

# SOCIAL IMPACTS OF CARBON OFFSETTING SCHEMES IN THE GLOBAL SOUTH

Illustrative Cases of Forest Carbon Sequestration Projects in Uganda  
and Mexico

Master's Thesis  
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**Abstract**

The issue of climate change is an ever-pressing challenge that is being addressed with an increasing urgency by countries around the world. It has led to the emergence of carbon markets to measure and limit the emission of Greenhouse gas (GHG) as well as to the development of the so-called green economy. A system for carbon compensation has also been established, according to which carbon emissions, which are currently mostly produced in industrialized countries, can be offset by emission-reduction projects, usually in developing countries. Such carbon offset projects either aim at preventing emissions from taking place or bind CO<sub>2</sub> from the atmosphere, and they are often forestry related. The logic appears sound as it makes sense to develop such projects where it is the cheapest, and in addition the purpose is to bring development to the local communities. It is in theory a triple-win solution of global conservation gains, greener economic growth, and poverty alleviation. In practice, those projects seem however to be plagued with problems, like the eviction of local peasants from their ancestral land, heightened conflicts in the local communities and the degradation of local ecosystems.

This thesis aims at researching and analyzing the social impact of carbon offsetting schemes in the Global South, understanding the main root causes of those impacts and proposing ways how existing and future projects could be improved to bring the best outcomes. Since I am studying the impact of carbon markets promoted by essentially former colonizers on local populations in former colonies, the theoretical chapter deep-dives on the concepts of post- and neo-colonialism to better understand the ways of thinking and acting of both sides. Another theoretical concept which is key for this thesis is that of the commodification and neo-liberalization of nature since carbon has become a commodity in the “green” economy, implying that everything can be quantified. This notion, however, finds its limitation when faced with the eco-social systems made of natural cycles and the human realm. Since forestry projects are the most common carbon offset initiatives, I needed to also study the literature on land tenure rights as they are a key component on how local communities are impacted by carbon offset projects.

In the second part of the thesis, I apply the theoretical framework to three cases selected in Uganda and Mexico where I study the contrasting perspectives brought up by project sponsors, western expats working on the ground and representatives from local communities. In doing so, and since I was not able to carry out direct field research, I am relying on the knowledge of experts who have been involved in the projects described or have done research on them.

I conclude that carbon offsetting schemes, as designed and implemented so far, can bring a negative social impact on local communities, especially when they consist of industrial scale monocultures of trees. I then suggest three concrete propositions to improve the selection, planning and implementation, as well as the follow-up of carbon offset projects so as to optimize their impact on local communities.

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**Keywords** Carbon offsetting, Global South, Neo-colonialism, Social impacts

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### Tiivistelmä

Ilmastonmuutos on aikamme suurin kriisi, jonka hallitsemiseksi on kehitelty erilaisia menetelmiä ympäri maailman. Yksi näistä menetelmistä on hiilimarkkinat, joiden tarkoitus on kasvihuonekaasujen mittaaminen ja rajoittaminen osana niin kutsuttua ”vihreää” taloutta. Hiilimarkkinaan kuuluva hiilikompensaatiojärjestelmä pyrkii hyvittämään teollistuneissa maissa syntyneitä hiilipäästöjä erilaisten, usein globaalissa etelässä toteutuvien, hankkeiden kautta, joiden tavoitteena on päästöjen syntymisen estäminen tai hiilidioksidin sitominen ilmakehään. Tällainen hanke voi olla esimerkiksi puiden istuttamista ja muuta metsänhoitoa. Projektien toteuttaminen globaalissa etelässä voi tuntua järkevältä sekä kustannusten minimoinnin että kehitysavun näkökulmista; ratkaisulta, joka suojelee luontoa, tuo vihreämpää talouskasvua ja lievittää köyhyyttä. Käytännössä nämä hankkeet näyttävät kuitenkin tuovan paljon ongelmia, kuten paikallisten pienviljelijäiden häätämistä heidän esi-isiensä mailta, konflikteja yhteisöissä ja ekosysteemien rappeutumista.

Tämän opinnäytetyön tavoitteena on tutkia ja analysoida hiilikompensaatiojärjestelmien sosiaalisia vaikutuksia globaalissa etelässä, ymmärtää näiden vaikutusten tärkeimmät syyt ja ehdottaa keinoja hankkeiden parantamiseksi parhaiden tulosten saavuttamiseksi. Koska tutkin pääosin entisten kolonisaattorien edistämien hiilimarkkinoiden vaikutusta entisten siirtomaiden paikalliseen väestöön, teoreettisessa luvussa syvennyn post- ja uuskolonialismin käsitteisiin ymmärtääkseni paremmin molempien osapuolten ajattelu- ja toimintatapoja. Toinen tämän opinnäytetyön keskeinen teoreettinen käsite on luonnon kaupallistaminen ja uusliberalisointi, kun hiilestä tehdään hyödyke ”vihreässä” taloudessa. Tällä käsitteellä on nimittäin rajoitteensa, sillä ekososiaaliset järjestelmät koostuvat luonnon sykleistä ja ihmismaailmasta, joiden toimintaa yhdessä on haastavaa ennakoida ja mitata. Koska metsänhoitoprojektit ovat yksi yleisimmistä hiilikompensointihankkeista, perehdyn myös maanomistusoikeuksiin liittyvään kirjallisuuteen, sillä ne ovat keskeinen osa sitä, miten hiilikompensointiprojektit vaikuttavat paikallisiin yhteisöihin.

Opinnäytetyön toisessa osassa sovellan teoreettista viitekehystä kolmeen Ugandassa ja Meksikossa valittuun tapaukseen, joissa tutkin projektin rahoittajien, paikan päällä työskentelevien organisaatioiden ja paikallisyhteisöjen edustajien tuomia vastakkaisia näkökulmia. Tukeudun hankkeisiin osallistuneiden tai niitä tutkivien asiantuntijoiden tietoon tapauksista, sillä minulle ei ollut mahdollista matkustaa itse paikan päälle.

Tutkielmani päätelmät ovat, että hiilikompensointijärjestelmät, sellaisina kuin ne on tähän mennessä suunniteltu ja toteutettu, voivat tuoda kielteisiä vaikutuksia paikallisiin yhteisöihin, varsinkin kun ne koostuvat monokulttuuriplantaaseista. Lopuksi esitän kolme konkreettista ehdotusta, joilla parannetaan hiilikompensointihankkeiden valintaa, suunnittelua ja toteutusta sekä seurantaa, jotta niiden vaikutus paikallisiin yhteisöihin voidaan optimoida positiiviseksi.

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**Avainsanat** hiilikompensaatio, globaali etelä, neokolonialismi, sosiaaliset vaikutukset

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# Table of Contents

1. Introduction	1
1.1. Background	2
1.2. Research gap, scope and relevance of topic	5
1.3. Research questions and objectives	5
1.4. Structure of the thesis	7
2. Literature review	8
2.1. Theoretical Framework	9
2.1.1. Post-colonialism, Neo-colonialism and Climate Justice	9
2.1.2. Commodification and neo-liberalization of nature	12
2.1.3. Contested landscapes: On land tenure rights	16
2.2. Carbon offsetting	19
2.2.1. Carbon Markets	19
2.2.2. Forest carbon credits	23
2.2.3. Criticism of carbon offsetting schemes	26
2.3. Summary of literature review	30
3. Research Design and Methods	32
3.1. Study design, process, and onto-epistemological starting point	33
3.2. Research context	35
3.2.1. Geographical context 1: Uganda	36
3.2.2. Geographical context 2: Mexico	37
3.2.3. Thematic context: Deforestation and carbon forestry	39
3.3. Data collection	41
3.4. Data analysis	44
3.5. Trustworthiness of the thesis	45
4. Data and Findings	47
4.1. Descriptions of Cases	48
4.1.1. Uganda	48
4.1.1.1. Colonial history and Land Rights in Uganda	48
4.1.1.2. Green Resources	49
4.1.2. Mexico	54
4.1.2.1. Colonial history and Land Rights in Mexico	54
4.1.2.2. Scolel Té	60

4.1.2.3 ICICO	61
4.2. Findings	64
4.2.1. Findings from Ugandan Case	64
4.2.1.1. What is happening: Reported positive and negative impacts on the local population	64
4.2.1.2. Why are such negative impacts so widespread?	69
4.2.1.3. Suggestions on how to improve the impact	72
4.2.2. Findings from Mexico cases	74
4.2.2.1 What is happening: Reported positive and negative impacts on the local population	74
4.2.2.2. What explains the difference in these impacts?	77
4.2.2.3. Suggestions on how to improve the impacts	80
5. Discussion and conclusions	83
5.1. Social impacts of carbon offsetting in the Global South	84
5.2. Reasons for the mixed social impacts on local population	86
5.3. Suggestions for Minimizing Negative Social Impacts from Carbon Offsetting Schemes in the Global South	87
5.4. Limitations and suggestions for future research	89
References	91



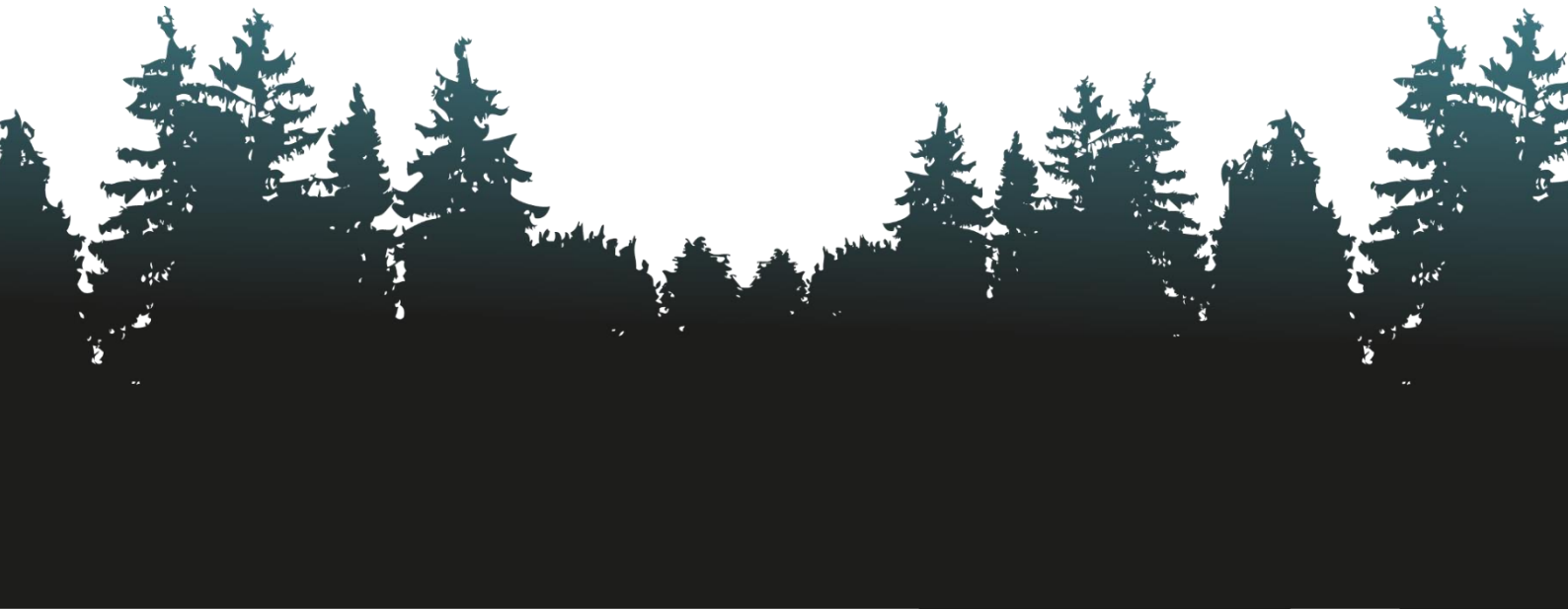
## List of Tables

<b>Table 1</b>	Examples of carbon offsetting schemes (Pera 2020; Puro Earth n.d. b).....	22
<b>Table 2</b>	Articles used as main sources of the case studies .....	43
<b>Table 3</b>	Interviewees of the research.....	43

## List of Figures

<b>Figure 1</b>	Procedures of compliance and voluntary offset projects. DNA refers to Designated National Authority, DOE to Designated Operational Entity, CDM EB to Clean Development Mechanism Executive Board, CER to Certified Emissions Reduction and VERs to Verified Emission Reductions, (Lovell and Liverman, 2010, p. 261).....	21
<b>Figure 2</b>	Thesis process .....	34
<b>Figure 3</b>	Data collection, the roots of the tree representing the research questions that the study is based on, the trunk the topics of the literature review and the branches and leaves contain the sources for the illustrative cases. ....	42
<b>Figure 4</b>	The organizational structure of Green Resources in Uganda, based on Mousseau and Teare, 2019, p. 9.....	51
<b>Figure 5</b>	Map of Uganda, showing the Bukaleba and Kachung License areas, based on Lyons et al., 2014, p. 5.....	52
<b>Figure 6</b>	Map of Mexico, showing in green the sites of engagement of ICICO in the State of Oaxaca and Scolel Te in the State of Chiapas as of 2016, based on Osborne and Shapiro-Garza, 2018, p. 93.	63
<b>Figure 7</b>	The organizational structure of Scolel Té and Integrator of Indigenous and Campesino Communities of Oaxaca (ICICO), from offset producers to Carbon Credit buyers, based on Osborne and Shapiro-Garza, 2018, p. 94.....	64

# 1. Introduction



In the introduction, I am setting the scene on the climate change issue and the measures which are being taken, in particular with carbon offsetting schemes (1.1.). I then look into the shortcomings of present research and define the scope and relevance of my topic accordingly (1.2.), resulting in three research questions (1.3.). I close the introduction part by outlining the structure of this document.

## 1.1. Background

When I started this thesis project in Autumn 2021, the United Nations (UN) Climate Change Conference COP26 was taking place in Glasgow. 196 signatory countries were present to make commitments to reduce their greenhouse gas emissions before it would be too late. Commitments made in 2015 in Paris are currently leading the world to 2.7 °C warming (UNFCCC, 2021). This is far from the goal of staying below 2 °C in 2100, and even further from 1.5 °C which is considered as a safe level (IPCC, 2018).

One of the topics of discussion at COP26 was the solidarity between the countries in the Global North and the Global South – Global North referring to the rich and powerful regions such as North America, Europe, and Australia, and Global South encompassing low-income and often politically or culturally marginalized areas of the world that can be found for example in Africa and Latin America. In the 2009 COP in Copenhagen, the North committed to transfer 100 billion euros to the South every year starting from 2020 to balance the Climate change mitigation efforts. At COP 26, it was announced that the payments will be postponed to 2023, creating public outrage. (T'sjoen, 2021).

Now, more than perhaps ever, it is important to show that all countries are willing to act together, or we will never reach the climate goals. It is very concerning that the emissions we create in the Global North will bring the most harmful consequences in the Global South (Dow et al., 2006). Supporters of the green economy have seen here an opportunity to combine climate change mitigation while supporting the countries in the Global South through the carbon compensation market. It has been made possible through two market-based systems: the Clean Development Mechanism (CDM), which allows an industrialized country to implement an emission-reduction project in developing

countries, and the less regulated voluntary carbon market that involves companies and individuals compensating for their carbon emissions through similar projects. Both types of mechanisms essentially transfer money from the developed nations to projects in the Global South that either prevent emissions from taking place (cleaner cookstoves, renewable energy, preserving a forest) or bind more CO<sub>2</sub> from the atmosphere (planting trees, biochar). At the same time, the projects aim to bring development to local communities, producing in theory a triple-win solution of Global conservation gains, greener economic growth and poverty alleviation. (Bumpus and Liverman, 2008).

While initially seen as a success story (Wilson, 2011), carbon offsetting schemes have received high amounts of critique from NGOs and scientists for being ineffective and unjust, inherently allowing companies and states in the Global North to continue business-as-usual operations while outsourcing the offsetting to the Global South. Scholars argue that the Global South is used as a way to clean the waste being produced in the Global North (FERN, 2005; Lohmann, 2011). Because of this, since the early days of carbon offsetting, the phenomenon has been labeled as “a new form of colonialism” (Bachram, 2004). As mentioned, a big portion of offsetting efforts have been concentrated in the Global South, essentially because it is cheaper due to lower standards of living.

The carbon offsetting companies use as a selling point that their projects can promote UN’s Sustainable Development Goals (SDGs) through bringing side-benefits to local people, for example extra income or improved health. Although this seems like a win-win concept, i.e. both the climate and disadvantaged people benefit, it is complicated to lead these programmes successfully precisely because of the fact that sometimes it is impossible to maintain both types of benefits. (Wilson, 2011).

Scholars have argued that carbon offsetting contributes to global inequalities in the access to environmental resources and finance, as carbon-offsetting starts from a process of commodification. This means a good that previously existed outside of the economy as a public resource accessible by anyone, is transferred to a private entity, local people being unaware of what they are selling. (Bakker, 2005; Kosoy and Corbera, 2010; Corbera and

Martin 2015). This would accumulate wealth to the already advantaged, most powerful actors in the value chain, that according to Corbera and Martin (2015) include developers and implementing companies.

In practice, the social and economic impacts on local populations seem to be mixed given possible environmental and social rebound effects. Environmental rebound effects include biodiversity loss and polluted waterways because of the use of chemicals and the monocultures of planted trees. Social rebound effects can include lost sources of livelihoods and more laborious work. Populations living in and nearby the forests, often consisting of indigenous people, survive through subsistence agriculture and are very dependent on the forest products. Forests rely on land, and land is always owned by someone or by an entity. Therefore, land tenure rights affect a lot how a forest is managed and who can use its resources, and conflicts arise when the laws of land tenure are unclear. (West et al. 2006).

This unclarity of local laws regarding land rights has basically two origins. One is a direct effect of colonial and postcolonial history where the colonizer went after the resources of the colony and distributed exploitation rights to private and state-controlled entities without any consideration for the local population. This naturally happened to forests, with logging concessions being granted on ancestral land of local communities. The other reason is related to the ever-increasing need for agricultural land that is taken over the forest areas by private actors, sometimes illegally, but often following a proactive governmental program with the aim to attract investments. In both cases, locals are being driven-out without respecting their rights, leading to protests by occupying land and demanding land redistribution. (Ellsworth and White, 2004)

This thesis takes a post and neo-colonialist approach to study carbon markets in the Global South and the impact they have created on local populations. A deep dive in the literature on the topic, expert interviews as well as two case studies suggest that carbon markets are inherently a form of neocolonialism and can therefore be referred to as “carbon colonialism”. The political and social conditions of former colonies lead to them being easily exploited by capitalism, globalization and cultural imperial power of the

corporations and nations of the Global North, and those impacted the most are the ones that have the least power.

## 1.2. Research gap, scope and relevance of topic

According to Börner et al. (2017) only a small number of impact evaluations exist on Payments for Ecosystem Services (PES, a key concept and tool that includes carbon offsetting). German et al. (2014) and West et al. (2006) also argue that there is relatively little specific research into forestry plantations and changes in local rights and livelihood impacts. In my thesis I fill this gap of lack of impact evaluation in PES, concentrating in carbon forestry as a form of PES. What I want to achieve is to understand both the positive and negative impacts of carbon offsetting projects to the people living adjacent to the forests or to those who take part in the PES project. I also intend to investigate the root causes of those impacts, which can be for example historical or political. I then plan to draw conclusions on what should be recommended to improve the selection, planning and management of carbon offsetting schemes in order to optimize their impact on local populations.

I believe that the topic of this thesis is highly relevant, because we do not have much time to figure out how to mitigate climate change, and if carbon offsetting is used as a tool to do it, it should not bring negative impacts to those that have contributed the least to climate change. I hope that by making this research, I contribute to a growing literature on climate justice which intends to bring up these inequalities. If we want to achieve long-lasting changes that benefit the planet and societies, social justice and equity should be taken as a priority.

## 1.3. Research questions and objectives

To explore the real influence of the carbon markets besides their climate mitigation potential, this thesis sets out to answer the following three research questions (RQ):

RQ1: What kind of social impacts does carbon offsetting generate in the Global South?

RQ2: What are the reasons for these impacts?

RQ3: How could these projects be improved so that they would bring the best outcomes?

The questions will be answered through a literature review and three illustrative cases from Uganda and Mexico. After considering a large scale of different types of carbon offsetting projects, the focus of the thesis has been narrowed to forestry projects as carbon sequestration through forestry is a commonly used carbon mitigation tool (Grafton et al., 2021). Choosing cases from different countries allows me to explore how carbon offsetting schemes may bring differing impacts in different parts of the world, whilst by choosing one project type (carbon forestry), I can compare the cases with each other.

RQ1 concentrates on the local people who either live adjacent to the carbon offsetting program or take part in implementing it. The former type of people will be represented in the Uganda case while the latter type in the Mexico cases. I will also discuss in the literature review what have been the impacts to local people in general in the different types of carbon offsetting projects.

RQ2 sets to explore why these impacts take place; what are the cultural, political and historical reasons? The question is interesting because most of these projects set out with the premise that they are supposed to bring good things to the locals, but many end up failing to deliver those benefits despite the good intentions.

RQ3 takes a step towards the practical implications of this thesis. The situation has been laid out through the first two research questions, but in order to go beyond a pure critique, I intend to make suggestions that should be considered when implementing carbon offsetting projects.

## 1.4. Structure of the thesis

The structure of the thesis follows the one suggested in the “Instructions for Writing a Master’s Thesis” document (Aalto University School of Business n.d.) provided during the Master’s Thesis Seminar course. The thesis starts with a literature review that explores existing research on the key concepts related to the topic chosen. After this I detail the design as well as the research method I have used, especially regarding data collection and data analysis. I also reflect on the trustworthiness of my writing given my current beliefs and the bias they create.

I then go into the core of my thesis, being data and findings, from three projects located in Uganda and Mexico. I conclude by bringing the discussion back to the broader theoretical context presented in the literature review and suggest how new carbon offsetting projects could be improved so as to optimize their impact. I also present some limitations to the study and propose topics that should be further researched.



## 2. Literature review



In this chapter, I set the theoretical framework that I have used (2.1.), starting with two key concepts for the research being post- and neo colonialism since my thesis concerns the Global South (2.1.1.) and commodification and neo-liberalization of nature because it is a prerequisite for trading carbon credits (2.1.2.). I also dig into literature about contested landscapes given their impact on local populations (2.1.3.). I then look into what has been written about the carbon markets in general (2.2.1.), the forest carbon credits in particular (2.2.2.) and the criticism which has been voiced on carbon offsetting schemes (2.2.3.). I conclude with a summary of the literature review (2.3.).

## 2.1. Theoretical Framework

### 2.1.1. Post-colonialism, Neo-colonialism and Climate Justice

The need of Westerners to act as the agent of development in the Global South, especially Africa, has been lately described as the “white savior complex”. This phenomenon refers to a white person believing that they know what the best for BIPOC people (Black, Indigenous and people of color) is and pursues to “save” them, as if they were passive recipients of the white goodwill. (Murphy, 2021).

The concept of “white saviorism” relates to my thesis as carbon offsetting projects are often initiated, financed and managed by experts from the Global North. In addition, and since I am studying the impact of carbon markets promoted by essentially former colonizers on local populations in former colonies, the concepts of post-colonialism and neo-colonialism are essential to understand the way of thinking and acting of both sides. Post-colonialism, despite its etymology, does not refer to colonialism being over, but rather that it has lasting impacts on the political, cultural and social condition of the former colonies. Neo-colonialism on the other hand concerns the ongoing influence of countries of the Global North on the former colonies, notably in Latin America and Africa, through capitalism, globalization and cultural imperial power. (Huggan 1997).

Weston and Imas (2019) reflect that post-colonialism is not exactly a unified theory, but rather a set of ideas that bring forward the historical and contemporary inequalities that are the result of colonialism and imperialism. Post-colonialism is not the only term

describing the phenomena since for example anti-colonial thinking, subaltern studies, indigenous perspectives and decolonial practices are also employed. While it is not an umbrella term, Weston and Imas (2019) use it to encompass the aforementioned ideas and practices combating the effects of past colonization. Post-colonialism is directly linked to neo-colonialism to the extent that it investigates the political and social power relationships that support neo-colonialism, including the political, social and cultural discourse around the former colonizer and colonized.

According to Halperin (2020), the term neo-colonialism was first used after the Second World War to describe how the former colonies, that had recently gained their independence, were still dependent on their colonizers and other foreign countries. Soon the meaning was developed to concern more largely how developed countries would use their power to exploit developing countries, thus shifting the tone of the concept to a negative one. While colonialism means nations directly ruling over other countries and their people, neocolonialism is understood as indirectly using power over those countries through transnational corporations and global institutions. (Halperin, 2020).

Some researchers consider that the roots of neocolonialism are in the Treaty of Rome of 1957, an accord between six European leaders to establish the European Common Market, and which also included their territories in Africa. This has been seen as a coordinated effort to prevent the former colonies from developing so that they could still be used for cheap labor and resources. Another example with the same purpose is the Truman Doctrine, a U.S. policy dating to the Cold War that made the U.S. government offer money to governments that accepted U.S. “protecting them from communism”. Through this doctrine, the U.S. gained great influence in these countries to the extent that it could choose their governments – ones that would favor the U.S. presence and economic incentives while being detrimental for the country’s own wellbeing. Other ways of gaining this position have been interfering to foreign conflicts and providing help in other ways to install favorable regimes. (ibid).

Neocolonialism can also be the unintended consequence of good intentions. For instance, foreign aid, as well as international financial institutions such as the

International Monetary Fund (IMF) and the World Bank, have been accused of being part of neo-colonialism. There are cases where this kind of aid results in not solving the root problems but rather gives temporary relief that keeps the countries dependent on the foreign donors. Even when the foreign aid targets the right people and gives results, it has to be remembered that there is still more economic value leaving the continent of Africa in the form of resources than what is being invested in it. Another issue is that, although foreign investments are portrayed as bringing wealth to everyone, they often enrich the already wealthy people of the target countries where corruption is largely common. (ibid).

The foreign companies and NGOs also bring Western employees, i.e. “expats”, to the target countries. Armitage (2015) and Murphy (2021) argue that expats, even the ones wanting to reduce the inequalities in the country, hold a position of superiority. As they can more easily move around the country than the locals who are bound to one place, they receive the misleading status of a foreign “expert” without any knowledge of the local context. These “white saviors”, with the actions of voluntary and public service, create a false feeling of indebtedness of the locals towards them, making it harder for locals to call them out.

A third concept that is closely linked with post- and neo-colonialism is climate justice, which discusses the role of colonialism in climate change. European colonialism did not only devastate local communities, it also ravaged ecosystems in the forms of biodiversity loss, deforestation and pollution (Funes, 2022). Climate justice is a concept and a movement that addresses the equitable distribution of benefits and burdens of climate change. The advocates of climate justice want it to be widely acknowledged that climate change can have different adverse impacts on underprivileged and vulnerable people, for example concerning different economic, social and public health situations. (Simmons, 2020).

The role of colonialism as a historical and ongoing driver for climate change was acknowledged for the first time in the latest report of the Intergovernmental Panel on Climate Change (IPCC 2022). In addition, colonialism was acknowledged in the report as being a force that exacerbates the former colonies' local communities' vulnerability to

climate change. As Funes (2022) highlights, the mentioning of the word colonialism is no small thing, as it means that both the top scientists that write the report as well as officials representing governments of all countries in the world, all want to bring this notion to the attention of policymakers. Since IPCC compiles findings from thousands of papers that already exist when drafting their report, this year's report reflects the explosion of literature linking colonialism and climate change. Meanwhile, climate justice movements have discussed the topic for decades already. Especially the rights and traditional knowledge of indigenous people are seen as the solution in mitigating climate change. Advocates believe that decolonization should take place at the same time and are worried about the "false climate solutions that promise to decrease carbon emissions (and may do so), but risk harming people on the way" (Funes, 2022).

All-in-all, it is important to consider the role of colonialism on climate change and how mitigation efforts are pursued through neocolonial systems such as carbon offsetting. Indigenous people should be increasingly viewed as the important protectors of the ecosystems and their efforts so far should be recognized.

### 2.1.2. Commodification and neo-liberalization of nature

Another concept which is key for this thesis is that of the commodification and neo-liberalization of nature since carbon has become a commodity in the "green" economy. It means that carbon is given an economic value and is being traded in the same way as securities or physical commodities in a marketplace (McAfee and Shapiro, 2010).

It all starts with the concept of green economy, i.e. an economy that aims at sustainable development without degrading the environment, and which can perhaps be best understood through the definition of "green innovation". Leal-Millán et al. (2017) define green innovations as innovations that "contribute to the creation of key products, services or processes to reduce the harm, impact, and deterioration to the environment and at the same time optimize the use of natural resources."

There are more and more investments into green innovations, which in itself is great news for the planet as it means that the importance of climate change and environmental degradation is better understood. Academics are however concerned with the motivations driving these investments. Lyons et al. (2014) for instance question the real intentions of actors that have been advocating the green economy framework through the United Nations. Lohmann (2011) goes further by calling them “strange bedfellows” since many companies from the agri-business, steel, mining, finance and oil sectors have been sponsoring Conferences of the Parties (COP), the main regular event on climate decision-making held by the United Nation Framework Convention on Climate Change (UNFCCC). The actors from these sectors are also members of the International Emissions Trading Association (IETA), The Carbon Markets and Investors Association (CMIA) and the World Business Council for Sustainable Development, all institutions with access to climate policy makers. (Lyons et al., 2014) As a result, green innovations can admittedly solve environmental problems, but the primary motivation behind them is often to make profit. And to make profit, a value needs to be given to certain elements of nature, i.e. nature needs to be commoditized.

Indeed, according to McAfee and Shapiro (2010), a leading environmental policy trend is the commodification of nature with the use of the Payments for Ecosystem Services (PES) as a central tool. PES is a market-based policy instrument that gives monetary compensation for people and communities as an incentive to conserve the natural resources that they manage (IPBES n.d.). Ecosystem services have been divided into 24 different services with three types having received the most interest: watershed services, biodiversity conservation and climate change mitigation (Millennium Ecosystem Assessment 2005). As part of climate change mitigation, carbon sequestration has been estimated to ultimately become the largest commodity in the world by value (Lohmann 2011). In the context of this thesis, it is therefore important to dig into PES and the various impacts it is having.

To start with, it is worth noting that the sponsors of PES, including governments, the World Bank, companies and environmental NGOs are not aligned when it comes to the

purpose of the programs: some view it strictly as cost-effective tools of conservation, but some as generating wider development to areas they operate in. The supporters of the latter ones believe that it can be a triple win solution as money is transferred to poor people, conservation gains are obtained with nature and greener economic growth is obtained. (McAfee and Shapiro 2010.)

Critics have discussed how PES contributes to the “neo-liberalization of nature” since it uses the same neoliberal rhetoric that is common in international policymaking for environmental issues (Liverman 2004; Liverman and Vilas 2006; Heynen et al. 2007; Castree 2008a). Neoliberal economists believe that the best way of getting optimal gains is through markets, because they allocate resources more efficiently than regulations by international treaties and states (Pagiola et al. 2005; Wunder 2005). Another way that critics argue that PES falls into the neoliberal rhetoric is that when elements of nature, such as carbon, are included in the realm of commodities, they become part of “the economy”, whilst they have been considered as separate of it before (McAfee 1999; Heynen et al. 2007).

The problem of including the natural realm into neoliberal models is that neoliberal economics assumes that everything can be measured and quantified in a predictable way. Natural cycles and non-human agents are however unpredictable, and in PES they are combined with the human realm, creating eco-social systems. Academics therefore argue that PES is incompatible with the neoclassical economic model for two reasons: 1) to make PES work, nature and society must be separated, which is impossible, and 2) PES aims at results in both conservation and development, but gaining both at the same time may in some situations not be feasible. (McAfee and Shapiro, 2010).

Non-human nature and humans intersect in PES. As a result, a specific ecosystem service is complex to quantify because the natural function (in the case of carbon credits, plants sequester carbon when they grow through photosynthesis) must be taken away from its ecological context and must also be socially disembodied to develop standardized

exchangeable units that have a certain value (i.e. carbon credits). (McAfee and Shapiro, 2010.)

This leads to an over-simplification since the “natural” and “social” aspects of carbon offsets cannot be ignored. Resonating with this, Castree (2008b) calls the neo-liberalization of nature a simultaneous “social, environmental and global project” that must renegotiate boundaries between the state, civil society and the market so that people’s lives and the non-human nature are more extensively taken into account by economic logic. The strategies for neoliberal environmental management must engage with social institutions related to the ecosystem services on different levels: from the national state to the local government, norms and practices; and finally, the grassroots level of the resource users, i.e. water consumers, forest dwellers, fishers and ranchers. (Nel and Hill, 2013; McAfee and Shapiro, 2010). The designers and institutional sponsors of PES must simultaneously accommodate the state, which has its own agenda and constraints, and the local communities that produce the ecosystem services on their land. These local communities are likely to have, on top of this, their own resource management practices, formal or informal organizations, values towards the environment and development priorities.

In practice, these complex relations make it very challenging for the neoliberal PES models to determine human behaviors and their impacts to the ecosystems (McAfee and Shapiro, 2010). Moreover, McAfee and Shapiro (2010) argue that the collaboration of these different local agents (state agencies, NGOs, community assemblies...) may generate conflict due to different power relations and inequalities, which again does not fit in the neoclassical economic discourse that neoliberal PES is part of. Late political historian Karl Polanyi ([1944] 2001) questioned the conceptual validity of self-regulating markets and emphasized how economies are embedded in society and culture. He warned that the current mainstream economic models are dangerous as they commodify the fictitious elements of labor and land. Land as a commodity, according to him, has such an indispensable connection to place and therefore holds a socio-spatial meaning, i.e.



cultural value, to the local communities. This means that attempts to commodify land will be opposed.

### 2.1.3 Contested landscapes: On land tenure rights

In the context of the two previous chapters, land tenure rights are a key component on how local communities are impacted by PES projects. Forests in particular, as part of PES, rely on land, and land is always owned by someone. Therefore, land tenure rights increasingly affect how a forest is managed and who can use its resources, and conflicts arise when the laws and regulations governing land tenure are unclear. Land rights also impact how local communities want to get involved in PES projects.

Land tenure rights refer to the ways in which property rights are allocated, transferred, used and managed in a country, region or society. Corbera et al. (2011) accentuate that rights to use the land take different shapes in different societies, so a single system of governance cannot be universally applied. **Access rights** refer to the right to enter a circumscribed physical property, and **withdrawal rights** permit the users to secure products from the land, such as collect firewood, catch fish and appropriate water. Users with **exclusion rights** can regulate who has access to the aforementioned rights, users with **management rights** can establish the rules and sanctions for the management of the land, and users with **alienation rights** can assign their rights to other parties. The differentiation of these rights leads to different types of users who are not equal with each other in the aspects of using the land's resources, accessing the land, and taking decisions concerning the land. (Corbera et al., 2011).

Hanna et al. (1996) group tenure systems in three categories based on the property rights. **Open access** systems are unregulated systems that allow anyone to access its natural resources, often due to the difficulty of setting up regulation and rules of exclusion for the resource users. **Private property** is land owned by individuals, based on the formal recognition of state authorities, and **common property** groups together resource users

that collectively share the ownership of the land or resources on it. This is common with indigenous and rural communities where community institutions and customary practices further determine the use of the resources between the community members in their own unique ways.

Corbera et al. (2011) argue that land tenure rights are one of the most important factors in ensuring that carbon forestry projects are legitimate and effective, as they define who gets access and applies control over land and forest resources. The access and control are characterized by social relations between the state, organizations, communities and individuals. Forest tenure regimes in particular have complicated and contested claims on who is allowed to use its resources, as while the forest would be owned by the state, communities can have customary property rights to certain trees and non-timber forest products, while settled migrants tend to claim rights for the exclusive use of specific forest areas. (Corbera et al., 2011) Studies suggest that most of the forest in the Global South, up to 76%, are formally owned and administered by governments, although the number varies across continents: in Latin America, 43% of forests are state-owned, while in Africa it increases up to 97% (Sunderlin et al., 2008; FAO, 2010).

Scholars refer to colonial and post-colonial history in explaining the contested rights on land tenure. Ellsworth et al. (2004) suggest that since governments gained management rights to forests, they have permitted state-controlled and private logging. Diverse actors have also competed, especially in tropical regions, in appropriating the rights to the land to expand agricultural activities (Araujo et al., 2009; Finley-Brook, 2007). Mousseau et al. (2020, p.3) suggest that many governments around the world have been persuaded to adopt the “Western capitalist notion of private land ownership”. Land is privatized from rural communities that have customary rights, putting it to “productive use” and “unlocking its value”, all in the name of “development”. Despite communities being dependent on land, governments may promote it as “available”, in order to attract private investments.

With 65 percent of the world’s land area stewarded by communities under customary systems, rural communities and indigenous groups have an important role in protecting

sustainable ecosystems from converting into cattle ranches, mines and monoculture plantations, all contributing to environmental degradation and climate change. Natural resources such as lakes, rivers, savannas and forests are not only their sources of livelihoods, but also important places of social and cultural significance. (Mousseau et al., 2020) In the light of this, it is not surprising that communities have formed grassroots movements to occupy land and claim for land redistribution (Simmons et al., 2010).

Land tenure systems are also an important factor determining whether people want to – or can – participate in PES projects (Hendrickson and Corbera, 2014). PES projects are primarily attractive since they bring income to households involved. However, the motivation to participate also comes from indirect and non-monetary benefits such as improvement in land rights, a better cohesion of the community and learning possibilities. (Wunder, 2005) Here co-benefits can include improvements in land tenure security, increases in social capital such as the internal organization of participants and learning-by-doing, forest management training, and higher visibility among donors, public agencies and external investors. However, some farmers cannot participate in the programs since they are simply not accepted, for example because they do not have formal land rights, or because local banks do not recognize forestry as a formal funding activity, limiting the borrowing capacity of small landowners to co-finance PES reforestation activities. (Hendrickson and Corbera, 2014).

In their review of eight PES initiatives in Latin America, Grieg-Gran et al. (200, from Kosoy et al., 2008) point out that poverty was a discrimination factor in some projects since formal land titles were a precondition to access the credit scheme. Other initiatives solved this dilemma by selecting disfavored communities and small farms. This shows that the benefits of specific PES schemes depend a lot on how they are designed (Kosoy et al., 2008).

## 2.2 Carbon offsetting

The main topic of this thesis being the impact of carbon offset markets on local populations in the Global South, it is worth making a deep dive into the different aspects of carbon offsetting. In essence, it is a mechanism in which an entity is paid to reduce Greenhouse Gas (GHG) emissions or absorb carbon from the atmosphere to compensate for emissions created in another place. The measurement unit used is the same as in the wider carbon market: one carbon credit is equivalent to one ton of CO<sub>2</sub>e (carbon dioxide equivalent) absorbed or reduced by the projects. (UNCC, n.d.).

### 2.2.1. Carbon Markets

Mitigating climate change through carbon offsetting methods, such as reforestation, was proposed for the first time in the 1970s, but considered seriously in international negotiations only in the 1990s (FAO n.d.). In the United Nations Conference on Environment and Development (UNCED) in 1992 in Rio de Janeiro, the Framework Convention on Climate Change (UNFCCC), a treaty that commits states to reduce their greenhouse gas emissions, was established. (Lovell and Liverman, 2010).

UNFCCC was extended in 1997 by the Kyoto Protocol which allowed the transfer of emission permits between parties. Countries that are parties to the convention, i.e. industrialized countries that ratified the Kyoto Protocol, made commitments on holding national inventories of GHGs and carbon sinks and established a first commitment of voluntary goals for reducing emissions by at least 5 percent between 2008 and 2012 compared to 1990 levels. (Bumpus and Liverman 2008).

Participating countries can achieve this by decreasing their amount of emissions or increasing the amount of carbon sinks. (FAO, n.d.; Lovell and Liverman, 2010). The targets should be met primarily through national measures, but as part of the protocol, three market-based mechanisms were developed to accelerate the climate change mitigation efforts as that was deemed more efficient than traditional “command-and-control” regulation (Bumpus and Liverman, 2008). These “flexible” mechanisms are

called the Joint Implementation (JI), the Clean Development Mechanism (CDM) and International Emissions Trading (IET). (FAO, n.d.; Bumpus and Liverman, 2008).

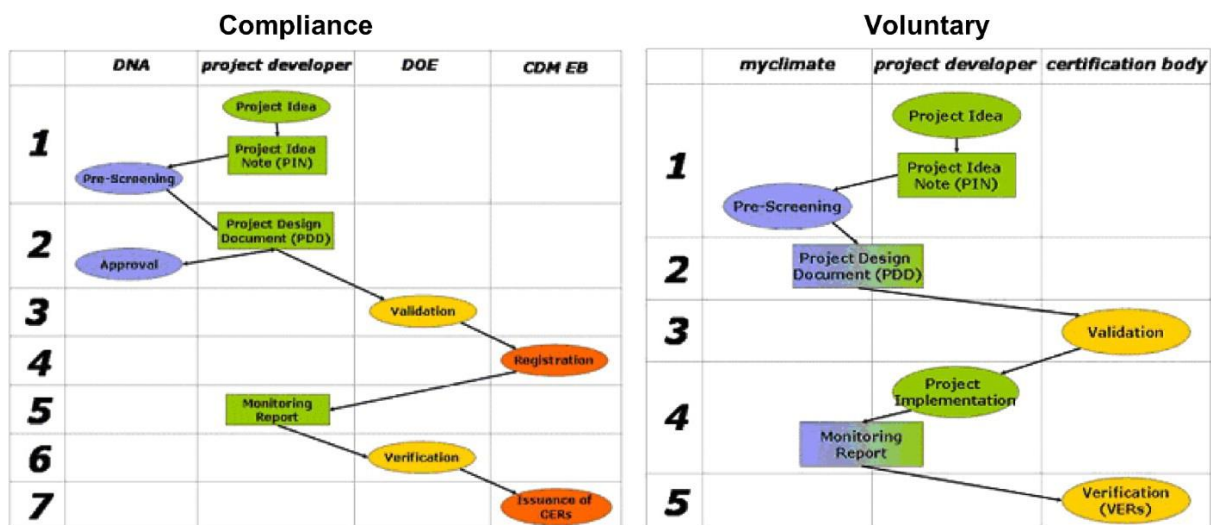
The JI and CDM are project-based mechanisms and they facilitate Annex I countries to purchase carbon credits internationally instead of reducing emissions domestically. UNFCCC's Annex I countries refer to the industrialized countries and economies in transition, such as Russia and Eastern Europe, that have ratified the Kyoto Protocol. The CDM involves investment in emission reduction or removal projects in developing countries, while JI enables Annex I countries to carry out emission reduction or removal projects in other Annex I countries. JI projects allow foreign investment and technology transfer while the CDM supports sustainable development. The third "flexible" mechanism of the Kyoto Protocol is Emissions trading. It allows countries that are not needing all their emissions units to sell them to countries that are going over their targets. (UNCC n.d.).

In CDM projects, while the non-Annex 1 countries do not have emissions caps, it is financially interesting for them to develop GHG carbon offsetting projects as they can sell Certified emission reduction (CER) credits to the Annex I countries (UNCC n.d.). Each CER credit is equivalent to a carbon credit (one ton of CO<sub>2</sub>). The projects can for example be rural electrification projects, more energy-efficient cookstoves or, as we will see in this thesis, forest restoration, conservation or afforestation projects. Parallel to this compliance market, a voluntary carbon market was developed independently, so that individuals and companies would be able to offset their emissions. Indeed, carbon offsetting has become an increasingly popular way for individuals to compensate for their lifestyles and an important element of companies' corporate social responsibility strategies (see Hamrick and Gallant 2017; Warburg et al. 2021).

In the voluntary market, anyone – NGOs, companies and individuals – can set up carbon offsetting projects and sell the carbon credits without having to comply with international regulations or standards. (Pera, 2020). In 2019, the compliance market generated over 48

billion USD in carbon revenue, while the voluntary carbon markets had a market value of more than 282 million USD (Poolen and Ryszka 2021, appendix 4).

Lovell and Liverman (2010) highlight that it is important to make the distinction between the compliance offset market and the voluntary carbon markets, as the procedures, such as standards, regulations and auditing, differ greatly between the two (see Figure 1). The compliance offset market has been established by the Kyoto protocol and is regulated through a multitude of international rules administered by the UNFCCC, which approves the projects. On the contrary, the voluntary market is informal, does not have a standard definition for credits nor standard for calculators and there are several types of competing voluntary standards. (Lovell and Liverman, 2010).



**Figure 1** Procedures of compliance and voluntary offset projects. DNA refers to Designated National Authority, DOE to Designated Operational Entity, CDM EB to Clean Development Mechanism Executive Board, CER to Certified Emissions Reduction and VERs to Verified Emission Reductions, (Lovell and Liverman, 2010, p. 261)

Since the voluntary offsetting markets are aimed at individuals and companies, Lovell and Liverman (2010, p.260) argue that social co-benefits of the projects are an important selling point, “as they have a story associated with them and can be sold at a premium as ‘gourmet’ or ‘boutique’ carbon with an emphasis on their poverty-alleviation ‘side benefits’”. Carbon offsetting provider Carbon Seed for example emphasizes that “the price of the carbon credit reflects not only the CO2 reduction capacity of the project but also other ecosystem services, the protection of biodiversity, social benefits, and the contribution to the UN Sustainable Development Goals that the emission reduction

project achieves” (Pera, 2020). Voluntary offsetting providers can use more flexible practices through informal networks consisting of NGOs and companies working in the Global South to produce carbon credits (Taiyab, 2006).

It should be noted that a few new terminologies are emerging to replace or be used in parallel with carbon offsetting. Carbon offsetting providers Climate Seed and the Net Zero Initiative (Pera, 2020; Dugast, 2020) prefer using the term “climate contribution” to make a point that carbon offsetting should be something additional and not justification to continuing pollution, and that emissions reduction is the priority. Climate Seed defines climate contributions as “a mechanism to support sustainable projects with environmental positive impacts that allow individuals and organizations to contribute to global carbon neutrality”, carbon neutrality referring to removing as much CO<sub>2</sub> annually as the emissions that are produced (Pera, 2020). Another company, Puro Earth, also rather uses the term carbon “removal” than carbon offsetting (Puro Earth n.d. a).

The types of offsetting projects are plenty, ranging from forest regeneration, the use of biochar in soil regeneration, to efficient cookstoves (see Table 1 for further examples of carbon offsetting projects). (Pera 2020).

**Table 1**      *Examples of carbon offsetting schemes (Pera 2020; Puro Earth n.d. b)*

Type of project	Description
<b>Forestry and Land Use</b>	Projects that protect and restore existing forest areas threatened by deforestation.
<b>Renewable Energy</b>	Renewable power infrastructure that contributes to the decarbonization of the local energy grid.
<b>Energy Efficiency and Fuel Switching</b>	Energy-saving measures that reduce carbon emissions and replace fossil fuels with sustainable energy sources
<b>Household Devices</b>	Efficient cookstoves that significantly reduce wood consumption, or biogas digesters that provide sustainable fuel to local communities and hence prevent deforestation and avoid GHG emissions.

<b>Agriculture</b>	Agricultural practices that store carbon in soils while restoring biodiversity and developing new sources of income for smallholders.
<b>Water Management</b>	Projects that supply clean water to households in rural communities removing the need to boil water.
<b>Waste Management</b>	Landfill projects designed to capture the methane released by the waste disposal and that can turn into clean fuel.
<b>Hydropower, Biomass, Wind, Gas</b>	Developing energy sources that emit less than energy sources in the current use.
<b>Biochar</b>	Produced from biomass or biowaste, biochar is a stable, solid form of carbon that can endure in soil for thousands of years. It can be used as a greenhouse additive, in soil regeneration and in wastewater treatment.
<b>Carbonated Building Elements</b>	Manufactured building elements from steel slag (waste material from steel industry) that replace concrete. Essentially, it's CO <sub>2</sub> negative concrete that removes more CO <sub>2</sub> than its production emits and stores CO <sub>2</sub> for good.
<b>Wooden Building Elements</b>	Using wood as a building element, which is more sustainable than many other elements as it stores carbon for 50 years.
<b>Geologically stored Carbon</b>	Direct injection of CO <sub>2</sub> into deep geological formations and oil and gas reservoirs

### 2.2.2 Forest carbon credits

Forest carbon credits were for a long time kept partially out of the carbon markets because there were uncertainties in quantifying reliably the GHGs from forests, their permanence and rebound effects (Chagas et al., 2020). The Paris Climate Agreement in 2015 however highlighted the role of forests in climate mitigation. Managing land differently was considered as the low-hanging fruit as it is a cost-effective method that can contribute to 37% of climate change mitigation efforts. This consists of reforestation, avoided deforestation and afforestation (Griscom et al., 2017).

Afforestation can be characterized as planting trees to an area where previously there had been no forests for at least 50 years, creating a new forest. Reforestation on the other hand



means planting trees in an area that was more recently deforested or the number of trees has been decreasing either through logging or natural perturbations. (Climate Adapt, 2021). Avoided deforestation refers to using financial incentives, such as carbon offsetting programs, to decrease rates of deforestation and forest degradation, for example by avoiding cutting trees (Palmer and Engel, 2009).

The majority of forest carbon credits traded in the voluntary markets come from avoided deforestation projects, i.e. projects that support forests being conserved and not cleared. Voluntary carbon offset buyers regard them attractive because they are easy to produce, there are a lot of them, and they are considered as supporting “nature”. (Forest Trends’ Ecosystem Marketplace, 2019). Grafton et al., (2021) also conclude in their Global Analysis of the Cost-Efficiency of Forest Carbon Sequestration that forest conservation is usually more cost-efficient than afforestation because afforestation includes costs in planting and opportunity costs in land use change. Forest conservation also facilitates avoiding extensive emissions that would take place if the area was deforested. While avoiding deforestation is the cheapest method, reforestation is considered cheaper than afforestation. The average cost of forest carbon in the top 50 most cost-efficient countries is around USD 4 – 9/tCO<sub>2</sub> via forest conservation and around USD 16 – 25/tCO<sub>2</sub> via afforestation. In regard to the case studies of this thesis, Mexico ranks in the top50 Countries where forest carbon sequestration is most cost-efficient, while Uganda does not (Grafton et al., 202, p. 43-44). (Grafton et al., 2021).

For monitoring and ensuring the quality of carbon offsetting programs, different standards and frameworks exist. From these, the most important one regarding forestry projects is REDD+, which stands for "Reducing Emissions from Deforestation and forest Degradation"; the “+” representing the role of conservation, sustainable management of forests and enhancement of forest carbon stocks. REDD+ was negotiated under the UNFCCC to facilitate international cooperation on reducing emissions from deforestation and forest degradation in developing countries (UNFCCC, n.d.b.). According to Duchelle et al. (2018), fifty countries have set national strategies for REDD+ projects. The credits are sold to both the voluntary and compliance market. (Simonet, 2018). The REDD+

projects concentrate on local awareness-raising and capacity-building including training for sustainable land use or institutional interventions such as restricting deforestation by regulation, land tenure clarification and strengthening or creating local governance institutions. Local livelihoods are enhanced through direct payments to households or community development projects, such as schools and wells. (Duchelle et al., 2018).

Duchelle et al. (2018) conducted an extensive study in which they explain what the impact of carbon forestry projects is, in terms of REDD+ interventions, regarding carbon and non-carbon (e.g. tenure, well-being, biodiversity) goals. Their review of 45 scientific papers about REDD+ projects around the world suggest that the carbon and land use outcomes show “moderately encouraging results”, while the non-carbon outcomes, especially well-being, show “small or insignificant” results (e.g. Jayachandran et al., 2017; Duchelle et al., 2017). Since REDD+ projects are not a homogenous group of interventions, but consist of information, institutions and incentives, and the initiative is quite new, Duchelle et al. (2017) stress that it is complex to yet make decisive conclusions about the impacts. Also, there is a lack of certain types of studies, such as on biodiversity.

The studies that Duchelle et al. (2017) reviewed brought up issues for local people, like compromised livelihoods due to the restrictions on forest access (Asiyanbu, 2016; McElwee et al., 2017), financial problems for sustaining activities (Lounela, 2015; Svarstad and Benjaminsen, 2017) and lack of success in creating long-term alternatives for livelihood opportunities (Lund et al., 2017). Problems with land tenure are also common in REDD+ projects, usually due to historical tenure arrangements (Saeed et al., 2017; Fischer 2010). These can lead to for example challenges in documenting customary land rights (Scheba and Rakotonarivo, 2016; Isyaku, 2017) and inequitable benefit distribution (Chomba et al., 2016), resource conflicts (Work, 2017). Findings on overall perceptions of wellbeing and income sufficiency in different countries also suggest that impacts are minimal (Sunderlin et al., 2017).

The review also looked at local participation to REDD+ and found that studies recommend improved engagement with local communities in order to enhance REDD+ performance. Locals in Uganda for example would have been more willing to participate

in projects if enough information was shared and the enrollment logistics were not complex (Jayachandran, et al. 2017). In both Uganda and Mexico participation was enhanced with formal land ownership, attenuating the fear of losing their land (Jayachandran et al., 2017; Hendrickson and Corbera, 2015). Labor availability, returns from agroforestry and a desire for taking part in collaborative groups are also positive factors (Hendrickson and Corbera, 2015). Participation can be also hindered by inequalities between different project members, such as between technicians and locals as exemplified in a REDD+ project in Mexico (Otto, 2016).

Different studies recommended the following for increasing participation: improving implementers' outreach (Jayachandran et al. 2017; Khatun et al. 2017), cultivating trust throughout the process (Hegde et al., 2015) and mapping locations of potential beneficiaries (Poudyal et al., 2016). Others put emphasis on the importance of granting opportunities for meaningful involvement to community members (Awung and Marchant, 2016), as well as dealing with institutions that local communities see as equitable (Atela et al. 2015) and permitting incremental participation over time (Holmes et al., 2017).

### 2.2.3. Criticism of carbon offsetting schemes

Carbon offsetting has received a lot of criticism since the start of the practice, both in terms of environmental integrity as well as human rights and equity (Ervine 2012). Scholars have critically assessed the narratives that carbon offsetting providers have adopted to appeal to their clients (Lovell and Liverman, 2009), the consumers and companies that buy carbon offsetting credits (Smith, 2007; Lovell and Liverman, 2009; Paterson and Stripple, 2012; Ervine. 2012; Dalsgaard, 2021) and the governance systems (or lack of) involved in the voluntary carbon markets (Hickmann, 2013; Bachram, 2004). The environmental benefits, i.e. the real potential of carbon offsetting to contribute to climate change mitigation, have also been criticized (Lovell and Liverman, 2009; Sneyd and Shopley, 2009, p. 84; Lovell and Liverman, 2010, p. 268; Wang and Corson, 2015; Cames et al., 2016) as well as what ethical concerns are involved in placing offsetting efforts in the Global South (Bachram, 2004; Bond and Dada, 2004; FERN, 2005;

Lohmann, 2011; Boyd et al, 2007; Beymer-Ferris and Bassett, 2012; Duchelle et al., 2013; Sunderlin et al., 2013; Corbera and Martin 2015).

Starting with the selling techniques of carbon offsetting, Lovell and Liverman (2009) argue that carbon offset producers have used three narratives to position carbon offsets: “Quick fix for the planet”, “Global – local connections” and “Avoiding the unavoidable”. “The Quick fix for the planet” narrative leans on the science of climate change; it argues that climate change is an urgent issue and we must take action straight away instead of pushing change through slower actions such as regulations, including the Kyoto Protocol. The “Global - local connections” narrative is used to argue that carbon offsetting is not bound to a specific place, i.e. there are no geographical barriers for it as the atmosphere covers the whole planet. Therefore, it is better to concentrate on the places in the world where it is the cheapest, i.e. the Global South. The third narrative “Avoiding the unavoidable”, targets the knowledgeable and responsible consumer. It is used to argue that there are some emissions that can simply not be reduced, which is why they should be negated to govern the “consuming self”. Through these different narratives it is clear that there is no single reasoning why carbon offsetting is a solution to the global problems and they can be easily questioned.

On the consumer side, carbon offsetting has been criticized for being a permission to pollute and not make actual emission reduction efforts. Companies have been accused of greenwashing as they have made claims of being “carbon neutral” although they have changed nothing in their business model or production. For example, Ervine (2012) argues that carbon offsets promote capitalism as a savior, the offsets functioning as artifacts that normalize consumption as a solution, with the notion that only through the development of new markets and profit opportunities can we solve the climate crisis. Further on, nature is seen as something that can and should be dominated and controlled.

Carbon offsets have also been compared to the indulgence payments that were used in the Catholic Church as a tool for getting forgiveness for one’s sins. The sinner got a clear consciousness while the church became richer and could finance the building of even

more magnificent churches and launch expensive crusades (Dalsgaard, 2021). In this line of critique, it is considered that emissions are not something “unavoidable” but can be regarded as luxuries (Smith, 2007). A good example of these kinds of “unavoidable” emissions that have been debated is flying (see Davies, 2007). Ervine (2012) goes as far as calling offsetting a “psycho-social device through which the individual's fears and discontents in the face of existential crises such as global warming are ultimately pacified”. Leaning on psychoanalytic theories, climate change is such a huge challenge that individuals take upon defensive responses such as denial, dissociation, and repression, leading to using any method (including carbon offsetting) to continue life as it is and maintain the illusion of normalcy. (Ervine 2012) Although the indulgence narrative is interesting, it is not completely accurate if we look at the phenomenon on a broader scale, as most transactions in voluntary offsets do not derive from guilt but rather corporate concerns with public relations and Corporate and Social Responsibility issues (Paterson 2009, p. 248).

The problem with putting so much effort in these discussions on whether consumers are in denial and responsible for their emissions is that focus is taken away from structural and collective responses. Smith (2007, p.7) argues that offsets deviate ‘the focus of action about climate change onto lifestyles, detracting from the local participation and movement building that is critical to the realization of genuine social change’. In this way, the focus is on the actions of private entities instead of how the system is governed on a global level. In the voluntary carbon markets, the governance is poorly established as national governments have delegated the oversight and daily supervision of the projects to private corporations. (Hickmann, 2013) Moreover, at least in the past, some corporations such as oil giants BP and Shell have conducted internal auditing, which has quite obvious conflicts of interest and unreliable data. Meanwhile, it is very challenging for NGOs to systematically monitor all these transactions made globally. (Bachram, 2004).

The challenges of governance methods raise the question on how to measure the true impact of carbon offsetting to the climate. The calculations of carbon savings in some

projects have been questioned, as Wang and Corson (2015) prove with the example of improved cookstoves in Kenya that leaned on false assumptions on households' fuel wood collection rates. However, the main part of this debate seems to revolve around the “additionality” of carbon offsets. Additionality in this case refers to whether carbon reduction would have taken place anyway, despite the existence of the carbon offsetting program (Lovell and Liverman, 2009). According to (Sneyd and Shopley, 2009, p. 84), 20% of the carbon allowances on the voluntary market may not be ‘additional’ but would have existed in any case, and in a European Commission study it was found that up to 85% of offsets in the CDM would have been non-additional (Cames et al. 2016). Some carbon offsetting methods in the Global South, such as improved cookstoves, have in fact been funded through development aid in the past, but have been later included in the carbon markets, making them rather non-additional since they already existed. (Lovell and Liverman, 2010).

Another challenge is the context in which these projects often take place: the Global South. Conducting offsetting projects in the Global South usually starts with the premise that the people involved in projects are poor. Poor people may accept conditions that bring them only short-term benefits and accept too low compensations for carbon reductions as they lack options (Corbera and Martin, 2015). The benefits may also be distributed unequally in communities and participants might not be allowed to sufficiently contribute to the decision-making (Bond and Dada, 2004; Boyd et al, 2007). For example, in a Kenyan carbon project related to agriculture, payments to communities were postponed by up to a couple of years due to uncertainties over measurement and validation procedures (Lee et al., 2015). The local governments may also lack competencies for supporting the offsetting programs, for example in managing land-use and tenure-rights in carbon forest projects (Duchelle et al., 2013; Sunderlin et al., 2013).

Dalsgaard (2021) analyses that, because of the critique over the years towards carbon offsetting, essentially through the perspective of the non-additionality and indulgence payment, we are moving to a narrative of Carbon offsetting projects as donations of development aid rather than compensating for carbon emissions. The fact that consumers

tend to finance offsetting projects that include poverty alleviation tells that purchasing choices do not only include guilt over produced emissions but also over the people whose livelihoods are threatened because of the consequences of climate change (Newell and Paterson, 2010). While carbon offsetting has been compared to Catholic indulgence payments, in this case the payments would be considered as donations to the local church to support the poor or maintain the building. Some carbon offset vendors and NGOs, including The Gold Standard (the non-profit foundation behind voluntary offsetting standards) are already moving from “compensation” terminology to “donations” and “green gifts” on their websites and public communication, calling carbon offsetting something “extra” rather than compensating for one’s emissions (Krøijer and Koch 2020, Skjoldager et al. 2020a; Skjoldager et al. 2020b).

Regarding forest carbon sequestration programs, there are mixed results on their effectiveness in terms of environmental and social outcomes. With the starting point that millions of indigenous people live in tropical forests and are dependent on them for subsistence agriculture, hunting and gathering and forest products such as rubber and nuts, it is clear that keeping both forest conservation and local livelihood enhancement agendas is complex. Forest clearing by loggers and colonizers has been harmful for these communities and provoked sometimes violent resistance. On the other hand, forest conservation does not always produce socially positive impacts. Urquhart et al. (1999, p.3) for instance raise this age-long issue:

“National and international governments and aid agencies struggle with questions about what level of human presence, if any, is compatible with conservation goals in tropical forests, how to balance the needs of indigenous peoples with expanding rural populations and national economic development, and whether establishing large, pristine, uninhabited protected areas—even if that means removing current residents—should be the highest priority of conservation efforts in tropical forests.”

### 2.3. Summary of literature review

In this literature review, I have focused on elements and concepts which are key for the theme of my thesis, being the impact of carbon offsetting projects sponsored by the global

North on local populations in countries of the Global South. A good understanding of the theories of post- and neo-colonialism is in that respect the unavoidable starting point as it allows us to better grasp the complicated relations between the parties involved due to historical reasons. Another key concept is that of commodification and neo-liberalization of nature, something widely accepted in the Global North, but which is deeply disturbing local social eco-systems in the Global South and partly explains the difficulties met by some projects. The third element of my theoretical framework is about land ownership rights in developing countries, an issue which has a huge impact on the success or failure of projects, as the lack of it impacts so much the local communities living on subsistence agriculture.

The other part of the literature review concerns carbon offsetting, starting with a deep dive into the carbon markets, both regulated and voluntary ones, to identify the obvious and hidden motivations which drive carbon offset projects for the better and for the worse. I then narrowed the focus on forestry carbon credits as the illustrative cases of the thesis are about forestry. I end-up the literature review with research criticizing carbon offsetting schemes in order to have a comprehensive view of all the elements to take into account in my analysis, especially since critics tend to focus on the negative impacts for local communities.



### 3. Research Design and Methods



This chapter explains how the study has been designed and what methods were used. I begin with a description of the study design, process and onto-epistemological starting point (3.1.), followed by the research context (3.2.) that details the position of the writer and outlines the geographical and thematic contexts (3.2.1., 3.2.2. and 3.2.3). The chapter then goes on illustrating the process of the data collection (3.3.) and analysis (3.4.) and ends with an evaluation of the trustworthiness of the thesis (3.5.).

### 3.1. Study design, process, and onto-epistemological starting point

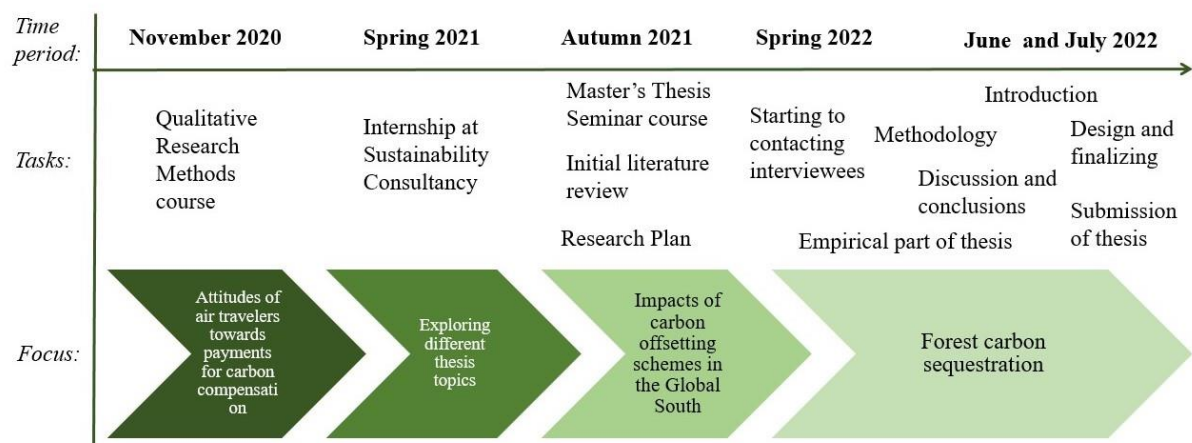
The study design is based on the research questions of my thesis, outlined in chapter 1.3. The literature review, preceding this chapter, gives a background to how carbon offsets are technically produced and what kind of controversies they include, and investigates the point of view of local people in terms of what these projects mean for them. The cases (4.1.1 and 4.1.2.) then illustrate the impacts on the ground for the local people and what has been the process there. The previous parts are concluded in the Discussion and Conclusions chapter (5.) that answers the third question of the thesis, i.e. how these projects could be improved to get the best outcomes. The conclusion thus gives some practical suggestions to balance the mostly critical assessment of the study.

The thesis has a long process behind it. I started thinking about potential topics in November 2020 when I participated in the Qualitative Research Methods course. I was already interested in carbon offsetting and decided to focus on the attitudes of air travelers towards payments for the carbon compensation of flights. My intention was to find out which cognitive factors determine whether air-travelers compensate for their emissions or not. The outcome of this research could have provided information on how compensation can be made more appealing for air-travelers and how carbon compensation providers could attract more customers. However, when I did the background research for this topic, I became more interested in what these projects actually are about and how some of the payments for compensation could be so cheap. The answer was in the location of the projects: the Global South. The websites of the carbon compensation providers would feature pictures of smiling children and success

stories. The cheap prices coupled with the amazing results seemed to be too good to be true.

In Autumn 2021, after spending the Spring doing internship in a Finnish sustainability consultancy that gave me new perspectives, I participated in the Master’s Thesis Seminar course and settled with the idea that I wanted to look into the impacts of carbon offsetting schemes in the Global South. The idea was to find examples of different kinds of projects to then evaluate which types would achieve the best social impacts. During the course, I made a research plan and started a literature review. The thesis moved forward very slowly from there, firstly because I was working part-time but also because I realized that the reason was simply that the scope was too broad. Therefore, in January 2022, I decided to focus on only one type of project: forest carbon sequestration.

The empirical part of the study was conducted during the Spring 2022, the last interview being at the beginning of June. The long process can be explained by the slow response time from interviewees, as the first ones were contacted already in February (Figure 2).



**Figure 2** Thesis process

The writing process was not linear, i.e. different parts of the thesis were not written one by one, but rather simultaneously. The literature review was the first one to be finished,

followed by this Methodology part and the case studies. The last chapters written were the Introduction and the Discussion and Conclusions in June 2022.

Regarding the onto-epistemological starting point, my research paradigm follows the constructivism approach, since I believe it is best suited to the nature of this research which is essentially qualitative. On the ontological side, there are obviously multiple realities, depending on who you are, whether a local inhabitant in the Global South being affected by a carbon project, a project sponsor having often different goals and interests, or an observer like myself. Although I am not directly connected to the main study subjects in the Global South nor geographically present there, I see myself as a part of the wider system of the North-South relationships. Furthermore, one of the companies involved is Finnfund, which is owned by the Finnish government, so in essence myself as a citizen and taxpayer, making me responsible for their actions. My epistemological stance is that knowledge needs to be interpreted to discover the underlying meaning, taking into account all the bias brought by my own background and beliefs, and trying to minimize their impact on the objectivity of my conclusions. I am therefore taking a substantialism approach which “takes reality as material, but acknowledges that people interpret it differently in different times and contexts” (Eriksson and Kovalainen, 2008, 15).

Since the thesis is mediated through my own interpretations of reality, it is good to take into account that I have quite strong opinions regarding the future of the planet and what should be done to save it. This is reflected in my personal life both in my everyday consumption choices and how I see the current economic system. I would like the reader to be aware of this influence on the conclusions of the thesis, although my intention is to interpret the data objectively to understand the complex realities.

### 3.2. Research context

To lay out the context of the research, I want to emphasize what was explained in the previous chapter: I am doing this research independently for my personal interest towards

the topic. I am a student at Aalto University and I am not getting compensation for this work. In this chapter, I describe the geographical and thematic contexts of the illustrative cases.

### 3.2.1. Geographical context 1: Uganda

Uganda is an East-Central African country bordered by South Sudan, Kenya, Tanzania, Rwanda and the Democratic Republic of Congo. As typical for African countries, it is inhabited by dozens of ethnic groups, partly a consequence of the colonial division of borders. While a large variety of indigenous dialects are used in everyday life, English and Swahili are the national official languages. Uganda is about the size of Great Britain, its former colonizer, and with 48 million inhabitants (World Population View, 2022) it also has a similar density. The population is however growing fast with an expected number of 58-61million by 2030 (United Nations, 2019) and as a result is very young, with about half of the citizens being under 15 years old. (Kokole et al., 2021).

Fast economic growth has enabled the decline of poverty in the country: in the beginning of the 1990s, 68% of the population was living under the poverty line of US\$ 1.90/day (World Bank, 2016), but in 2020 the number was down to 33% (World Bank 2020). Although more people have managed to get out of poverty, it still means that approximately 15 million live with less than 2 US dollars a day, and according to FAO et al. (2018), between 2015 and 2017, 17.2 million people were undernourished. There is a stark contrast between the growing middle class in cities and the impoverished rural populations, and medical facilities are accessed by only about half of the population (Kokole et al., 2021)

The landscape of Uganda is a plateau bordered by high mountains with a mostly tropical climate (Kokole et al., 2021). Uganda is in the midst of urbanization, with especially young men moving to cities such as the capital Kampala to look for jobs. However, four fifths of the working population is still occupied by agriculture, especially in the south where there is more rainfall and fertile soil. They cultivate mostly small-scale mixed plots of less than one hectare on average. The technology used by farmers is rudimentary, they

rely on hand hoes and do not have much access to fertilizers or herbicides. (Kokole et al., 2021)

### 3.2.2. Geographical context 2: Mexico

#### **Mexico**

Mexico is the third largest country in Latin America and consists of 32 socially and physically diverse states. It has gone through many economic booms that have brought social wellbeing, but also busts that have again reduced the living standards of middle and lower classes. Although the country joined in 1994 both the OECD and NAFTA (the North American Free Trade Agreement), its economy is still fragile. For instance, it suffered badly in 2009 due to the global financial crisis and its GDP fell as much as 4.7 percent. (Parkes et al., 2022).

Mexico is one of the most industrialized countries in Latin America, with manufacturing accounting for about one-fifth of GDP and employing one-sixth of the workforce. However, its Gross National Income (GNI) per capita was only at USD8,480 in 2020, compared with USD 64,555 for the USA (Britannica, The Information Architects of Encyclopaedia, 2022). In addition, the society in Mexico is divided between extreme wealth and poverty, with rich landowners and investors forming a small elite while rural and urban poor form the majority, and a middle class is wedged in-between. (Parkes et al., 2022) There are also blunt differences in outcomes across states. For example, in the Federal District (Mexico City), 58% of the labor force has at least a secondary education, while in the poorest state, Chiapas, the percentage is only 27%. This is the largest disparity in any OECD country except for Turkey. (OECD, 2015).

The country is also facing several challenges, such as endemic violence coming from the war against drug traffiquants, and generally because of widespread corruption as institutions are weak and the elites control the political and economic resources (Trench et al., 2018).

Geographically Mexico is for the most part highlands or mountains, extending from a tropical to a subtropical climate. Since much of Mexico is too dry or mountainous for agriculture, it is estimated that only about one-fifth of the country is arable. For this reason, a significant amount of grain is imported. The most important farming areas in the country are the tropical areas of the Gulf of Mexico coast and the Chiapas plateau, the farmland in the northern and northwestern regions, and the so-called Bajío plateau. The most valuable crops are coffee and sugar cane. (Trench et al., 2018).

### **Chiapas**

Chiapas is a state in southern Mexico with a population of 5,5 million. It is geographically characterized by forests that stretch from the mountain range of Sierra Madre de Chiapas to the plateaus of the Chiapas highlands, and notably include the Lacandón rainforest. (Britannica, T. Editors of Encyclopaedia, 2021b) Today, Chiapas is the poorest state in Mexico; and its impoverished rural areas are home to 50% of the state's population who live off subsistence agriculture. Many adults are illiterate and for instance in the towns of Ocosingo and Las Margaritas almost half of the population can't read (Schmal, 2019).

### **Oaxaca**

Oaxaca is a mountainous state west to Chiapas, also in the south of Mexico, with a population of 4.17 million. (Knoema, 2021). Similar to Chiapas, Oaxaca is a poor state that lacks education infrastructure outside of the capital. As the third poorest state, it produces only 1.5% of the GNP although the population accounts for 3.3% of Mexico's total population. (Ramos and Brena, 2008; Juárez and Margarita, 2008) Oaxaca is rich with minerals and therefore mining is a major source of employment. In the mountains, gold, silver, diamonds, onyx and uranium are extracted. Besides mining, agriculture is the other big employer of the state, occupying about a third of the population, but accounting for only 15.7% of the GDP. The development of industries has been hindered by a lack of roads and the mismanagement of some resources. Oaxaca is, with its large concentration of indigenous groups, one of the most ethnically diverse states besides Chiapas. The indigenous peoples have not agreed with all development suggestions and there has been local unrest. (History.com, 2018).

### 3.2.3. Thematic context: Deforestation and carbon forestry

Since forests are the most important terrestrial carbon storages, deforestation is a huge threat to the acceleration of climate change. Tropical forests are especially at stake since, if compared to the emissions of countries, tropical deforestation would rank as third, releasing more CO<sub>2</sub> a year than the European Union as a whole (Seymour and Busch 2016). Rainforests used to cover 14% of the land of Earth, but since 1947, the total area has decreased by more than a half. The rate of deforestation has only increased in the past decades, 40 hectares being cleared every minute (Johnson, 2015).

Deforestation refers to cutting down, burning, and damaging forests, caused mainly by humans clearing trees to replace them with pastures for cattle, farms or roads and commercial logging. Wood consists of approximately 50% carbon, so when trees are cut and burned, the carbon stored in the tree trunks is released in the atmosphere. Once cut, the tree also loses its ability to store carbon in the future. Besides releasing carbon in the atmosphere, deforestation causes profound impacts to biodiversity and local livelihoods. Those impacts are all entangled and exacerbate each other, generating social conflicts. (Urquhart et al., 1999).

There is not one single reason for deforestation. A large proportion of tropical rainforests are located in developing nations, and countries that have challenging economic situations may not have other options than to use their natural resources. Logging permits are sold to develop industry, pay off international debt or support other governmental projects. The biggest motivation for deforestation is agriculture, either commercial or subsistence. In Latin America, commercial agriculture accounts for 60% of deforestation, while the figure for subsistence agriculture is only about 30%. In Africa and Asia it is quite the opposite, subsistence agriculture is a larger motivation for deforestation than commercial agriculture (Coalition for Rainforest Nations, n.d.) as poor farmers cut trees and burn down the trunks on a few acres for space to grow crops or raise cattle. They may not have other employment options, the revenue from cutting down forests is higher than other



activities or it can simply improve their living conditions. (Urquhart et al., 1999; Johnson, 2015)

Clearing also happens on a larger scale for example for palm oil, beef and soy production for the international markets. Trees are also cut for producing timber and pulp, either through a process of clear-cutting all trees of an area or selectively cutting only the most valuable wood. Even selective cutting can hurt the forest ecosystems as the machinery required is heavy and building roads is required. A small part of deforestation is also related to constructing dams, towns, mines and supporting infrastructure such as roads. (Urquhart et al. 1999; Johnson, 2015)

Once a forest has been cut, it can be challenging to regenerate it later on, as the soil in tropical forests is very poor in nutrients (Johnson et al., 2015; Urquhart et al., 1999) and because of heavy rains in that climate, the minerals are washed away soon after. As an area is deforested, the soil quickly turns nutrient-free and cannot support the further growing of crops and this can happen in as little as 3 years. If the crops are replaced with cattle, it makes it only worse as the animals turn the ground compact, hindering the potential of one day recovering the forest. When the land is finally left to grow into a forest, it can take up to 50 years to grow back due to the lack of nutrients. (FAO, n.d.; Urquhart et al., 1999).

Tropical deforestation also impacts the local environment in severe ways. Firstly, the climate changes locally to hotter as the natural evaporative cooling system from trees and plants disappear. (Urquhart et al., 1999) Deforestation also compromises biodiversity. Tropical rainforests hold about half of all the species in the world, although they cover only 6-7% of the surface of Earth. In this respect, the future of rainforests does not look bright as 5-10% of their species are expected to be lost each decade. (Urquhart et al., 1999; Johnson, 2015).

For the two countries of the cases, the reasons for deforestation are somewhat similar as mentioned above. In Uganda, the forested areas have decreased in the past 100 years from 35% of coverage to 15% of coverage, with an annual deforestation rate of 4.1% between 2000 and 2015 (FCPF, n.d.a.). Protected forests deteriorated in the turbulent times after

the country's independence and civil war (Cavanagh and Benjaminson, 2014) which left a weak economy that did not have resources in rehabilitating national parks and forest reserves. (Cavanagh and Benjaminson, 2014)

The combination of a weak forest governance, a fast growing population needing more land and the development of commercial agriculture led to conflicts over access, use and control of the protected forest areas. (FCPF, n.d.a.) In addition, Nel and Hill (2013) point out that the priority given by the government towards commercial forestry and the corruption of the National Forestry Authority have led to the rise of encroachments in the forest reserves.

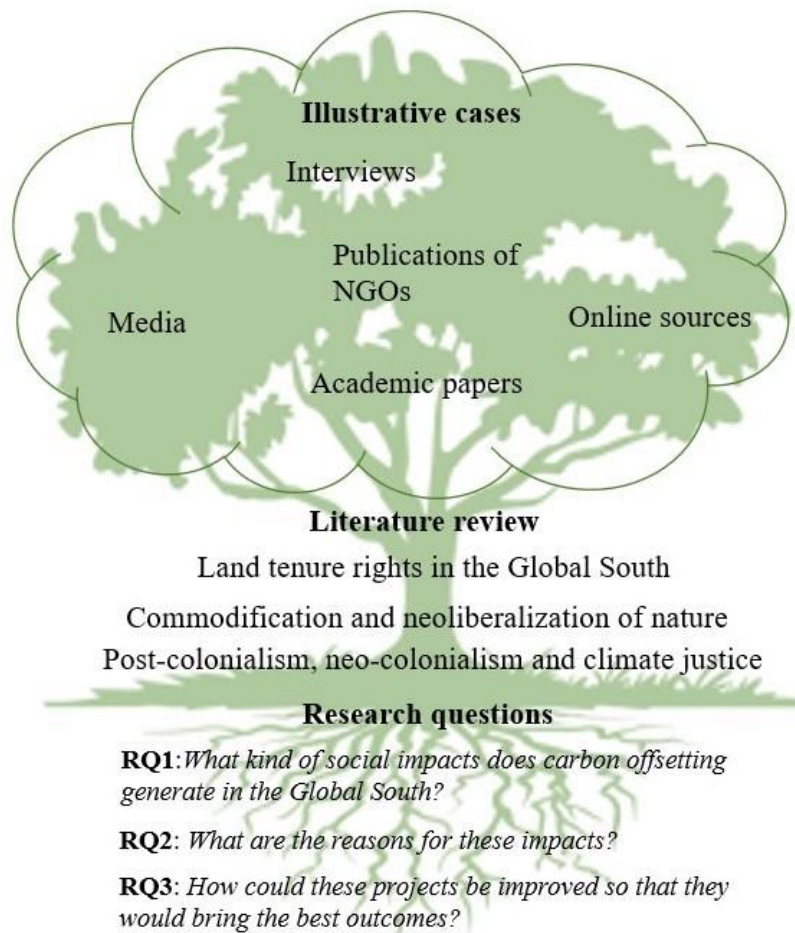
Mexico used to be mostly covered with forests. However, it was one of the most deforested countries in the world from 1976 to 2000 (Bray et al. 2005). Although some environmentalists have not agreed, the government has claimed that the annual deforestation rate has decreased, being at an average of 0.2% per year between 2000-2015. (FCPF, n.d.b).

The reasons behind deforestation in Mexico are a combination of factors, such as livestock farming, extension of traditional agricultural practices, cash crops, logging, ranching and mining (FCPF, n.d.b; Parkes et al., 2022). The government has been inefficient in tackling migratory processes in protected areas due to population growth (O'Brien, 1998) and forest resources have been mismanaged due to the insufficient planning of conservation and development partnership (Tucker, 2004). Some communities have struggled to put in place sustainable forestry management plans and to fend off illegal logging and overgrazing (Klooster, 1999).

### 3.3. Data collection

In order to answer the research questions of this thesis (see chapter 1.3.), I have used both primary and secondary data (Figure 3). The research started with gathering material

online about the cases through academic papers, media releases and publications of NGOs. This information was made richer through four interviews.



**Figure 3** Data collection, the roots of the tree representing the research questions that the study is based on, the trunk the topics of the literature review and the branches and leaves contain the sources for the illustrative cases.

The cases illustrated are based on case studies published as academic, peer-reviewed articles. They were chosen because the authors had been on the ground to interview both local people and the staff of companies and organizations involved, and they presented clear results regarding the impacts to local populations. The articles are presented in the table below (Table 2).

**Table 2** *Articles used as main sources of the case studies*

<b>Case</b>	<b>Article</b>
Green Resources	Adrian Nel and Douglas Hill. 2013. Constructing walls of carbon – the complexities of community, carbon sequestration and protected areas in Uganda, <i>Journal of Contemporary African Studies</i> , 31:3, p. 421-440.
	Lyons, K. and Westoby, P. 2014. Carbon markets and the new ‘Carbon Violence’: A Ugandan study, <i>International Journal of African Renaissance Studies - Multi-, Inter- and Transdisciplinarity</i> , 9:2, p. 77-94.
Scolel Te	Hendrickson, C.Y. and Corbera, E., 2015. Participation dynamics and institutional change in the Scolel Té carbon forestry project, Chiapas, Mexico, <i>Geoforum</i> , Volume 59, Pages 63-72.
	Osborne, T. and Shapiro-Garza, E., 2018. Embedding Carbon Markets: Complicating Commodification of Ecosystem Services in Mexico's Forests, <i>Annals of the American Association of Geographers</i> , 108:1, 88-105.
ICICO	

Regarding the interviewees, I decided to start by contacting the authors of the articles (in Table 2). I also contacted staff from the organizations involved in the projects, such as Green Resources, Finnfund, ICICO, AMBIO and Pronatura. From some I did not get a reply at all and some did not continue the discussion. One interviewee agreed for the interview but did not answer further emails. This could be due to the lack of time on their side or the sensitivity of the topic. I also contacted a Mexican classmate from my master’s program who has worked with indigenous communities involved in REDD+ projects in Mexico. Below is the list of people I eventually interviewed (Table 3).

**Table 3** *Interviewees of the research*

<b>Name of interviewee</b>	<b>Position</b>	<b>Relevance to the research</b>
Kristen Lyons	Professor, School of Social	Co-author of Lyons and

	Sciences, University of Queensland	Westoby (2014), Senior Fellow at the Oakland Institute, expert in indigenous rights
Anne Arvola	Senior Development Impact Advisor at Finnfund	Finnfund is one of the main owners of Green Resources
Adrian Nel	Professor, University of Kwazulu-Natal	Co-author of Nel and Hill (2013), research focused on land rights in Africa
Andrea Gilly	Human-centered designer	Worked in a REDD+ project in Oaxaca, Mexico

The interviews I conducted were semi-structured and lasted from 30 minutes to one hour. The questions asked varied for each interview as the topic of the interview differed for each person, according to their connection to the case studies and their expertise.

### 3.4. Data analysis

The “Data and Findings” chapter of this thesis consists of two parts: “Description of Cases” and “Findings”. The description of the cases includes mostly secondary data while the Findings are a mix of both primary and secondary data. In the Description of Cases, I explain the basic facts about the background of the projects (i.e. the history and land rights of the countries they take place in) and the data is mostly secondary, so it did not require that much analyzing. Nevertheless, this information is crucial for understanding the cases as a whole.

However, since the Findings part involved mixing different kinds of data, I analyzed it in two steps. First stage consisted of transcribing the interviews and looking for words and expressions that would come up many times and that would describe the impacts for local populations or the reasons behind these impacts. Such words could be for example “agency”, “violence”, “on the ground” and “de jure and de facto” which I would consider as the “key words”. I also noticed some themes that came up regularly in the interviews,

and I grouped all the sentences that were related to those themes. A theme could be for example “the neo-liberalization of forestry-governance”.

The second step was comparing the themes and keywords from the interviews with each other and with the secondary data. I noticed a consistency between all the interviews and the secondary data, except for some points made by the representative of Finnfund (Arvola, 2022) that differed from the statements of Nel (2022) and Lyons (2022). I considered this as a difference of point of view since Arvola (2022) was representing a company while Nel (2022) and Lyons (2022) are independent researchers.

A crucial part of the data analysis was viewing the data through the theoretical framework set in the literature review. This means that I paid special attention to mentions and references that were related to post- and neo-colonialism, the commodification of nature, land rights and climate justice.

### 3.5. Trustworthiness of the thesis

This study was limited since I did not have the possibility to travel to the locations of the case studies in order to interview local people and therefore had to rely on the knowledge of experts that had been involved in the projects described or had done research on them. In addition, although I am doing an extensive literature review and gathering as much data as I can for the cases, there are limitations in time, making it impossible to include all data available. Furthermore, the data is gathered from mostly English sources, leaving out research done in other languages.

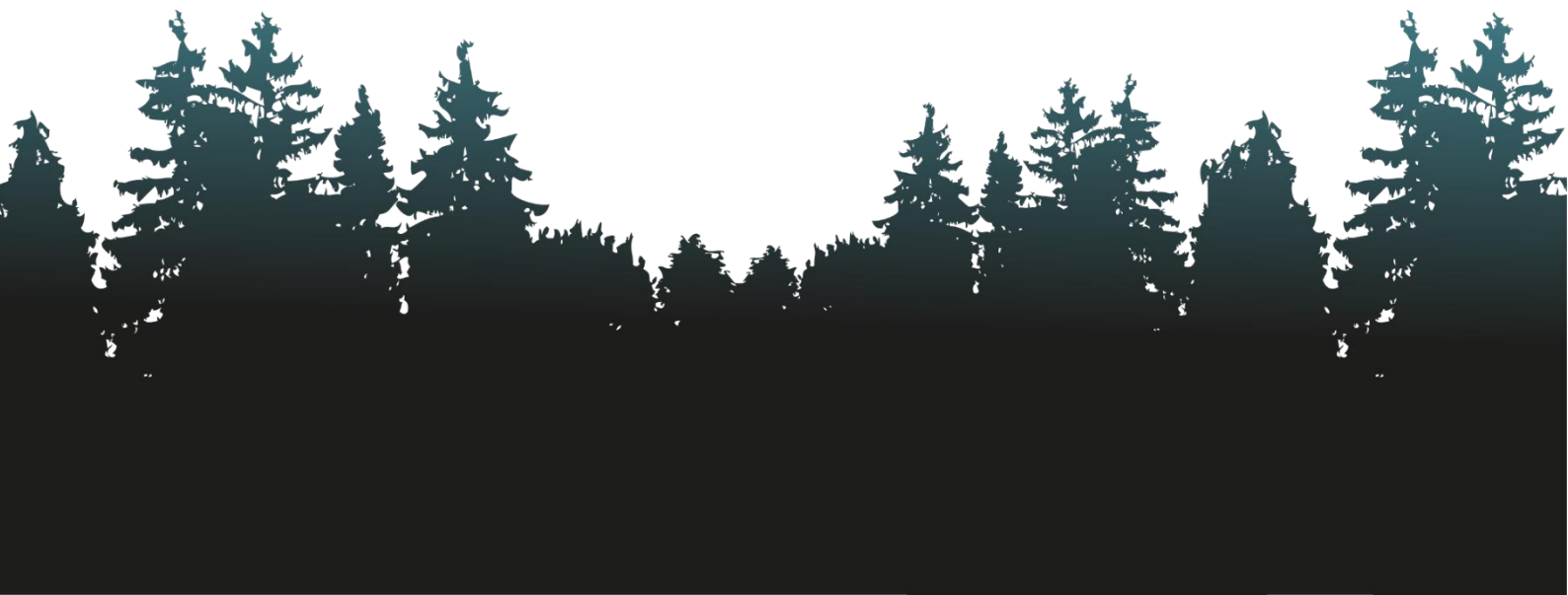
Regarding chosen data utilized in the thesis, the related accessible literature and the persons interviewed might bias my analysis and conclusions. In particular, the project Green Resources is interesting since there has been a lot of media attention, mostly because of its shortcomings. There are probably many cases which function much better but do not get the same attention for that very reason, and consequently there is less material available on them.

One could also question the reliability of my findings and conclusions given the subjective bias that I bring to this research. I am genuinely very worried about issues related to climate change, biodiversity and ethical treatment of minorities. I therefore have a tendency to put more emphasis on existing research or elements of interviews which confirm my assumptions. As such, maybe another researcher could come up with slightly different conclusions because of their convictions.

Despite these limitations, the thesis can be considered as credible as I use a triangulation of data. This means that I have used more than one method to gather data on the same issue to ensure the legitimacy of the research. The purpose has been to consider various dimensions of the same phenomenon.

Ethical concerns have also been considered during the research. As the collection of data is a central topic in qualitative research (Eriksson and Kovalainen, 2008), I am responsible for making sure that during this phase the participants, i.e. interviewees, know their rights in being able to withdraw at any point of the study. At the beginning of the interviewees, the participants were asked whether they accepted that the interview would be recorded, and they were given the option to participate anonymously.

## 4. Data and Findings





This chapter is about the three cases that I have reviewed for this thesis. I start by describing the context in each country with a focus on their colonial history and land rights (4.1.1.1., 4.1.2.1) and then deep dive on the cases themselves (4.1.1.2, 4.1.2.2, 4.1.2.3.). In the section on findings, I also review separately each country with what is happening (4.2.1.1., 4.2.2.1), why it is happening (4.2.1.2., 4.2.2.2) and suggestions on how the social impacts could be improved (4.2.1.3., 4.2.2.3.).

## 4.1. Descriptions of Cases

### 4.1.1. Uganda

#### 4.1.1.1 Colonial history and Land Rights in Uganda

Uganda's colonial history explains a lot what it is today. Rather than being invaded all at once, the colonization was a longer process that started in 1877 with the arrival of British religious missionaries (Armitage, 2015). Before this, the area that is today called Uganda was made of various kingdoms (African Studies Centre, n.d.). The British started imposing economic and political power in the region through the British East Africa Company. One of the kingdoms, Buganda, offered their services to the British as tax collectors for taxing the other kingdoms. The British saw this as an opportunity to deepen the existing rivalries between the different people and started using the technique of divide and rule. They exaggerated the already existing differences between the kingdoms and ethnic groups and privileged some over others. This differentiation between various groups is still felt today and is a source of conflicts. (Armitage, 2015).

Another issue creating division and hierarchies comes from the fact that Asian immigrants, who came in the 1930s and 40s to build railroads, were given by the British colonial rule the role of intermediaries in the trade of cash crops. A major part of the sugarcane agriculture for instance is still controlled by Indians. (Armitage, 2015; African Studies Centre, n.d.).

It has been said however that Uganda's problems did not start with the arrival of the British, but rather at their departure. At the independence of Uganda in 1962, president

Milton Obote was elected and pursued to create a one-party state in the attempt to unify the people of the country. Since the British had encouraged the loyalties to the different kingdoms, people felt angered by this attempt to dissolve them. Today's inequalities between the urban and rural areas can be attributed to politics favoring "Western development" in the form of neoliberalism. This highlights the power of markets in creating growth while disregarding the responsibility of the government to balance the economic welfare across the country. As a result, the development of rural areas has been neglected. In addition, since the government wants to attract foreign investments for economic benefits, the cities are designed to accommodate the needs of expats and receive the bulk of the investments in infrastructure. Armitage (2015) argues that this has created a racial hierarchy in the country where the native Ugandans are at the lowest, Asians come second and Western people are at the top. (Armitage, 2015).

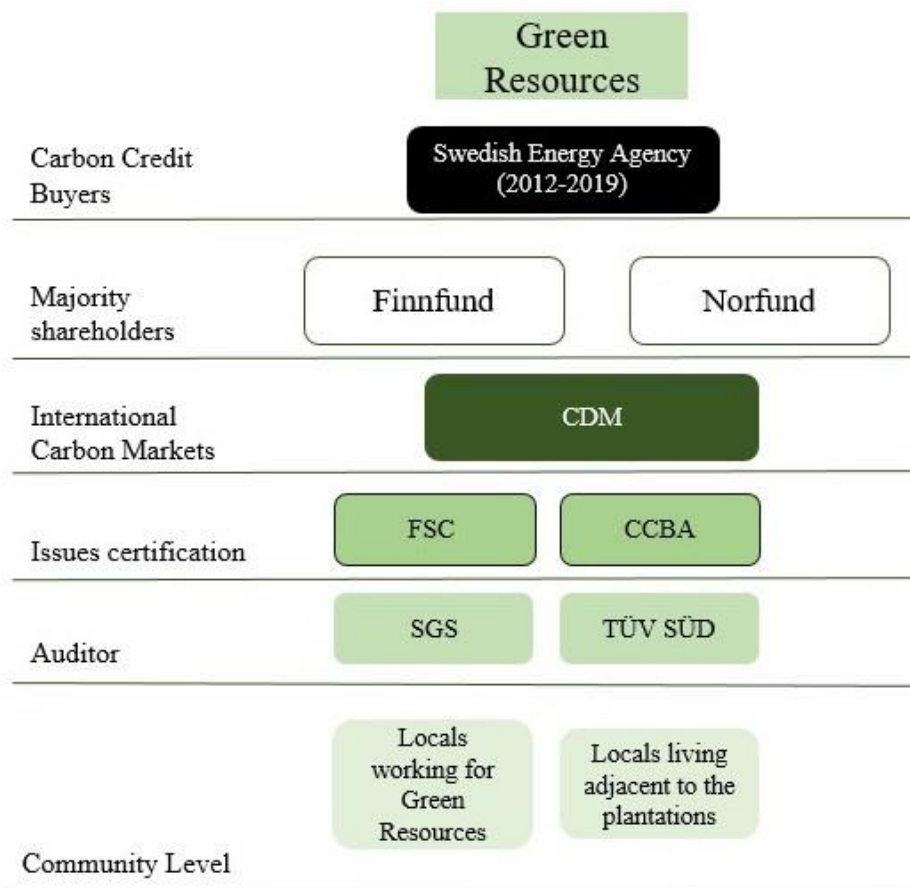
Post-colonialism has a clear impact on how Ugandan people consider their own society as they have internalized western concepts around development. Tribal communities are seen as an obstacle to progress, leading to discriminations within the country, and their cultural richness is overlooked. Instead, they are incentivized to give up their traditional ways of living, often based on cattle herding and subsistence agriculture, and move into a more commercial form of agriculture. (ibid).

Because these traditional ways of living are not valued and there are tensions between rural areas and cities, the land tenure rights in rural areas are rather nonexistent. Lyons and Westoby (2014) argue that this is not a major issue only in Uganda, but in Africa as a whole. The colonial governments essentially permitted access for local communities to public land to reduce the pressure in providing services, only to soon favor foreign investments and licensing the land to them. The nature of local politics, especially because Uganda is a democracy, means that winning votes is a widespread practice which often comes at the cost of the already marginalized communities.

#### 4.1.1.2 Green Resources

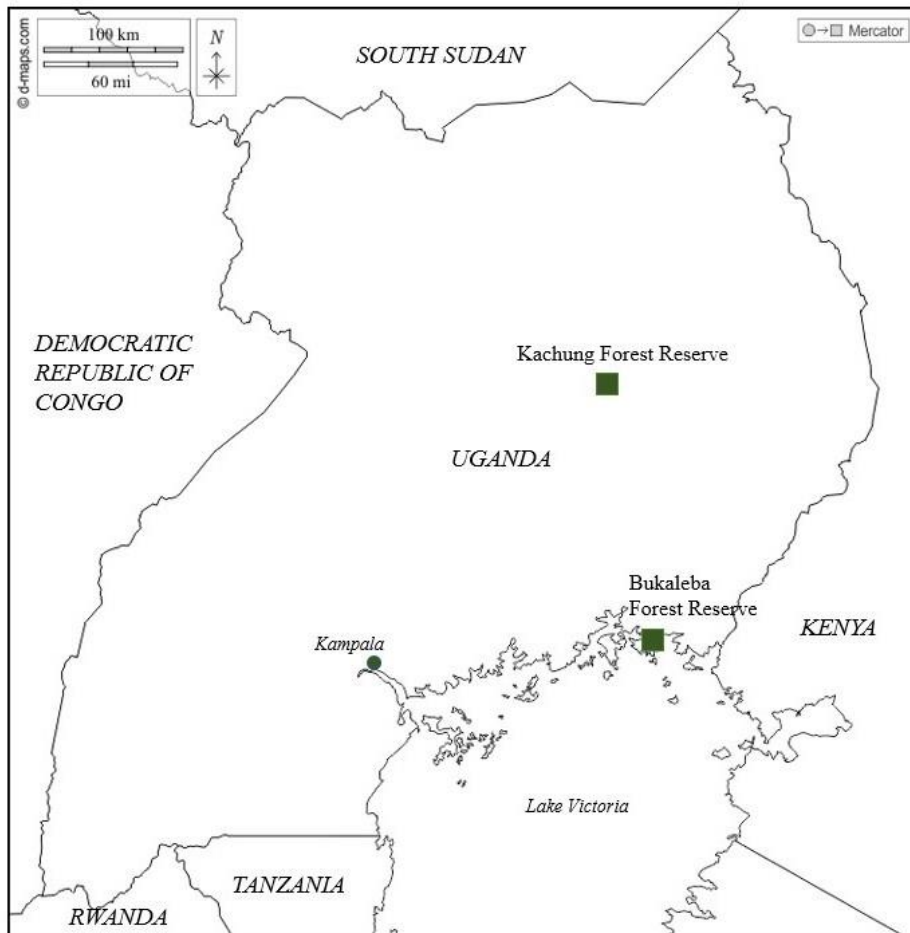
Green Resources is a private Norwegian company established in 1995 operating in Africa where they produce carbon offsets and forest products through planting trees. The company is the biggest forest development and wood processing company in East Africa, claiming to have planted more trees than anyone else in the African continent. Besides Uganda, they have operations for example in Mozambique and Tanzania, in total 38 000 ha as of 2013. (Nel and Hill, 2013) The company is accredited by three bodies: The Climate, Community and Biodiversity Alliance (CCBA), the Forest Stewardship Council (FSC) and the United Nation's Clean Development Mechanism (CDM) (Green Resources, n.d.a; Green Resources n.d.b.) – however not all their plantations have the same certifications. For instance, for the FSC standard, three quarters of the forest operations are certified with the goal of certifying the remaining quarter by the end of financial year 2022/23 (Green Resources, n.d.c).

The funding of Green Resources comes from both private investors as well as public development institutions. The main shareholders of the company today are Norfund and Finnfund, respectively Norwegian and Finnish development institutions. Finnfund has given two loans to the company, US\$ 10 million in 2012 that was increased to US\$ 14.77 million in 2018 (Green Resources, 2018). This makes 50% of the financing of Green Resources' operations (Finnfund, n.d.). Furthermore, the carbon credits produced on the plantation were sold to the Swedish Energy Agency (SEA), a state-owned energy producer, until 2015 (Development Today, 2015). Overall, it can be concluded that the company has been highly influenced by the governments of these three Nordic countries. (See Figure 4 for the organizational structure of Green Resources in Uganda)



**Figure 4** The organizational structure of Green Resources in Uganda, based on Mousseau and Teare, 2019, p. 9.

In Uganda, Green Resources has two plantations in Central Forest Reserves: the Bukaleba Forest Reserve and the Kachung Forest Reserve (Figure 5). For both plantations, Green Resources has 50 year licenses, which allows two rotations of planting and harvesting trees. (Nel and Hill, 2013). The trees planted are non-native species: 40% eucalyptus and 60% pine. Bukaleba is located in Mayuge District which is on the shores of Lake Victoria in the East, while Kachung is in Dokolo District in the North. The trees have been planted here for two reasons: timber and carbon offsets. From wood, the company produces sawn timber, utility poles, pallets, pine seedlings, eucalyptus clones, and fencing posts, while the carbon credits are sold to both the compliance market as well as the voluntary market (Green Resources n.d.).



**Figure 5** Map of Uganda, showing the Bukaleba and Kachung License areas, based on Lyons et al., 2014, p. 5.

In Mayuge, the 4500 hectares of land was awarded to Green Resources in 1996 to form the Bukaleba Forest Reserve. The certificates that the plantation had are the Forest Stewardship Council (FSC) and Verified Carbon Standard (VCS), the latter one obtained in 2012. (Nel and Hill 2013; Bondevik, 2013). Lyons et al. (2014) suggest that the reason why the reserve did not obtain more verifications is because of the high levels of tension and conflict in the villages located in the company’s license area. The conflict on the land between locals and authorities date back to the late 1930s when residents of the whole area were asked to leave because of the epidemic of sleeping sickness, spread by Tsetse flies. The communities were not allowed to hunt or eat game meat but were promised that they could return when the situation would be under control. The prolongation of the epidemic however resulted in the area being formalized as a forest reserve in 1974.

Despite this, communities continued to live and plant crops in the area until the late 80s and 90s when the evictions started. (UFRIC, 1999).

The other Forest reserve under Green Resources license, Kachung, consists of 2800 hectares in the Dokolo District and was awarded to the company three years later, in 1999. The carbon credits from the plantation are issued through the CDM to the Swedish Energy Agency for the period 2012 - 2032, with a contract worth approximately US \$4 million. Within this period an estimated 1.5 million tons of carbon dioxide were supposed to be sequestered with an average of 60,000 tons each year. (Mugambe, 2007). Kachung was also approved for the Climate Community and Biodiversity Standard (CCBS) in 2011. For this reserve, Lyons et al. (2014) suggest that it was easier to obtain the above-mentioned verifications because of a lower level of conflict in the area (compared to Bukaleba). The authors believe that this is due to the fact that the villages are located outside, not inside, the contested area.

There are several reasons for why there have been people living and cultivating in the areas licensed to Green Resources. Poverty in both Mayuge and Kachung is compelling since people live day-by-day to meet their needs, living conditions are not adequate and with 137 of 1000 children dying before the age of 5 years, the infant mortality rate is high (Garberg, 2012). In fact, as many as 80 % of the villagers located close to Green Resources' plantation are subsistence farmers, and about two thirds live below the poverty line (Climate Focus, 2011). Lack of arable land is a main reason for this; according to Nel and Hill (2013), in Mayuge the average land holding is only one acre against the national average of 2.6. The lack of land is exacerbated with a growing population and the industrial agriculture of crops such as coffee and sugarcane (Sassen et al. 2013).

Nel and Hill (2013) present as additional reasons that the boundaries of the reserve have been marked unclearly due to a lack of resources from the local authorities, and that local politicians have not kept their promises on taking local needs into account. Garberg (2012) adds that although local communities have lived in the area for several decades, they do not have legal rights to the land.

The takeover of the land from locals has been described as “violent” in many sources. The evictions were led by the company staff who also brought in the police, military and NFA staff, with locals receiving little or no notice. The evictions included guns and some people were imprisoned – even killed in the early evictions of the 90s, according to Nel and Hill (2013). Community members described that in many cases the company just arrived and started planting on top of their crops. In fear of being imprisoned, people left behind the land that they relied upon, including their crops, houses and animals as well as burial sites. The circumstances were so stressful that a number of suicides were reported after the incidents. Green Resources staff members did not seem to accept the violent methods of evicting people, but at the same time they justified the process by referring to the community members as “trespassers” and “encroachers” and expressing their frustration on them staying in the area illegally. (Lyons and Westoby, 2014).

The evictions and their consequences have been reported and documented by several researchers, such as Nell and Hill (2013) and Lyons et al. (2014) from the Oakland Institute and NGOs such as REDD Monitor, as well as the Swedish documentary *Kalla Fakta* on TV4 (2015) and the Finnish documentary *A-Studio* on YLE (2017). Especially *Kalla Fakta* made a big impact and brought the case to the attention of the wider public. Although the carbon credit buyer SEA initially denied any wrongdoing, they eventually decided to stop payments for the carbon compensation in 2015 and divested altogether from the project in 2018, probably as a result of the media pressure. Finnfund and Norfund on the other hand have remained the majority shareholders of the company.

## 4.1.2. Mexico

### 4.1.2.1. Colonial history and Land Rights in Mexico

Once populated with multiple indigenous peoples with different languages and highly sophisticated cultures, Mexico is today the world's largest Spanish-speaking country, owing the status quo to its violent colonial history. Today Indigenous people, Amerindians, only account less than one-tenth of the total population. (Parkes et al. 2022) Historians believe that the first Amerindians settled in the area of Mexico as long as 30 000-40 000 years ago. At around 2000 B.C. agriculture started being common and village

communities formed. These village communities became more and more complex and started to surround political-religious capitals. Some cities reached large numbers in population, such as Teotihuacán with 125 000-200 000 habitants, and the Amerindians used very precise calendars. The last large population that ruled in Mexico were the Aztecs that founded the city state of Tenochtitán in the 14th century and ruled Central and Southern Mexico until the arrival of the Spanish in the 16th century. (Diamond 1997).

The Spanish conquistadors, lead of Hernán Cortes, arrived in Tenochtitán in 1519. The Aztec ruler Montezuma believed that he was the god Quetzalcóatl returning from the East, as the Aztec mytology's prophecy had predicted, and they treated the Spanish in a friendly manner. The friendliness however ended when the Spanish killed many of the Aztec aristocrats, and took over the lead of the city. In addition, the Smallpox brought by the invaders killed 40% of the population of Tenochtitán in just one year. The Spanish established a colony called New Spain and built its capital in the ruins of Tenochtitán, renaming it as Mexico. They then governed Mexico using a feudal system where a Spanish landowner would get a certain piece of land under their rule along with the areas indigenous people who were forced to work as slaves. The landowner's "responsibility" was to ensure the wellbeing of their subordinates and spread education and Christianity. (Diamond 1997).

Until the revolution of 1910, the rural peasantry stayed landless and worked under a debt peonage system on large estates. With the revolution came land reforms that redistributed land. Today, while the capital, Mexico City, is a megacity with one of the most populous metropolitan areas in the world, in the isolated rural areas, traditional indigenous lifestyles prevail. These are States such as Oaxaca and Chiapas. In these areas, indigenous people still form the majority of the population, with Mayans, Zapotecs and Mixtecs. They also happen to be the poorest states of Mexico, with subsistence farming on small plots of land to grow corn, beans and squash, often part of communal village holdings. The farming method is very labor intensive with low per capita productivity, hindering economic development. (Parks et al. 2022)



Chiapas has one of the biggest indigenous populations of Mexico, and the state contains many remarkable archeological sites, such as the Mayan ruins of Bonampak and the UNESCO World Heritage site of Palenque (Britannica, T. Editors of Encyclopaedia 2021b). Among the indigenous languages, Mayan language and its dialects are the most spoken. Because of differences in development during the Spanish colonial period, the indigenous identity has stayed strong in Chiapas compared to the Northern states of Mexico. This was due to the Spanish thinking that the state lacked mineral wealth, leading them to take less interest in the area. Also, the mestizaje process – Spanish descendants mixing with local indigenous people – was not as strong as in other parts of Mexico. The ethnic groups of Chiapas have thus preserved their traditions and customs, but at the same time they have never fully embraced the Mexican identity. (Schmal 2019).

At the turn of the 20th century, a small landowning elite was in power in Chiapas, while most of the people had to settle for what was left. After the Mexican revolution and its land reforms in 1910, some people joined communal farms. In the middle of the century, the Pan-American highway and a railway were also extended in the state, but this infrastructure did not yield any additional investments. (Britannica, T. Editors of Encyclopaedia, 2021b) In the recent decades, Chiapas has become known for its rich resources of agricultural production (corn, beans, bananas, cacao and coffee), cattle-ranching, hydroelectric power (accounting for 35% of Mexico's energy production), timber and petroleum (Schmal, 2019; Britannica, T. Editors of Encyclopaedia, 2021b). The archeological sites of the Mayan past are also a source of income as they attract tourism.

## **Chiapas**

In the late 80s and 90s neoliberal reforms put the grain and coffee producers in trouble; access to land in Chiapas was limited, especially the one used for milpa, a slash-and-burn agriculture system of subsistence production that is socially and culturally highly important in Chiapas. (Harvey, 1995) Furthermore, when Mexico joined the North

American Free Trade Agreement (NAFTA), the price of corn and bean declined due to import quotas on grain, and this was another hit for farmers.

To oppose these reforms and Mexico joining NAFTA, impoverished indigenous people and the middle-class in Chiapas created the Zapatista Army of National Liberation (EZLN) that demanded land, democracy and autonomy (Harvey, 1995; Eisenstadt 2009). The discourse, that has stayed and spread since then, emphasized autonomy from the state and state-aligned community leaders. (Harvey, 1995; Eisenstadt 2009) The “Zapatistas”, named after the leading figure of the Mexican revolution of 1910-20 Emiliano Zapata, wanted to bring to surface issues that indigenous people had been facing since a long time, such as poverty and their ties to the land. The rebels have highlighted their need for proper housing, work, health care, food, education, cultural recognition and security. (Schmal, 2019) They have also engaged in protecting the environment and fighting against corruption. As can be concluded from the long list of topics that the Zapatistas advocate for, Schmal (2019) implies that the problems that the rebel movement has with the Mexican Federal Government are very complicated.

The movement, called “one of the most significant indigenous rebellions of the 20th century” (Hackbarth and Mooers, 2019), became world famous when the Zapatistas rallied to the Chiapan towns of San Cristobal de las Casas, Las Margaritas, Altamirano and Ocosingo on the first day of 1994, occupying the cities. This was the same day as NAFTA was supposed to come into force. The military base was taken over through a siege, weapons were captured and prisoners released from jails. The response of the Mexican government was violent as they pushed the rebels back in the countryside of Los Altos. (Schmal 2019; Hackbarth and Mooers, 2019) Still today, the government responses have been all but friendly: In 2016, families living in the disputed areas for coffee growing were driven from their homes and the trees providing shade for the coffee were cleared. The state police and army arrived and shots were fired. (Hackbarth and Mooers, 2019)

However, in 1996 and thanks to the movement, a series of constitutional reforms were accepted in the government that would recognize the autonomy, collective rights and self-determination of Mexico’s indigenous people. A great disappointment was that these

reforms were never ratified, and the Mexican government still attempts to suffocate the movement. They have placed dozens of military bases in Chiapas, which are mostly located in the areas controlled by the Zapatistas, but also areas containing great amounts of natural resources, such as uranium, water and barite. The fears of the consequences regarding NAFTA that the Zapatistas had have also reproduced; the region has been opened up for large-scale ranching, and the prices that small farmers received from beans, corn and coffee have been driven down. This means that Mexico imports almost half of these products today and has become dependent on many staple products from the United States. The development programs led by the government in education, health and regional development have been suspected as the state's attempt to direct the allegiances of local people towards the state from the rebel movement. (Hackbarth and Mooers, 2019).

The Zapatista movement is still active today, and for example announced in 2019 new autonomous organizing regions called *caracoles*. Although the state is officially led by a governor (Britannica, T. Editors of Encyclopaedia 2021b), the Zapatistas have established regional "good government councils" (Juntas de Buen Gobierno), opposing the "bad government" of federal Mexico, and extended their influence in new regions of Chiapas. One of their core advocacy topics currently is moving land rights from private to collective and gaining decision-making power in investments in the region. They have made gains in terms of autonomous education, women's rights and healthcare. What has hindered their work is the fact that they have refused to accept any funds from the Mexican state, which is a problem in regions that are dependent on the government services and agricultural subsidies. (Hackbarth and Mooers, 2019).

## **Oaxaca**

The 16 indigenous groups of the state contain hundreds of subgroups with their own unique linguistic and cultural differences, speaking Zapotec, Mixtec, Mazatec, Chinantec and Mixé. The largest of these groups are the Zapotecs that account for about one third of the total indigenous population with about 420,000 people. (INEGI n.d.) They have

been in the region also for the longest as little migration has happened. The majority of the population lives outside of urban areas, many engaging in subsistence farming. (History.com 2018; Britannica, T. Editors of Encyclopaedia 2021a; 2021b).

The state has its own government, headed by a governor, and local governmental units, “municipios”, manage more local affairs from their headquarters located in a city, town or village (Britannica, T. Editors of Encyclopaedia (2021a). The governing was not always as democratic; during the 300 years of colonial time, a class hierarchy system ensured that the higher government posts were occupied only with Criollos (Spaniards and their descendants), and only at the end of the period in the 19th century, Mestizos (people with Spanish and indigenous background), could hold public office. The comparatively few indigenous people that had survived the violent invasion of the Spanish retreated in the remote villages where they continued to cultivate land, they went to work in mines or on large estates, called haciendas, for the Spanish nobles. During the revolution of 1910, Oaxacans idolized and followed Emiliano Zapata who declared that the land belonged to workers; an idea that resonated well with the people who for so long did not have land rights and were exploited by the landowners. The ideas of the Zapatista movement in the 1990s have also echoed well with the people of Oaxaca. This is why guerilla-style operations have taken place when locals have not been content with the local government, such as with the 2006 attack and protest against Governor Ulises Ruiz who was accused of fraud during the elections (History.com 2018)

Land tenure in Mexico is unique, being a legacy of the agricultural reforms done between 1915 and 1992 when over half of the country’s land was granted to local rural communities in what is called “ejidos”, a form of social property, on the condition that forests would be handled in a sustainable way. (Corbera et al., 2011) This is still largely the case but in 1992, Mexico changed its constitution ahead of joining NAFTA two years later. Being part of this free trade agreement required to make the agricultural sector more attractive to private investors, weakening the status of ejidos and leading to conflicts over land. (Trench et al., 2018).

#### 4.1.2.2. Scolel Té

Scolel Té, meaning “the tree that grows” in the Tzeltal Mayan language, began in 1996 as an experiment for carbon sequestration through agroforestry and forestry systems. Based in the state of Chiapas (Figure 6), the project links indigenous and smallholder farmers to the Voluntary Carbon markets. It was one of the first voluntary carbon offset projects in the world (Hendrickson and Corbera, 2015) and traded the world’s first voluntary carbon credits (Plan Vivo, n.d.). The project provided early participants with an economic alternative since Mexico’s neoliberal reforms of late 80s and 90s had made the coffee, bean and corn prices go down. (Osborne, 2015).

The project has been coordinated by a Chiapas-based NGO called **Cooperativa AMBIO** that takes care of providing technical support for local producers. The carbon sales are operated by a trust fund called **Fondo Bioclimatico**, that holds and sells the credits to the voluntary carbon market, where buyers have included such diverse entities as the World Bank, the carbon company Forest Futures, the International Automobile Federation and the rock band Pink Floyd. The project developed into a structured system called Plan Vivo, which today is applied in other Latin American and African countries. (Ruiz-De-Ona-Plaza et al., 2011). The **Plan Vivo Foundation** has established a set of standards which include sustainability criteria for community-based ecosystem services projects and uses the **Rainforest Alliance SmartWood** program as a third-party verifier. Other organizations involved are state agencies, including the **National Forestry Commission (CONAFOR)**, which supplies seedlings, and Mexico’s **Secretary of the Environment and Natural Resources (SEMARNAT)**, which provides training to carbon producers and permissions to harvest and sell timber. (Hendrickson and Corbera, 2015; Osborne and Shapiro-Garza, 2018) (See Figure 7 for the organizational structure)

The project started off as a pilot project that involved a feasibility study done in collaboration with Mexican and British research units and a local coffee producer association, and financing was provided by the Mexican and British governments. (Tipper 2002; Brown and Corbera 2003). With just eight families in the beginning, the project has

grown to involve almost 1400 producer families in nine community groups and is now covering 9,000 hectares. (Hendrickson and Corbera 2015; Plan Vivo n.d.). The participants have contracts of 25 years and they receive between US\$1.09 and \$3.55 for each ton of carbon (tCO<sub>2</sub>) depending on the forest activity with higher payments for forestry and agroforestry and a lower remuneration for conservation. In practice, they get about US\$138 per hectare each year (Osborne and Shapiro-Garza, 2018) which is much lower than the early estimates of US\$500 to \$1,000 used in the feasibility study (de Jong et al. 1995). The lower figure is explained by the overall drop in prices on voluntary carbon markets. (Hamilton et al. 2009; Hamrick and Goldstein 2016). The carbon payments are spent mostly on food expenses, education for children, field work or payments of wages and family health (Cooperativa AMBIO 2019, p. 16).

The 25-year contracts are linked to the growing time of trees until they are harvested. Specific tree species, such as pine and mahogany, were chosen according to their good suitability for timber production which would compensate for the lower prices of carbon. These tree types are also in accordance with the protocols for measuring carbon sequestration. (Osborne and Shapiro-Garza, 2018).

#### 4.1.2.3 ICICO

ICICO (Integrator of Indigenous and Campesino Communities of Oaxaca) is a civil society association producing carbon offsets through forestry in the state of Oaxaca (Figure 6). The association consists of a consortium of twelve indigenous communities and the carbon offsets are sold under the indigenous brand CARBOIN (Carbon, Water and Biodiversity). Offsets are sold in the national markets through the environmental NGO Pronatura that created a market called Neutralizate. In recent years, offsets have been sold also to the international markets, for example to Disney in California, and the aim is to open up the market even more. (Osborne and Shapiro-Garza 2018) (See Figure 7 for the organizational structure) Through ICICO, more than 200 000 tons of carbon were sequestered between 2008 and 2016 over 3,205 ha of land, with farmers receiving

US\$8.00/tCO<sub>2</sub> from the credits sold at US\$10.00/tCO<sub>2</sub> . (Osborne and Shapiro-Garza 2018).

Participants joined the program for similar reasons as with *Scolec Té* in Chiapas: coffee and grain prices were falling due to neoliberal reforms. Consequently, many young people migrated to urban areas, which led to a decreasing demand for agricultural lands. This created an opportunity to use the land differently especially since those who stayed needed new ways of producing income. (Velazquez et al. 2003; Osborne and Shapiro-Garza 2018).

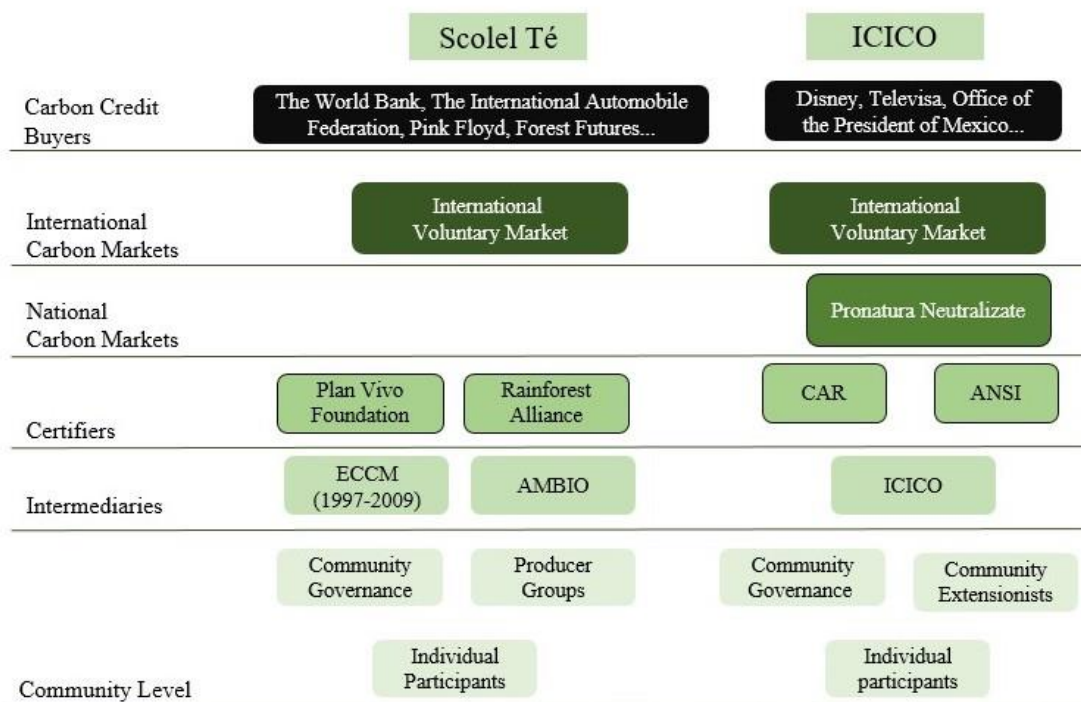
However, a difference to *Scolec Té* is that the ICICO communities have strong community-level institutions and governance systems that have embedded in them local social and cultural values. This can be attributed to the early years of the association in the 2000s as they were financed by non-commercial actors, including NGOs, international foundations and the Mexican state. This allowed them to become familiar with the concepts and practices of PES and to build their capacity and infrastructure through participatory decision-making. Another attribute that has helped ICICOs member communities to maintain reasonably strong control over the program design and its outcomes is the partnership with Pronatura in 2008. The carbon offset buyers in Pronatura's Neutralize market include individuals, companies and organizations, such as Mexico's largest television network Televisa and the office of the president. Pronatura has managed to build a good reputation, and this has helped them to avoid the costly and inflexible verification standards. The participating farmers value the transparency and consistency of payments, which is not always the case in these markets. (Osborne and Shapiro-Garza 2018).

In 2014, ICICO finally took steps towards achieving two certifications: the ISO 14064 and the Climate Action Reserve (CAR) to get easier access to the more standardized international markets. They have also expanded their areas of activity to include other communities in Oaxaca and in other states of Mexico. (Osborne and Shapiro-Garza 2018).



**Figure 6** Map of Mexico, showing in green the sites of engagement of ICICO in the State of Oaxaca and Scolel Te in the State of Chiapas as of 2016, based on Osborne and Shapiro-Garza, 2018, p. 93.





**Figure 7** The organizational structure of Scolel Té and Integrator of Indigenous and Campesino Communities of Oaxaca (ICICO), from offset producers to Carbon Credit buyers, based on Osborne and Shapiro-Garza, 2018, p. 94.

## 4.2. Findings

### 4.2.1. Findings from Ugandan Case

4.2.1.1. What is happening: Reported positive and negative impacts on the local population

#### **Initial good intentions led to some positive results**

The main objectives of Green Resources is to “contribute to mitigating climate change while meeting the growing demand for quality wood products from well managed plantation forests and contributing to sustainable environmental management, community development and poverty alleviation in Uganda”. (Green Resources n.d.b). From these objectives, I am most interested in the community development and poverty alleviation, as they concern the social impacts of the project. Green Resources has brought some

employment directly through jobs at the plantation and has built services such as schools and water bores. They have also developed models for enabling different kinds of sources of income in adjacent villages through channeling social funds with the collaboration of local NGOs, for example fish farming in Lake Victoria or better farming methods to get better yields from the existing plots of land. A representative of Finnfund illustrates that they have tried to include flexibility in this, so that each community can tell what kind of model of support they want. (Arvola 2022).

**The reality does not match with initial expectations as evictions generate conflicts**

Researchers and NGOs provide a different picture of the situation. Lyons (2022) describes the impact to the locals as “micro-level and macro-level violence”. With the macro-level violence, she refers to how the state changed the rules to use the land in order to encourage private investment. The situation “changed under people’s feet”: Locals had been first actively encouraged to move to the forest reserve and establish their homes, cultural sites and livelihoods on that land, but all of a sudden, they were labeled as “trespassers” and forced to leave. With micro-level violence, Lyons (2022) refers to the internal conflicts that have arisen due to the company’s action of employing only a small minority of local people as security, adding up to the complexity of the situation. The security personnel of Green Resources have a role of making sure that nobody trespasses to the plantation area, creating lateral violence within the communities.

**Negative pervasive effects on the economic sustainability of local communities have also been widely reported**

Evictions can be described as destructive since they have resulted in the lack of land for cultivating food and the prohibition to graze cattle. This in turn has led to shortages in food, described as a ‘coming food crisis’. Other challenges the local people have experienced include decreased or denied access to forest products such as firewood and being able to visit culturally important sites.

While the biggest cause of shortage of food has been the lack of land to grow crops, the presence of Green Resources has impacted food access in other ways too. Locals have

described that company staff and local police have destroyed crops and confiscated animals in order to intimidate them in the hope that they would leave the area. This has happened both in the company licenced land and community land. According to Lyons and Westoby (2014), people were earlier allowed to grow crops in between the trees as a form of agroforestry that they call the “taunga system”, but later Green Resources banned it since they were concerned about the risk of fires and harmful weeds spreading because of that practice, and that it would not fit in the requirements of forest carbon sequestration. (Lyons and Westoby, 2014)

Another problem regarding food security has been chemicals for killing weeds being sprayed in the plantations, but also directly on the food crops in the proximity of the plantation by company staff. This has led to the villagers’ animals also dying as they have eaten contaminated plants. (Lyons and Westoby, 2014; Lyons and Ssemwogerere, 2017) Insect populations have suffered too, with for example bees and ants disappearing. Bees provided honey while ants were used as a food source. Villagers also reported yields being lower from food crops in the proximity of the plantations in comparison to those being further away. This can be attributed to the impacts of monoculture plantations on the level of nutrients in soil and water. Chemicals used for killing weeds would also run to rivers and Lake Victoria, further damaging ecosystems. Overall, the monocultures and chemicals have caused an environmental shock that has depleted ecosystems and food security. (Lyons and Ssemwogerere, 2017).

### **Disrupted environments have in some cases led to dire living conditions**

People from the village of Walumbe described the situation in the following way in interviews conducted by Garberg (2012): “Hunger is a problem. We have some vegetables, but we lack other foods. There is no land where we can cultivate our crops”. In both Lyons and Westoby’s (2014) and Garberg’s (2012) interviewed people described that “life has become more difficult”. Other descriptions include: “We are now struggling with life” and that local people were ‘worrying from day-to-day’ (Lyons and Westoby, 2014, p.87). A middle-aged woman told Lyons et al. (2014, p.87) that she was allowed by the security personnel to grow crops, but when the crops were mature the personnel “slashed it down” and made her abandon her house. After this, she tried unsuccessfully

to grow crops on a rockier area and must survive on handouts from other villagers. This highlights the problem of having less land, in some cases not adequate for growing crops, available for villagers.

The forest has provided other livelihood services besides land for growing crops. Locals used to collect several products from the forest, such as sand, medicine plants and firewood. Firewood is indispensable for people as it is used for cooking food. To address the problem of diminished access to firewood, Green Resources introduced energy efficient cookstoves provided to locals through a community project in 2015-2016. (Hardy and Jones n.d.). Their aim was to reduce the time spent on firewood collection and cooking, but Lyons and Ssemwogerere (2017) found out in their interviews with the target group that these cookstoves were not used as they did not conform to the local conditions, for example by being too tall and thus creating a fire hazard. In any case the improved cookstoves would not solve the problem completely as they still required firewood and Green Resources' plantations forced locals, mostly women and children, to travel increased distances to collect it. Some women in one village said that they could not cook more than one meal a day in fear of not having enough firewood. In addition, there was a confusion among villagers if they were allowed to collect firewood overall from the plantation area. Green Resources had also claimed that selling firewood would bring an additional source of income for locals, but all villagers interviewed by Lyons and Ssemwogerere (2017) said that they had been strictly prohibited from selling firewood collected from the plantations.

The forest used to be an important source for animal grazing and water. Animals would be brought there to graze and to drink from water holes. Lyons and Ssemwogerere (2017) found in their interviews with locals that there has been confusion on whether the communities are allowed to use the forest for these purposes. This came up also in the documentaries of A-Studio (2017) and Kalla Fakta (2015), where locals said they were scared that their animals would be confiscated if they went to the plantation area with their cattle. Others would still do it despite the risk of getting caught. Lyons and Ssemwogerere (2017) report also confusion and contestation on the water sources that Green Resources has promised to build and maintain. Apparently, water sources built by

the company have not worked as promised, which has forced people to fetch water from other villages, leading to tensions between the different villages. When company staff were asked about this, they said that the water points were working well and accused the villagers of lying.

This example illustrates well the mismatch of what local people have experienced and what the company says has happened. The company staff have said that they understand the locals wanting to use the reserve's resources, but they cannot tolerate it because they perceive it as illegal, calling the locals trespassers and encroachers (Lyons and Westoby, 2014).

Since the villages adjacent to the plantation are not recognized as permanent communities, the state is not providing people with many basic services, such as sanitation, transportation, and electricity (Nel and Hill, 2013; Lyons and Westoby, 2014). Green Resources does not seem to provide these services either at a necessary level. (Lyons and Ssemwogerere, 2017). Also, the employment provided by the company has included poor working conditions and low and irregular salaries (Nel and Hill; Lyons and Ssemwogerere, 2017). This does not live up to Green Resources' values of "Zero tolerance towards discrimination, poor working conditions and corruption" and to "Provide a safe working environment for employees and other stakeholders" (Green Resources, n.d.b)

### **Local cultural practices have been endangered**

People have also lost the possibility to visit sites of cultural importance, such as sacred trees and burial sites. These places are used for ancestral worship and practices such as manhood and blessing initiations. As a consequence, young people have been reported to place less importance to cultural practices. (Lyons and Westoby, 2014; Nel and Hill, 2013)

### **Men and women have different perceptions**

Finally, it is important to note that not all locals view the situation in a similar way. Nel (2022) describes the villages as "very gendered environments". Women do a lot of the

household work, for example collecting the firewood, while the men are often the ones going to town or working with the companies. Consequently, especially men are grateful for the jobs that have been created by the company, while women's lives are circumscribed and made more difficult (Nel, 2022; Lyons, 2022).

#### 4.2.1.2. Why are such negative impacts so widespread?

##### **A disconnection between the company and the reality on the ground**

To understand what could be done to alleviate the negative impacts of cases like Green Resources (third research question), it is important to analyze why these things are happening (second research question). This brings up a wider problem that is typical with larger, often multinational organizations; it is hard for them to grasp what really happens on the ground. For example Lyons and Ssemwogerere (2017) identified many points in a third party audit Green Resources had ordered, where the company would say that the issue is solved or in a good condition, but when interviewing locals and visiting the places, Lyons and Ssemwogerere (2017) found that the measures the company had taken were insufficient and that the audit was portraying the situation much better than it was in reality. Lyons (2022) explains that with global auditing, it often happens that auditors do not have time to go on the field, but instead they just visit the office and look at the paperwork as provided by the company.

Lyons (2022) also describes that there are a lot of people at the grassroots community level wanting to do good, but because the international organizations behind these schemes are so far away, the decision-makers do not understand the local realities. "One of the original fellows who was involved in setting up that Northern Uganda site (...) I got a sense that he was deeply committed to supporting local communities, but I think it's the tension of the scale that Green Resources works at and the kind of disconnection in that global carbon markets between the point of reduction of carbon offset units and the point of consumption" (Lyons, 2022). In essence, global carbon commodity chains can render invisible all the complexity of relationships on the local level, so the end consumer can never know what is the story in the background. Nel (2022) further points out that "the

official line from the company may be different to what you will hear if you go and speak to the manager who deals with these tensions on the ground”.

Another issue is that the communities’ voices are not heard, which, as described in the negative impacts, means that they are not getting what they really need, or what they get does not function well. Contrary to what the representative of Finnfund says (Arvola, 2022), Lyons (2022) describes the community-development model as top-down, which is the root of this problem. Lyons (2022) and Nel (2022) do acknowledge though that Green Resources has responded in the various advocacy interventions and the pressure from media to be answerable to the concerns that have been raised, and they have continued to seek to improve. However, some things and shortcomings fundamentally remain the same.

### **Local political games and bad governance exacerbate the problems**

The representative of Finnfund explains that the shortcomings are due to a larger, fundamental challenge that existed when Green Resources arrived in the area: in Uganda there is both a fast-growing population and commercial agriculture, such as sugar plantations, resulting in a fighting for land that is insufficient. Project companies may feel as being between a rock and a hard place and they are trying to do their best in a “challenging operating environment”. With that, she refers to the combination of the state not providing employment opportunities for the growing population, politicians encouraging people to use land, and the local people making “illegal use of land” in the State’s forest reserves. (Arvola, 2022).

Nel (2022) agrees with the fact that local politicians can be blamed for many things. They may say one thing but behind the scenes do something else: “at the Jinja one, you know, a politician might go there and they might say ‘oh feel free to go into this area’ and then they’ll turn around at that meeting and say to the forestry officials, ‘OK, now you deal with it. You know, it’s not my problem.’ ” (Nel, 2022) Essentially, they do not want locals to have too much power, but they also need their votes for the next elections. In addition, the government changed laws to try and silence dissent and make it increasingly difficult for social movements to be active, especially against foreign investment (Lyons 2022).

Overall, it may be very unclear who is responsible for the forced evictions. The state defers it to the company, and the company to the state. The state has given the company very long license agreements, but at the same time they can still actively influence things through the ministry of lands and through local environment and other state apparatus.

### **De jure as a too easy way to act, whilst de facto should be the standard to follow**

Nel (2022) pinpoints the question of responsibility to the fact that the company may act in accordance with the laws, “de jure”, but they ignore what actually happens on the ground, “de facto”, because it is so much easier to operate in this way. The state has set certain governance structures and borders for conservation areas which are supposedly very clear. However, de facto, there is environmental history in which people have been moving around and the forest reserves have been contested. “As soon as you get sort of territories with fencing and natural resource use with access management, it impacts differently on different groups and there's tension. And often what happens on the ground is more important than what happens in any national planning dispensation.”(Nel, 2022).

Another challenge is that an adequate policy mechanism to engage with how to deal with the people on the parameters of the forest reserves is lacking. There are funding problems overall to upkeep the forest reserves, which is one reason why companies and international programmes are being involved. Also, there is usually little transparency about lessons learned and what went wrong with development projects. This hinders the possibilities of new actors to try to alleviate the problems, and often NGOs and multilateral organizations fall into the same challenges: the day-to-day messy politics and the inefficient funding structures, reporting and operational structures. (Nel 2022).

### **Profitability is still the main goal of the investors, leading to conflicts of interest**

Although Green Resources has social and environmental goals to provide sustainable development in East-Africa while reforesting areas and offsetting carbon, it is essentially a plantation forestry company that is in the business of producing timber through industrial scale monoculture plantations. On this matter, it does not differ from any other



typical company that is owned by shareholders and has as its main goal to make profit for those investors. However, for investors, partners and organizations in general, it is increasingly important to have a good image and not support projects that gain negative media attention. This is why the carbon offset buyer Swedish Energy Agency (SEA) decided to stop buying carbon offsets from Green Resources. (Lyons 2022).

It can be reasoned that Finnfund, as a major owner of the company, could not disengage as easily since this would mean divesting from the company. Indeed, if they decided to divest, they would first need to find a buyer for their equity part or risk losing their whole investment. And even if they would find a buyer, the price would very likely be well below the value of the investment in Finnfund's balance sheet, so they would have to write it down and make a loss. As such, it was much easier for a company like SEA to step out since they were only buying the Carbon certificates. Finnfund thus has two reasons to stay in the company: the admirable one being to try to positively impact the project, and the unfortunate one being their financial interest.

#### 4.2.1.3. Suggestions on how to improve the impact

Arvola (2022) explains that an investment agency such as Finnfund can impact the behavior of a company in three ways: 1) They can change the managers. 2) They can establish a committee that functions as an advisor and intermediary on what happens in the company regarding social and environmental issues. 3) If the company does not meet the goals, they can call it a violation of contract and stop paying the remaining loan tranches. The larger the amount of undisbursed loans, the greater influence the lender can have. Arvola (2022) implies that for them it would be an extreme method to stop paying the loans; they prefer using "softer" methods, such as more intense tracking, discussions, working together, going for field visits and including an external consultant. All of this they did for Green Resources and it would not be possible without staying as the majority owners.

Nel (2022) suggests that companies should still pay special attention to the situations that happen on the ground. Instead of sticking to the de jure line and following the laws by the book, they can try to accommodate things at a local level. For example, in some cases forestry companies do allow sort of behind-the-scenes aspects of cultivation to continue. Degrees of flexibility could also be built into policy to allow grazing at certain times and the approach to community development could be changed from top-down to an asset-based approach, as Lyons (2022) proposes. An asset-based approach starts by working with communities and keeps a community centered and layered approach. This would be essential in meeting their needs.

It is important to remember that local people are not passive recipients or victims, but they do have agency and methods for advocating for themselves. Nel (2022) mentions a situation where one tree, called the “walumbe tree”, was not cut because for local people it is a sacred grove where ancestors live. If the company were to cut it, the community would burn down large parts of the forest. Burning forest is traditionally a powerful tool that locals may use, and Arvola (2022) mentioned that at other sites where Green Resources operates, they have implemented models whereby local people are paid to make sure that there are no forest fires. Communities may also do boundary moving or advocate through NGOs and academics. Nel (2022) explains how he noticed that his presence in the villages was actively being “utilized by respondents as a way to advocate for their land access rights in these particular boundary disputes, which they have there.”

The responsibility is not on one company alone, but it should be a collective effort. The challenge there is that even if there would be scope for industry bodies to engage, they may not have actual incentives to do so if there lacks public pressure to be involved and to do it right. It may cost a lot of money to try and actively accommodate the interests of forest adjacents or forest dwelling residents. However, companies can engage in governance forums and collaborate with the NGOs that advocate for the rights of local people, instead of seeing them as enemies.

## 4.2.2. Findings from Mexico cases

### 4.2.2.1 What is happening: Reported positive and negative impacts on the local population

#### ***Scolec Te***

Osborne and Shapiro-Garza (2018) found in their study that the Scolec Te project has resulted in limited social and ecological co-benefits. The outcomes have included low financial benefits, constraints to more traditional land uses, limited women's participation and weakened ecological health. In addition, the non-local decision making has led to conflicts with traditional governance structures and practices.

#### **Low financial benefits due to low carbon prices and opportunity costs**

As mentioned in the case description, the low financial benefits have been due to farmers receiving on average US \$2.18/ per ton of CO<sub>2</sub>, because of lower prices in the carbon market than expected. The project also constrained, in some cases, traditional land uses that could have produced more financial benefits. Carbon forestry is very labor-intensive, involving land clearing, nursery preparation, tree planting and weeding, and as they take place on individual plots, work has been handled through families and wage work, instead of collective work, which is typical in communal projects. Internal conflicts with local authorities have also hindered the possibility for the farmers to harvest and sell timber, which further brings the financial benefits down. (Osborne and Shapiro-Garza, 2018).

Hendrickson and Corbera (2015), who studied the Scolec Te farmers' motivations for joining the project, suggest that the farmers wanted to be part of the program rather because of a combination of social and resource-based factors than financial ones. The social factors were for example the desire to be included in collaborative working groups, while resource-based factors were related to perceptions of fuelwood and timber shortages. This is proven also by the fact that some non-participant farmers had replicated their participant neighbors' agroforestry activities even without the payments and technical support from the project. Otto (2014) also suggests that one of the reasons for

participation in Scolel Té is for individuals to enhance their social status in the community and to get access to resources. However, working in certain roles in Scolel Té could also diminish the social status of participants (Otto, 2014).

### **Inequalities in the participation of women compared to men**

The project has not allowed women to participate in it in the same way as men. Women expressed at the beginning of the project that they would like to plant fruit trees, but this wish was denied because it is more complicated to measure the carbon capture of fruit trees in comparison to timber. Starting from 2010, they were however allowed to plant up to 10% of the carbon plots with selected fruit trees (Henderson and Corbera 2015). Because women had limited land rights, they were constrained in participating in the project in other ways, due to the “paternalistic development industry in southern Mexico” as Otto (2014, p.140 describes it). They have had to also walk further distances to collect firewood because the carbon forestry plots were established in places where they used to do it. (Osborne and Shapiro-Garza 2018).

### **Semi-monocultural plantations of some trees has led to environmental problems**

Furthermore, the nature of the selected trees ended up causing negative impacts to the environment. The trees were selected for their suitability for carbon forestry and timber production, but these species, mahogany and tropical cedar, attract a moth larva when planted in semi-monocultural systems. This moth larva impacts the tree growth and consequently reduces the value of the timber trees (Wylie and Speight 2012). The farmers have observed that the pest problem gets worse with the project requirements of weeding and clearing. Planting a lot of the same kind of tree species has also decreased the level of biodiversity. (Osborne and Shapiro-Garza, 2018).

### **Low levels of local decision-making**

The low levels of local decision-making was due to the pressure to produce offsets fast, which experts required, resulting in the control shifting more to the project organization. The project also did not engage enough with traditional governance structures, leading to internal conflicts with the carbon producers and local authorities. Traditional governance

structures would involve community institutions that together manage land, but instead Scolel Te decided to work with individual farmers and their plots. (Osborne and Shapiro-Garza, 2018).

### ***ICICO***

In comparison to Scolel Te, ICICO did much better in providing participants with positive impacts; the farmers that Osborne and Shapiro-Garza (2018) interviewed told that they felt like getting more benefits than costs from participating and that they feel ownership over the program and its implementation. The outcomes have included income stability through carbon payments, temporary employment and secondary ecosystem goods. In addition, the communities have forged connections that have helped them to establish enterprises.

#### **Income stability through higher than average carbon payments and temporary employment**

Income stability has been achieved through remarkably high payments for the carbon offsets, US\$8.00/tCO<sub>2</sub> on average. This is considerably higher than the average price in the voluntary and compliance markets, and higher than for Scolel Te, where farmers have received on average US \$2.18/tCO<sub>2</sub>. This can be explained through lower overhead costs (20%) going to ICICO and Pronatura, in comparison to Scolel Te where the intermediaries would take 40%. (Osborne and Shapiro-Garza, 2018).

The money received from the carbon offsets is distributed in a democratic way, they are handed to the traditional community leaders of each community, and a democratic assembly decides how the money is used. However, the Neutralizate market requires that 90 percent of the payments are invested back in the carbon forests, which does not leave much for other communal projects. (ibid).

The project has also brought temporary employment, especially to the economically vulnerable community members, which has prevented people from having to emigrate in search of jobs. The participants that Osborne and Shapiro-Garza (2018) interviewed perceived this as a significant economic benefit. Moreover, through the connections achieved during the project, some communities have been able to establish enterprises in for example biodiversity monitoring programs, spring water bottling plants, ecotourism ventures and timber management. (Osborne and Shapiro-Garza 2018).

### **Secondary ecosystem goods bring additional benefits**

Secondary ecosystem goods achieved through the project refer especially to the timber harvest, improved coffee production, firewood and local ecosystem services, but also to water being more abundant and clear, animal species returning and the air quality improving. These outcomes suggest that the project brings positive environmental benefits in the long term, which ends up benefiting the local communities as well. (Osborne and Shapiro-Garza, 2018).

### **Some negative impacts have been compromised access to agricultural lands and timber**

Despite most of the participants perceiving positive impacts through the project, a minority has mentioned that their access to agricultural lands and harvesting of timber has been compromised. At the time of Osborne and Shapiro-Garza's (2018) interviews, it was also unclear how joining the international markets would impact the benefits achieved so far.

#### 4.2.2.2. What explains the difference in these impacts?

### **Different starting points in the strength of community-level institutions and governance structures**

Although the two projects hold similarities in their starting points, as both Oaxaca and Chiapas were impacted by the same neoliberal reforms that led communities looking for alternative economic solutions, it has to be noted that Oaxaca is known for strong

community-level institutions while Chiapas is not, due to greater levels of political repression. Notably also, the communities selected for the program in Oaxaca were already functionable in terms of their governance and they had good relations with the local NGOs. (Osborne and Shapiro-Garza, 2018).

The differences in these impacts can be explained by the strength of institutional structures at the beginning of the projects. ICICO had very functional governance structures at the community level, which helped them to have a unified voice for expressing their needs when they engaged with the carbon markets. ICICO was successful in mimicking the governance structure of indigenous communities which typically consists of a general assembly of elected members from each participating community. This assembly provides guidance and oversight, and allows participatory decision-making. (ibid).

Contrary to Scolel Té, ICICO provided extended agency for locals to pick the tree species to plant and the forms of forest management. The communities could select between reforestation, afforestation of agricultural fields, timber production or improvement of degraded forests. This flexibility from the organization allowed communities to keep their livelihood strategies and local cultural practices. (ibid).

### **Focusing in producing carbon offsets fast is a hinderance**

In the Scolel Té case, it seems like a strong orientation from the start in producing carbon offsets that are eligible for the international compliance markets hindered the possibility of communal local decision-making. The local producer groups were quickly replaced by the non-local NGO AMBIO, and because producing offsets to the international markets required very technical competencies, outside experts carried out the program design. This took the power further away from the communities and the focus was more on carbon as a commodity rather than the production of co-benefits for the communities. Meanwhile in ICICO, the long initial period with non-market funding with few restrictions was crucial in allowing them to develop a participatory process with local communities that would embed their traditional values. (Osborne and Shapiro-Garza 2018).

The degree to how carbon rights are held also has had an influence. In Scolel Te, the carbon rights were designated for individual farmers, leading to conflict with institutions of communal land governance. Since the carbon rights are on an individual level, the participants located the project activities on their individual lands and therefore experienced reduced agricultural production, an increased labor burden and a compromised access to secondary forest products, such as firewood. In ICICO, the carbon rights are collectively held and therefore they have been able to select areas for project activities that are least likely to produce conflict. The labor efforts have been distributed through a traditional system for communal labor or paid labor, which has provided income for economically vulnerable community members. (ibid).

Overall, the negative impacts in Scolel Té can be explained by the weaker structure of local communities with disempowered local institutions and a focus on producing carbon credits instead of co-benefits for locals. The positive impacts in ICICO are a result of a selection of communities with already strong governance institutions as well as the longer period of non-market funding.

### **Corruption and lack of trust to NGOs are widespread in Mexico**

Another aspect that may hinder the success of a project in Mexico is corruption. Gilly (2022) explains that while she was employed with a local NGO working in carbon forestry in Oaxaca, she was only paid half of what was promised, and the people she worked with even less. She realized that the funding, received from the National Forestry Agency, was going for the manager buying a new car for the NGO and renovating his house. Gilly (2022) implies that this is very widespread in Mexico and that managers of NGOs in general act as gatekeepers as they have the connections to the National Forestry Agency and can decide on the funding.

Gilly (2022) also explains that a factor that can hinder the functionality of a carbon forestry project is the level of trust that communities have towards these NGOs. It is for instance common that NGOs go to a community with a given project and lure them into



it by promising a lot. But if they don't act on it, they leave a sense of mistrust towards future contacts with NGOs. As seen with ICICO, communities that already have existing good relations with local NGOs, have a higher chance of succeeding.

#### 4.2.2.3. Suggestions on how to improve the impacts

##### **Some pre-existing factors in a community can facilitate success**

Although Osborne and Shapiro-Garza (2018) present ICICO in a positive light, they do conclude that smallholder-managed forests in the Global South are not “the cost-effective low-hanging fruit of climate change mitigation” that can “necessarily provide multiple benefits for climate, biodiversity, and local communities.” (p.102). This is because the success of a project seems to be linked to pre-existing factors in a community, and it is hard to find many communities that would fulfill the right criteria. There are also external factors that can be unpredictable, such as the price of carbon in the carbon market. Despite this, it is useful to look at aspects that would facilitate the success of such projects.

Based on the previous chapter, the attributes that seem to enable success for a carbon forestry project in Mexico include: strong community-level institutions, good relationships with local NGOs, focus in providing co-benefits for local communities, longer period of initiation of project before joining the market, assigning carbon rights to communities rather than individuals and overall taking into account the local existing values and traditions in the project design.

##### **Red flags should be considered when selecting a community**

Besides considering the attributes that will help gain success, it is also important to have a look at aspects that could be considered as red flags. Based on the experiences with Scolel Té, such aspects would be joining the international carbon market too fast, bypassing communal decision-making and concentrating too much on the individual farmers and technicalities instead of involving the whole community and its traditional governance structures in a holistic way. In particular, if a community is already weak in its governance structures, it is perhaps not suitable for such a project overall.

**The knowledge and agency of indigenous communities should not be underestimated as they are approached**

Gilly (2022) adds several other points that in her experience are very important when initiating carbon forestry projects with indigenous communities. Firstly, when organizations approach them, they should not underestimate the knowledge that these people already have on climate change and managing forests sustainably, and they should not assume that they don't know what is best for them. She comments that indigenous people are "tired of being seen as naive, illiterate and ignorant".

They actually see the impacts of climate change every day in the ways that the land is changing, and they are actively working to protect it. It can be harmful to tell them to change their practices as they know that they are not the "big players" in creating emissions. For example, near the communities that Gilly (2022) was working with, there was a beer factory that was polluting the air and the waterways around it. They also know about the mining industry destroying mountain landscapes

**Being recognized for their efforts is a big motivator for communities to join and should be included in the project design**

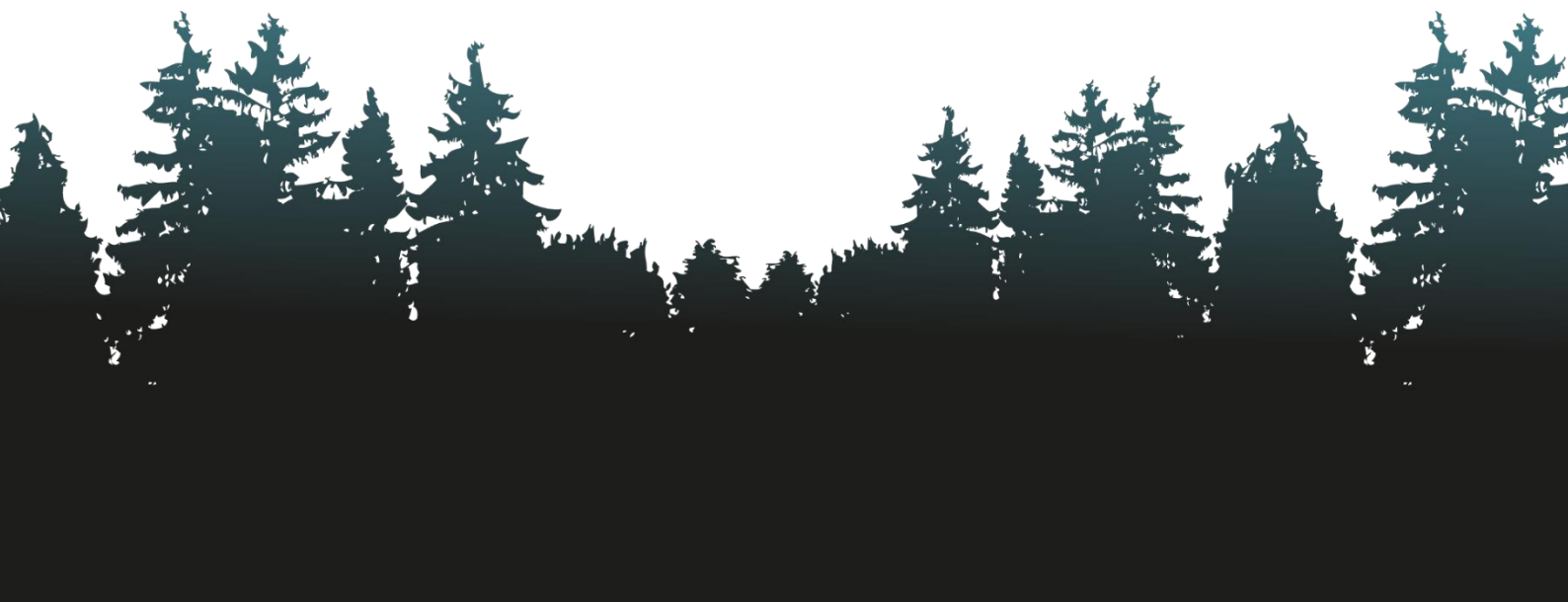
She discloses that an important motivation for people to join the REDD+ carbon forestry projects is that they want to be recognized for what they have already done to protect their environment. The land is the most valuable thing they have, so they have worked to protect and help the flora and fauna from climate change and industries destroying it. They want to be seen as example-setters and agents of change, because of their knowledge. These aspects have been more recognized thanks to the work of activists, and for example a crop rotation method used by the indigenous people that was banned at first because it involved burning the previous crops, was finally included in the REDD+ strategy of Mexico. (Gilly, 2022).

These motives that Gilly (2022) brings up again reflects the fact that the biggest motivations for people participating in PES are not related to individuals getting monetary gains. Besides being seen as active agents of change instead of passive recipients,

communities may hope that the projects could bring them infrastructure that the state is not providing in those remote areas. Gilly (2022) tells a story of a community she was working with that did not have a road. When Gilly was there, a woman was giving birth, and because she was having some complications, she had to be taken to the hospital. Since there was no road, the community members put her in a hammock and walked for five hours to reach the closest town with a hospital. The woman almost died during this long walk.

It is important to keep the points of view of communities in mind when designing a project and understanding their needs and motivations to join facilitates creating the right kinds of co-benefits. They need to be taken as citizens that have the same rights as everyone else and they need to be given a voice and agency. In order to achieve this, programs should also include training on what it means to be part of a REDD+ project so that communities can make an informed decision on whether they want to participate, as participation could include trade-offs.

## 5. Discussion and conclusions



In this last chapter, I answer to the three questions that I set at the beginning of the thesis, being the social impacts of carbon offsetting projects in the Global South (5.1), the reasons for the mixed results obtained (5.2) and suggestions on how to minimize the negative impacts (5.3). I end up by describing the limitations of my thesis and make some suggestions for future research (5.4.).

## 5.1. Social impacts of carbon offsetting in the Global South

Carbon offset projects taking place in the Global South usually have the double goals of bringing both environmental benefits through sequestering carbon and social benefits through local development. This second aspect of promising a positive social impact is a combination of genuine good intentions, the need to lure local people into the projects and the extra value brought by a good reputation when the offset credits are sold in the voluntary market.

And indeed, a project like ICICO is a good example of a success in terms of the overall value to the local communities. Direct positive impacts include the employment opportunities and the income stability brought by the carbon payments. Indirect effects comprise better ways to earn a living also outside of the project like through timber harvest or improved coffee production, better living conditions through easy access to firewood and water, and strengthened communities that have launched entrepreneurial initiatives like spring water bottling plants or ecotourism ventures.

The other two projects studied also gave promises besides the carbon offsetting activity, such as building schools, wells and providing training in how to practice fishing or agriculture in a more efficient way. However, the positive social impact has been perceived as weak, especially when the payments for carbon offsetting were too low, like in the Scolel Te project. And even in the ICICO case, some participants complained that their access to agricultural lands and the harvesting of timber has been compromised.

What is more worrisome, however, is that some very negative impacts have been documented, like the eviction of local peasants from their ancestral land, heightened conflicts in the local communities and the degradation of local ecosystems. In this respect Green Resources is maybe an extreme case, although not rare in the context of international companies invading areas where local communities live. The project resulted in compromised livelihoods for locals due to the loss of land to cultivate or herd their cattle, and the suppressed access to firewood, water holes and medicinal plants, a situation that even led to food shortages.

Tensions in communities were also exacerbated given conflicts with local authorities and project staff, like during evictions, land encroachment but also the harvesting of firewood and the use of water holes. Also, when decision-making was not participatory and practices of cultural importance and traditional governing methods were ignored, tensions within the local communities increased.

The projects impacted the environment as well, which had an indirect impact to locals. In all cases, the use of only one or two types of trees was harmful for the environment. In Scolel Té, a moth larva appeared, and in Green Resources the ecosystem was affected at the detriment of the locals' cultivations around, in particular due to the chemicals used in the plantations.

An interesting aspect in both the Mexico and Uganda cases is how the benefits are experienced differently between women and men. Whilst men enjoyed the access to employment opportunities, women's possibilities to participate have been limited. In addition, in both Scolel Té and Green Resources women have had to get firewood from further away.

My research concludes that carbon offsetting programs in the Global South have strong social impacts on the local population, which can be for the worse. Let's now review the root causes.

## 5.2. Reasons for the mixed social impacts on local population

As evidenced in the cases studied above, each carbon offsetting project is unique and even programs held in the same country differ. Failures, i.e. negative impacts to the local populations, are a combination of sensitive local situations not taken well enough into consideration, as well as the sheer motivations behind those projects. Local situations are indeed unique as they depend on the laws of the country, especially related to the land rights, but also the local politics and governance system. In addition, the level of community decision making and the ties within the community are a key determinant, as well as tensions and conflicts already existing between people.

The cases in the two countries differ quite a bit, but they also have similarities. They are all forest carbon sequestration projects that deal with people from vulnerable sets of populations and who are also very dependent on land for their livelihoods. The differences include the land tenure rights and levels of participation from the local side. In the Uganda case, the locals do not have any land rights to the forest plantations, while in the Mexican cases they are the owners of the land. This can be explained by the different laws and policies of the countries: in Uganda the state owns most of the land while in Mexico communities often own it together. Consequently, in Mexico, the people taking care of the forest are communities, and the decision-making processes are more participatory, while in Uganda it is the National Forest Authority who manages the land. The case that saw the most success, ICICO in Mexico, actually included participatory decision-making from the locals instead of top-down management.

When it comes to the motivations of the developers and investors in the projects, it is a fact that carbon markets rely on a capitalist system where the most important is to make profit. Project developers and investors, including state organizations like Finnfund, openly claim that the financial outcome is a key criteria. It can also be mentioned that, in any organization, the main motivation by the "deal managers", those responsible for the involvement of their company in a given project, is often to "close" deals since this is how their performance is measured, even if the end result is not exactly what was intended

or there are collateral negative consequences. In the name of efficiency, the project designs are not participatory but rely on top-down management and this is why the well-being of the locals will too often come second.

Coming back to the theoretical framework of this thesis, it is evident that post-colonialism has framed the local political, economic and social environment in a way that is not favorable to the protection and development of local communities when western led projects are implemented. In turn, neo-colonialism allows rich countries to take advantage of flows in local systems where they can always say they went by the law, while at the same time keep a good image because they are bringing jobs. The commodification of nature, exemplified by the setting of technical standards to define carbon credits, is also to be blamed. Standards can be dangerous because they assume that every case is the same whilst in reality projects rely on humans, and human relations are unpredictable, subtle and certainly not technical.

### 5.3. Suggestions for Minimizing Negative Social Impacts from Carbon Offsetting Schemes in the Global South

Based on the evidence from this thesis, carbon offsetting schemes, as designed and implemented so far, do not seem to be the solution for climate change mitigation nor sustainable development, especially when they consist of industrial scale monocultures of trees. This is because there are potential issues with both the true environmental benefits (Is an offset carbon credit actually compensating a ton of carbon emitted in another country?) but also potential harmful impacts for local populations.

Besides putting efforts on reducing emissions at their source, there should be more focus on projects where indigenous people get rewarded for what they are already doing instead of imposing international frameworks and methods for forest conservation which are not in line with local traditions and realities. Such initiatives should be led by local and indigenous communities, where “win, win, win” claims actually match up with reality. In



those kinds of projects, local communities are supported financially, are able to generate incomes through the protection of forests, to maintain rights, access and control over their homelands and therefore are able to utilize those for livelihood, cultural and other economic activities. There are some examples already that use gender sensitive livelihood activities, for instance in the Solomon Islands and the Australian Torres Strait Island. These conservation projects generate income from sale of carbon credits, but they also promote beekeeping, organic farming and women's Savings Clubs. (Lyons 2022.) The key words for these projects are autonomy and agency for local communities to decide the terms and conditions in which the project plays out.

However, since “western led” projects exist and new ones will keep coming due to how the international carbon markets currently work, I suggest below three concrete propositions which should be further developed, in order to improve the selection, planning and implementation, as well as the follow-up of those carbon offset projects.

Firstly, it would be important to **establish a list of issues to take into account when selecting a new carbon compensation project**. This includes everything that seems like a “red flag”, i.e. an attribute or situation in the place that could lead the project into failing regarding its social impacts. This list could include for example political issues such as contested land situation between local populations and the state, corrupted or difficult political situation, and existing tensions between local groups of people. Other kinds of issues could be related to governance; Are the local governance structures weak or strong? Do the local people participate in decision-making in a participatory way? If the carbon offset project initiator is collaborating with local organizations, it would be good to check what their management practices are and top-down management should be avoided. If the selected area contains any of these elements, the project initiator should consider whether it is a good idea to go there at all.

Secondly, a subsequent **list of issues to take into account when planning and implementing a new project** should be created. Perhaps the most important would be to start with a consultation with the local population to find out their needs, wishes, fears

and expectations. The communities should really understand what they are engaging in and be able to make an informed decision based on the facts provided to them. The process of enrolling should not be too complicated though. As seen with the ICICO case, it is a plus if there is no rush to join the international carbon markets right from the beginning as that may hinder the possibilities to establish practices that are embedded with the local cultural values. Understanding the motivations for people to join is crucial in developing projects, as it seems like in many cases the primary motivation are not the payments but being recognized and being part of the community.

Thirdly, I propose that there should be **a yearly report that each project** would be required to produce. Such a report would assess the quality of their carbon compensation, not only that of the carbon certificate itself (additionality, etc), but also all the possible side effects starting with the local population. Inspiration could be taken from the ESG (Environmental, Social and Governance) reports that large companies nowadays publish yearly.

#### 5.4. Limitations and suggestions for future research

This study was limited since I did not have the possibility to travel to the locations of the case studies in order to interview local people and therefore had to rely on the knowledge of experts that had been involved in the projects described or had done research on them. This means that some possible impacts may have been left out, and since the studies were conducted a few years ago, the situation may have changed. This is why it is good to remember that the conclusions of this study only illustrate what has been the situation up until a certain point in time.

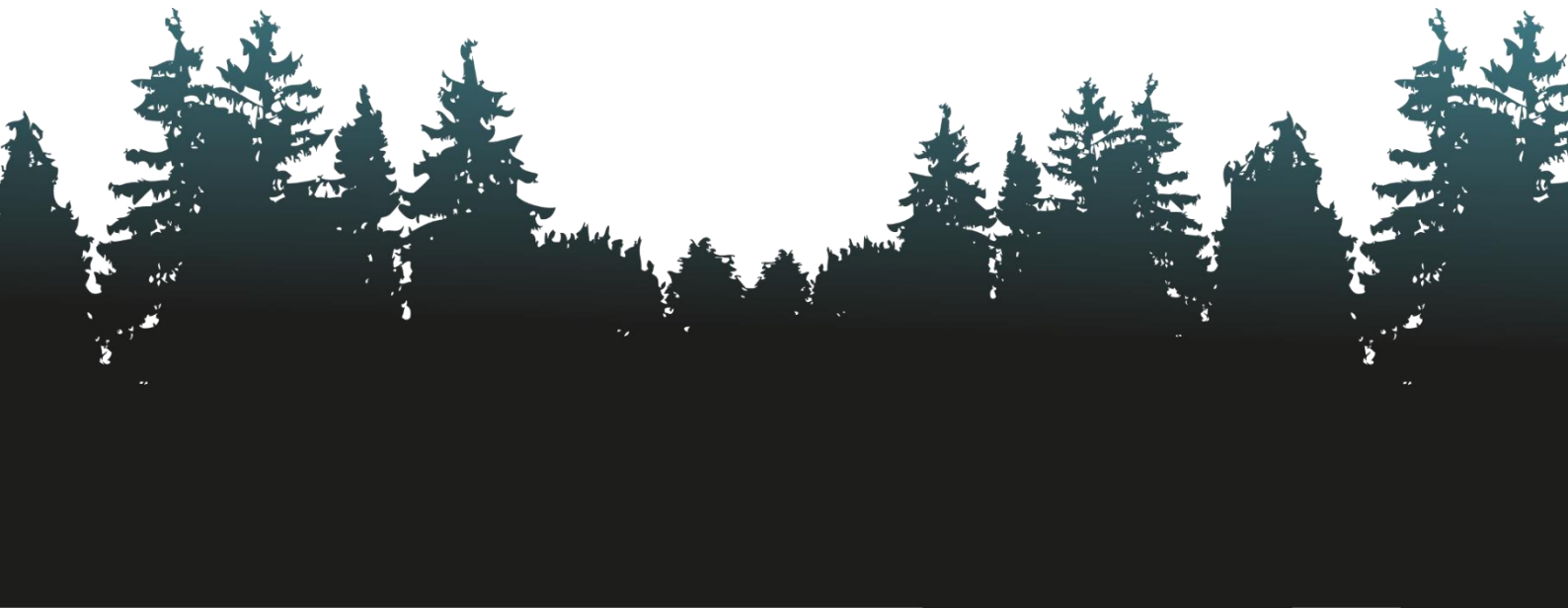
I see that a lot more research needs to be done regarding this topic as it is concerning such current issues. Firstly, it would be interesting to study what happens after global investors have pulled out of a given project. What is the impact on the local communities and especially, do they get more rights?

Another topic to look at is the real carbon sequestration and generally the environmental impact when all parameters have been taken into account. Especially in situations where the mass clearing of landscape to establish the monoculture of certain trees has taken place, reducing biodiversity and impacting fragile ecosystems like river Nile or lake Victoria in Uganda.

A third topic is to research projects where indigenous communities are able to generate an income from the protection of high value conservation forests and at the same time maintain rights, access and control over their homeland and are able to utilize it for livelihood, cultural and other economic activities. These studies could look for inspiration at the previously mentioned projects in the Solomon Islands and Australian Torres Strait Island.

As a fourth research topic I suggest looking at the social impacts as considered from a gendered perspective; what are the differences experienced by women and men? For instance, in both Scolel Te and Green Resources cases it came up that women experienced the impacts differently than men, usually more negatively.

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