Governance*. Houndmills / New York, Palgrave Macmillan.
- HAJER, M. (2006) Doing discourse analysis: coalitions, practices, meaning. IN VAN DEN BRINK, M. & METZE, T. (Eds.) *Words matter in policy and planning – Discourse theory and method in the social sciences*. Utrecht, Utrecht: KNAG / Nethur.

- HAJER, M. & VERSTEEG, W. (2005) A Decade of Discourse Analysis of Environmental Politics: Achievements, Challenges, Perspectives. *Journal of Environmental Policy & Planning*, 7, 175-184.
- HAMBLYN, R. (In Press) The whistleblower and the canary: rhetorical constructions of climate change. *Journal of Historical Geography*.
- HAMILTON, K., BAYON, R., GUY, T. & HIGGINS, D. (2007) State of the Voluntary Carbon Markets 2007. Picking Up Steam. Ecosystem Marketplace and New Carbon Finance.
- HAMILTON, K., SJARDIN, M., MARCELLO, T. & XU, G. (2008) Forging a Frontier: State of the Voluntary Carbon Markets 2008. Ecosystem Marketplace and New Carbon Finance.
- HAYWARD, J. & AFIFF, S. (2007) Validation Audit Report For: Provincial Government of Nanggroe Aceh Darussalam - Fauna & Flora International - Carbon Conservation in Ulu Masen Ecosystem, (Aceh Province, Indonesia). Bali, Rainforest Alliance.
- HOWARTH, D. & STAVRAKAKIS, Y. (2000) Introducing discourse theory and political analysis. IN HOWARTH, D., NORVAL, A. J. & STAVRAKAKIS, Y. (Eds.) *Discourse Theory and Political Analysis: Identities, Hegemonies and Social Change*. Manchester, Manchester University Press.
- HULME, M. (2008) Geographical work at the boundaries of climate change. *Transactions of the Institute of British Geographers*, 33, 5-11.
- HUMPHREYS, D. (In press) Discourse as ideology: Neoliberalism and the limits of international forest policy. *Forest Policy and Economics*, In Press, Corrected Proof.
- HUMPHREYS, S. (2008) The politics of 'Avoided Deforestation': historical context and contemporary issues.
- IPCC (2007a) *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge, UK, Cambridge University Press.
- IPCC (2007b) *Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, Pachauri, R.K and Reisinger, A. (eds.)]. Geneva, Switzerland, IPCC.
- JEFFREYS, S. & HELLIER, G. (2008) Validation Assessment Report for: Project Climate in Apley, Lincolnshire, UK. Rainforest Alliance.

- KOLLMUSS, A., ZINK, H. & POLYCARP, C. (2008) Making Sense of the Voluntary Carbon Market: A Comparison of Carbon Offset Standards. WWF Germany.
- LEMOS, M. C. & AGRAWAL, A. (2006) Environmental Governance. *Annual Review of Environment and Resources*, 31 297-325.
- LIVERMAN, D. M. (2009) Conventions of climate change: constructions of danger and the dispossession of the atmosphere. *Journal of Historical Geography*, 35, 279-296.
- MCAFEE, K. (1999) Selling Nature To Save It? Biodiversity and Green Developmentalism. *Environment and Planning D: Society and Space*, 17, 133-154.
- MOSSE, D. (2001) 'People's knowledge', Participation and Patronage: Operations and Representations in Rural Development. IN COOKE, B. & KOTHARI, U. (Eds.) *Participation: The new Tyranny?* London, Zed Books.
- OLSEN, K. (2007) The clean development mechanism's contribution to sustainable development: a review of the literature. *Climatic Change*, 84, 59-73.
- OTTERSTROM, S., GONZÁLEZ, L., HODGSON, H., LEZAMA, M. N., VALERIO, L., FUENTES, C., HERNANDEZ, B., BOLAÑOS, G., MARCENARO, R., BARQUERO, T., RIVERA, M., GAITAN, Y. & MARTÍNEZ, J. (n.d) Return to Forest: Mitigating Climate Change through the Restoration and Conservation of Endangered Forest Ecosystems Paso Pacífico.
- PAUL, K. T. (2009) Food Safety: A Matter of Taste? Food Safety Policy in England, Germany, the Netherlands, and at the Level of the European Union. Amsterdam, Universiteit van Amsterdam.
- RUNHAAR, H., DIEPERINK, C. & DRIESSEN, P. (2006) Policy analysis for sustainable development: The toolbox for the environmental social scientist. *International Journal of Sustainability in Higher Education*, 7, 34 - 56.
- SAUNDERS, M., LEWIS, P. & THORNHILL, A. (2007) *Research Methods for Business Students*, Essex, Pearson Education Limited.
- STERN, N. (2007) *The Economics of Climate Change: The Stern Review*, Cambridge, UK, Cambridge University Press.
- TAYLOR, S. (2001) Locating and Conducting Discourse Analytic Research. IN WETHERELL, M., TAYLOR, S. & YATES, S. J. (Eds.) *Discourse as Data: A Guide for Analysis*. London, The Open University.
- UNFCCC (1998) Kyoto Protocol to the United Nations Framework Convention on Climate Change. United Nations.

- VAN GEEL, B. (2006) Global warming: the fault of man or the sun? Raised bogs as archives of climate change. *International Symposium 'Peat in the stranglehold of interest groups'*. Amsterdam, International Peat Society.
- WETHERELL, M., TAYLOR, S. & YATES, S. J. (2001a) *Discourse as Data: A guide for Analysis*, London, Sage Publications in association with The Open University.
- WETHERELL, M., TAYLOR, S. & YATES, S. J. (2001b) *Discourse Theory and Practice. A Reader*, London, SAGE Publications
- WILBANKS, T. J. (2003) Integrating climate change and sustainable development in a place-based context. *Climate Policy*, 3, S147-S154.

ANNEX. Sub-discourse identification table in the CCB Standards and the project design documents that follow the Standard's structure

Standards Criteria	Standards	Juma project	Ulu Masen project	Return to forest	Red River project	Project climate Apley
Introduction	Market, Expert & Poverty				Expert & Poverty	Market & Critical
Original conditions	Expert	Expert	Expert & Poverty	Expert	Expert & Poverty	
Baseline	Market, Expert & Poverty	Expert & Poverty	Expert & Poverty	Expert	Expert & Poverty	Expert
Projections	Participation	Expert, Market & Participation	Expert, Market & Participation	Expert, Market & Participation	Expert & Participation	Expert & Participation
Management capacity	Participation	Market	Market & Poverty		Expert	Market & Expert
Land tenure	Market	Participation	Expert	Market		Radical & Market
Legal status		Market & Participation	Expert & Market	Market		Expert
Adaptative management	Participation & Market	Expert, Market & Participation		Market	Expert	Market, Expert & Radical
Knowledge dissemination	Participation	Expert & Participation		Expert & Participation	Expert	Expert & Market
Net positive impact	Expert	Expert	Expert	Expert, Market & Participation	Expert	Expert
Offsite impacts		Expert	Expert & Market	Market		Expert & Participation
Climate monitoring	Expert	Expert	Expert	Expert	Expert	Expert
Adaptation				Expert		

Standards Criteria	Standards	Juma project	Ulu Masen project	Return to forest	Red River project	Project climate Apley
Carbon benefits	Market	Market	Market	Market	Market	Market
Community impacts	Poverty & Participation	Expert, Participation & Poverty	Poverty & Participation	Poverty & Participation	Poverty & Participation	
Offsite community Impacts	Poverty		Poverty	Poverty		Market
Community monitoring		Expert & Participation	Participation	Poverty & Participation	Participation	Market
Capacity building	Participation	Participation	Participation	Poverty & Participation	Participation	Radical & Participation
Best practices community	Expert & Market				Poverty & Participation	Radical & Market
Biodiversity impacts	Expert	Expert	Expert	Expert	Poverty & Participation	Expert
Offsite biodiversity impacts	Expert	Expert	Expert	Poverty	Expert & Poverty	Expert
Biodiversity monitoring	Expert	Expert	Expert	Expert	Expert	
Native species use	Expert		Expert	Expert	Expert	
Water & soil resource enhancement	Market			Expert		

‘Expert’ stands for expert-based decision-making oriented sub-discourse, ‘market’ for market-oriented, ‘participation’ for participatory-oriented, ‘poverty’ for poverty-alleviation-oriented, and ‘critical’ for critical-oriented sub-discourse. The empty cells refer to those criteria where none of the sub-discourses were identified.