

Ingrid Hasselgård Bøe

## "Some get, some don't"

A case-study of the social impacts of a carbon forestry project in Mount Elgon, Uganda

Master's thesis in geography

Supervisor: Haakon Lein

Co-supervisor: Charlotte Nakakaawa-Jjunju

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Faculty of Social and Educational Sciences  
Department of Geography



## Abstract

In this study, I have investigated how a carbon forestry project impacts the local people participating in the tree planting activities. The thesis is based on a fieldwork in the Mount Elgon area in Uganda, where the data material is generated through focus group discussions and in-depth interviews. The main aim of this research was to investigate the costs and benefits the local people get from participating in the project, and at the same time investigate whether the project can be justified in relation to the distribution of benefits between the different stakeholders.

The empirical findings in this thesis show that the participants get many benefits from the trees they plant as part of the project, particularly in relation to food, firewood, and timber. These products help them sustain their household, and they can sell what they do not need at the market and generate some income. In addition, as the trees they plant are agroforestry trees, they increase the agricultural production. However, the Covid-19 pandemic has brought difficulties for the participants, which have also affected the perception of the TGB-project.

The second part of the empirical findings show that the knowledge the participants have about carbon varies, and that none of them are aware that they are producing carbon credits which are sold at the global carbon market. In addition, as the findings show, the participants do not receive the payment they are promised, and the lack of knowledge about the global trading system, makes them unaware of the reason for the absence of payment.

The discussion of this thesis is based on the sustainable livelihood's framework and the dimensions of environmental justice. Based on the findings, I argue that the carbon forestry project does not promote an adequate degree of sustainable livelihoods as the assets the participants get are not sufficient in relation to what they are promised. This, in addition to the inadequate degree of knowledge about the global market the local people show, I argue that the project does not promote environmental justice. However, if changes can be done, where the needs of the local people are strengthened, this project might have a chance of being more just.



## Sammendrag

I denne studien har jeg undersøkt et treplantingsprosjekt med formål om å redusere klimagassutslipp, og hvordan dette prosjekter påvirker de sosioøkonomiske forholdene til de lokale bøndene som planter trær. Oppgaven er basert på et feltarbeid i Uganda, hvor datamateriale har blitt henta inn gjennom fokusgruppediskusjoner og dybdeintervjuer. Formålet med denne forskningen var å undersøke fordeler og ulemper lokalbefolkningen får for å delta i prosjektet, og samtidig om prosjektet kan rettferdiggjøres med tanke på fordelingen av gevinsten mellom de ulike partene.

De empiriske funnene viser at de lokale bøndene får mange fordeler av å delta i prosjektet, spesielt med tanke på mat, brensel og tømmer. Disse produktene hjelper dem med å opprettholde husstanden, og de kan selge det som er til overs på markedet for å få noe inntekt. I tillegg er trærne de planter bra for jordbruket deres, som gjør at ved å plante trærne sammen med andre avlinger øker produksjonen av avlingene. Likevel har koronapandemien ført med seg mange utfordringer for deltakerne som også har fått konsekvenser for hvordan de opplever TGB-prosjektet.

Den andre delen av de empiriske funnene viser at kunnskapen om karbon varierer mellom de ulike deltakerne, og at ingen av de er klare over at de produserer karbonkreditter som blir solgt på det globale markedet. I tillegg får ikke deltakerne den betalingen de er lovet, og i sammenheng med lite kunnskap om det globale samarbeidet, vet de ikke hvorfor betalingen mangler.

Diskusjonen i denne oppgaven er basert på rammeverket om bærekraftige husstander og tanken om miljøbettinget rettferdighet. Basert på funnene i oppgaven argumenteres det for at treplantingsprosjektet ikke sørger for bærekraftige husstander i tilstrekkelig grad ettersom godene de får ikke er tilfredsstillende i forhold til det de er lovet. Dette, i sammenheng med at deltakerne viser at de ikke har tilstrekkelig kunnskap om det globale markedet, gjør at jeg argumenterer for at prosjektet ikke fremmer miljøbettinget rettferdighet. Likevel, hvis det kan skje endringer som fremmer lokalbefolkningens behov, så kan prosjektet ha en mulighet til å bli mer rettferdig.



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Ingrid Hasselgård Bøe



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Appendix 1: Participants

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## Abbreviations:

REDD+	Reducing Emissions from Deforestation and Degradation
UNFCCC	The United Nations Framework Convention on Climate Change
COP	Conference of Parties
TGB	Trees for Global Benefits
NGO	Non-Governmental Organisation
FACE	Forests Absorbing Carbon Emissions Foundation
UWA	Ugandan Wildlife Authority
ECOTRUST	Environmental Conservation Trust of Uganda
CDM	Clean Development Mechanism
MEA	Millennium Ecosystem Assessment
PES	Payment for Ecosystem Services

# 1. Introduction

It was the year of 2017, and I was a first-year student at the teacher programme of geography. We were having a course on Political Ecology, development, and the environment. The issue of Norway's contribution to the REDD+ (Reducing Emissions from Deforestation and Degradation)-programme and the global climate market was one of the subjects we could write about on our exams. I chose this assignment and started the exam with the citation below:

«"Vi blånisser låner og gir noe tilbake" sier Turte mens hun stjeler alle lussekattene til postmannen. Hun legger igjen litt blåbærlyng. Blåbærlyng i bytte mot lussekatter, det er vel dårlig deal?» (Ingrid H. Bøe, 2017)

I was not aware of this when I started this research project, but it seems like my interest in discussing the global carbon market already started my first year as a geography student. Already then, I had gotten an interest in the field of political ecology, and I found it important to investigate how global decisions related to environmental issues affected local people, particularly in The Global South.

## 1.1. Introducing the topic

This master's thesis is about the global carbon market, and how this kind of payment for ecosystem services impacts the local people participating in the carbon forestry projects. REDD+ is often used as an "umbrella term" for carbon forestry projects, where local people are paid to plant trees to sequester carbon. This is a mean for mitigating climate changes, and mainly involves a collaboration where actors in The Global South host the tree planting activities while actors in The Global North purchase the carbon credits and write these credits off their own emission targets (Angelsen & Wertz-Kanounnikoff, 2008, pp. 11-12).

In this research project, I have chosen to investigate the carbon forestry project "Trees for Global Benefits" (TGB), a project established by the Ugandan NGO Ecotrust. This project follows the same ideas as the REDD+ program but is an independent carbon forestry project operating at the voluntarily carbon market.

Addressing this topic, I have chosen to use the approach of political ecology. This is because I consider it important to discuss how carbon forestry projects affect the livelihoods of the local people participating in the tree planting activities, and how this global trading system promotes justice between the different stakeholders.

## 1.2. Actualizing the issue

The term “sustainable development” has grown as a “buzzword” since it was introduced in the Brundtland-commission in 1987. The term emerged after the world started to be concerned about the climate changes we faced due to human actions, and indicates a development that considers both nature, society and the economy (World Commission on Environment and Development, 1987). Since its birth, the interest for sustainable development has grown more and more on the political agenda, where new ways of thinking about the relation between human and nature have emerged. Forests have for a long time been seen as a valuable resource, but over the last decades, trees have been discussed more broadly as an ecosystem service particularly for its ability to sequester carbon (Adams, 2020, p. 178). Accordingly, tree planting activities has gotten a lot of interests as one of the main means for mitigating greenhouse gas emissions.

Since the emergence of sustainable development, The United Nations Framework Convention of Climate Change (UNFCCC) has organised several Conferences of Parties (COP), where the aim is to gather the world countries to make plans for reducing the climate changes. The latest long-term agreement, the Paris-agreement, was signed in 2015, where the countries decided to reduce emissions so that the global temperature would not rise beyond 2 degrees (UKCOP26, 2021a). Article five in this agreement is dedicated to forests as mitigating measures, and treats REDD+ as one of the tools for meeting the emission reduction targets (Climate Focus, 2015).

According to the Paris-agreement, all countries were to establish their own goals which were to be renewed at a conference every fifth years. The latest conference was the COP26 in Glasgow in October 2021. During this meeting, the participating countries agreed on four achievements to meet the targets from the Paris-agreement, where one of them are the mitigating measures, which among others include stopping and reversing deforestation. This implicates protection and restoration of ecosystem services and managing land sustainably, which again will support adaption and enhance livelihoods, reduce climate vulnerability, and promote biodiversity (UKCOP26, 2021b).

The attention towards tree planting activities as mitigation measures makes it relevant to investigate the effects carbon forestry projects actually have on the stakeholders involved. The projects are often presented with a triple-win solution for biodiversity conservation, climate change mitigation and socioeconomic development (Cavanagh & Freeman, 2017).

Consequently, it is relevant to discuss whether this triple-win outcome is the reality or only a

narrative. I Have chosen to limit this research project to investigate the socioeconomic impacts of a carbon forestry project, without addressing the other two issues.

### 1.3. Research questions

To investigate the chosen topic, I have done a case-study in rural Uganda, where I have collected data from local people participating in the TGB-project. Before I started to collect data in the field, I wrote three research questions which summarised the topics I wanted to answer with my research. These questions were the foundation for the questions I asked the participants during the interviews, and they have stayed with me throughout the course of this study, as they summarise the themes in this thesis.

The first two research questions are:

- 1) What is the local inhabitant's perception of conservation and regulations in the carbon forestry project? What is their perception of the benefits gained from this type of project?
- 2) In what degree does the carbon forestry project have negative impacts on the participants? What changes should be done to make carbon offsetting just for the local inhabitants as well as the global environment?

The last research question for this topic was inevitable, looking at the period of our fieldwork. We went to Uganda autumn 2021, almost two years after the outbreak of the Covid-19 pandemic. Consequently, I was prepared that the pandemic would have had an impact on the topics I were to study in the field, so the third research question was:

- 3) How has the COVID-19 affected the local inhabitant's socioeconomic conditions? In what way has the pandemic affected their perception of the carbon forestry project?

These research questions combined has led to the main research question for this thesis:

**How does a carbon forestry project impact the socioeconomic conditions of local people participating in the tree planting activities? To what degree does these impacts promote justice between the stakeholders involved in the project?**

#### 1.4. The structure of the thesis

The thesis is divided into seven chapters. In this introduction chapter, I have introduced the topic and addressed the actuality of treating this issue. The research questions for the thesis have also been presented. Chapter 2 presents the background for this thesis, where Uganda is introduced as the chosen country for the fieldwork. In this section I will also address the impacts the Covid-19 pandemic has had in the country before I turn to introducing and describing The Mount Elgon region and the TGB-project. In chapter 3, I will present the theories that will serve as the theoretical fundament for this thesis, while chapter 4 presents and describes the methodology of the research project. In this chapter I am being transparent about the course of this research and at the same time questions how my role as a researcher might have impacted the research.

Chapter 5 and 6 provides the results of this thesis where the empirical data gathered in the field is presented. Chapter 5 considers the participants experiences with the trees they plant for the project, and how this impact their livelihoods, whereas chapter 6 treats the complexity of the carbon forestry project related to knowledge about carbon and carbon finance. Chapter 7 is the discussion- and concluding chapter, where I will discuss the findings from the fieldwork towards the theories presented. This chapter will answer the main research question for this thesis.

## 2. Background

In this chapter I will describe the background for my study area and introduce the TGB-project. I will in the first section present Uganda to introduce the country where I did my fieldwork. This section also addresses the issue of the Covid-19 pandemic, and how this has affected the country. In the next section I will present Mount Elgon, as the area where I did my fieldwork, and describe some history related to the area hosting different carbon forestry projects. In the last section, “Trees for Global Benefits” will be introduced and described, as it is the carbon forestry project this thesis is based upon.

### 2.1. Uganda

Uganda is a country situated east in Africa, bordering Tanzania, Kenya, Rwanda, South-Sudan, and The Democratic Republic of Congo. The country was a British colony from the end of the 19<sup>th</sup> century until it got its dependency in 1962. The years after its independence, the country suffered under political instability and corruption which we can see traces of today. The current president, Yoweri Museveni, has been in power since 1986 (FN-Sambandet, 2020).

The country has a total population of about 45 million people and has one of the fastest growing populations in the world. Due to political instability, and prevailing corruption, the economy in the country is quite low. Consequently, Uganda is on the list of the least developed countries in the world. When it comes to women’s rights, they are moving forward in the country, but there are still a lot of early marriages and sexual violence in the rural areas (FN-Sambandet, 2020).

#### 2.1.1. The Covid-19 pandemic in Uganda

Since the end of 2019, the world has faced the Covid-19 pandemic, which in addition to illness, has had major socioeconomic impacts on millions of people (Lindsey et al., 2020). To reduce the disease spreading, governments all over the world introduced international travel restrictions and lockdowns, which affected business, industries, and millions of people, and led to an unstable world stock market. In October 2020, Lindsey et al. (2020) pointed out how Africa’s economy would suffer from reductions in foreign investment, lower foreign aid and lower overall earnings. They emphasise the importance of wildlife-based tourism and the interest from foreign investment in funding for conservation efforts and donor contributions to protected areas, as major income sources for many countries in Africa. After the outbreak of the pandemic, 90% of African Tour operators have experienced a major decline in bookings, which has led to lost revenues and again impacted particularly the livelihoods of the poorest

people. The authors also point out that they are expecting reduced donor fundings for African conservation over the next few years which is likely to increase rural poverty (Lindsey et al., 2020).

In Uganda, the Covid-19 led to a complete lockdown in March 2020, and the country has had one of the world's strictest restrictions, including national curfew, closed schools, and markets. The complete lockdown did not start to ease until May 2020, and this lock-down and the following restrictions have severely affected the economy and well-being of the rural population. The pandemic also led to a national travel lockdown as well as requirements to keep a social distance, which led to a slowdown in economic activity and has further marginalised the rural poor communities (Mahmud & Riley, 2021).

## 2.2. Mount Elgon

Mount Elgon is a mountain in eastern Uganda, which is divided between Uganda and Kenya. The mountain is an inactive volcano, with its highest point at 4321 metres above sea level. The Mount Elgon Region covers 4200 km<sup>2</sup>, and contains eight districts; Bukwo, Kween, Bulambuli, Kapchorwa, Sirinko, Mbale, Bududa and Manafwa (Broeckx et al., 2018).

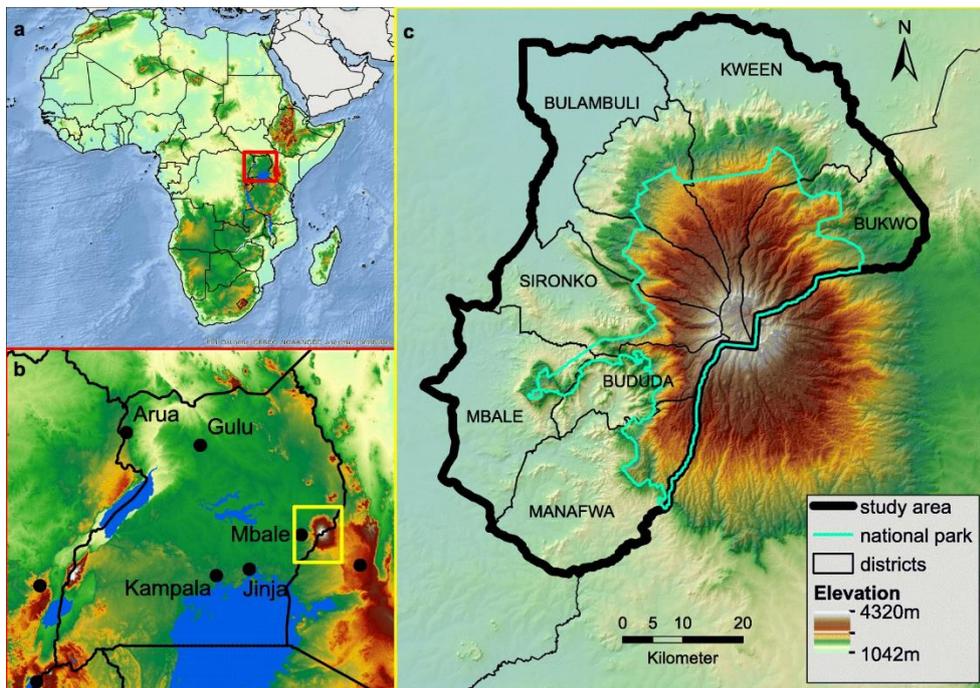


Figure 1: Research area (Broeckx et. al, 2018)  
a) Map of Africa, b) Map of Uganda, c) Map of The Mount Elgon Region

In the rural areas of the two districts, people are in general poor, which makes it hard for them to get access to basic necessities like food, medication and education. People rely heavily on forest products, as charcoal and firewood are their primary source for cooking, and other non-

timber products like fruits and herbs are important in their diet. The fertility of the volcanic soil and the high-land climate makes it an attractive place for establishing forests and growing different crops (Cavanagh & Benjaminsen, 2015). The area is characterised by steep slopes, heavy rainfall, and fertile lands supporting a dense population. All these factors make the area prone to landslides (Broeckx et al., 2018).

The Mount Elgon Region has a long history of both conservation and deforestation. Above 2300 metres above sea level, the volcano is covered by natural vegetation which forms the Mount Elgon National Park (Broeckx et al., 2018). When Uganda was a British colony, Mount Elgon was stated a protected area, and the local inhabitants were driven out of the forest (Fisher et al., 2018). After the country gained its independence, there was a rather turbulent political period, under Obote, Amin and Obote again, where the rural populations where encourage to expand agricultural cultivation into the forest reserve. During that period, among 25.000 hectares of forest was encroached upon by local communities. However, in 1992, the Dutch NGO, the Forest Absorbing Carbon Emissions Foundation (FACE), approached the Ugandan government and offered to finance reforestation in Mount Elgon in exchange of them claiming rights to the carbon sequestered by the forest (Cavanagh & Freeman, 2017).

When FACE approached the Ugandan government, Mount Elgon was established as a national park. At the same time, the country hosted the first carbon forestry project in Africa as a collaboration between the then Ugandan Ministry of Trade, Tourism and Industry and FACE. The project was named UWA-FACE, and its goal was to reforest the 25 000 hectares of forest that had been lost during the last decades. The FACE foundation agreed to take all the costs for reforestation, and in return they were to sell the sequestered carbon from the newly re-established forest at the carbon market. This scheme would result in a “triple win” outcome for climate change mitigation, biodiversity conservation and local livelihoods, the latter by employment in reforestation and other types of income for the local communities. Despite this “triple win”-goal, the project collapsed only ten years after establishment. People had been forced out of the protected area, so after a lot of resistance by the local inhabitants, followed by international civil society campaigns, the project ceased (Fisher et al., 2018).

Since the failure of the UWA-FACE, there have been several carbon forestry projects in Mount Elgon, whereas Trees for Global Benefits is one of them.

### 2.3. Trees for Global Benefits

The Trees for Global Benefits (TGB)-project is based on the Plan Vivo Concept. The concept emerged in 1994, where the founders wanted to help local communities to plant trees to generate carbon credits which are sold on the voluntary carbon market. The objective of the Plan Vivo is to reduce poverty by offering sustainable livelihoods for communities, restore and protect environments, to protect the communities from climate changes, and to build local capacity through knowledge, skills and resources. Sixty percent of the income from the sale of Plan Vivo Certificates goes directly to the participants (Plan Vivo, 2022b).

Plan Vivo has formed a standard and a guidance on how to develop a carbon forestry project, and which targets they have to meet to get certified. Their focus has been on tree planting community projects in the Global South. In 2020, the organisation had issued 3 million Plan Vivo Certificates, which represents 3 million tons of sequestered or mitigated CO<sub>2</sub>, and will provide benefits for communities in The Global South (Plan Vivo, 2022a).

In Uganda, TGB is a cooperative carbon offsetting scheme initiated by the Ugandan NGO The Environmental Conservation Trust of Uganda (Ecotrust). Ecotrust is the overall coordinator and is responsible for project development and representing the project toward all third parties, like the Plan Vivo Foundation and buyers. The aim with TGB is to connect Uganda to the voluntary carbon market by focusing on small holder farmers. The project started in 2003 and has since then been awarded for their achievement of innovation and entrepreneurship in Uganda, which has been promising for economic growth, social development, and environmental protection. According to Ecotrust, the TGB-project delivers several co-benefits like biodiversity conservation and catchment conservation, which implies the improvement in regulation of water flows and soil conservation. In addition, the project enhances climate resilience and building of social capital (Ecotrust, 2022).

Within the Mount Elgon region, the TGB is implemented through establishing agroforestry systems where the aim is to combine carbon sequestration with the improvement of rural livelihoods, and at the same time reduce pressure on the natural resources in the national park and forest reserves. The TGB-project was established to meet five objectives: 1) to contribute to reducing pressure on protected areas while contributing to the conservation of biodiversity and watershed functions, 2) diversifying and increasing income for poor, small-scale farmers, 3) establishing community-based institutions which will lead to social cohesion and gender equality, 4) reducing CO<sub>2</sub>-emissions, and 5) building resilience of rural smallholders to climate change (Ecotrust, 2020). To meet these objectives, the project encourages small-scale

farmers to plant indigenous tree species. The indigenous tree species, mostly established in agroforestry, enhances agriculture production and contribute to other environmental services such as reducing soil erosion and regulating surface water flows, which helps reduce flood and landslide risks.

### 2.3.1. Monitoring and payment schemes

The participants of the TGB-project are followed up by on-going monitoring systems which are set by Plan Vivo (Ecotrust, 2020). As part of this system, the TGB-project arranges workshops in the communities where the participants get training and identifies forestry activities that are suitable for their needs. Ecotrust also hold regular meetings with the participants in order to receive suggestions on how to improve the management of the project. When the participants have applied for the project, and been approved for meeting the Plan Vivo criteria, they get the sales agreement. This agreement specifies the payment they will receive based on the amount of carbon their household will generate and sell after the implementation of the project (Ecotrust, 2020). The specifications for how the carbon is calculated is not specified in the Plan Vivo project document, but according to Jantawong et al. (2022), how much carbon a tree can sequester is calculated by multiplying tree volume by wood density and percent carbon content.

The contract the participants sign obliges them to participate in the project for 25 years, and the payments are divided over the first 10 years, respectively year 0, 1, 3, 5, 7 and 10. According to the programme, the carbon benefits are distributed to the communities, and the participants receive both cash and non-cash benefits. The communities are to get at least sixty percent of the carbon purchase price, while the remaining forty percent goes to Ecotrust to cover administration costs, certificate issuance fee and payments for third party verification. The non-cash benefits includes among others products directly for the trees, improved agriculture and regulation of soil, and different social capacity building activities (Ecotrust, 2020).

According to Ecotrust's annual report they sold over 158 tonnes of CO<sub>2</sub> in 2020 (Ecotrust, 2021). However, the report states that the number of carbon credits sold to various buyers decreased from the year before, despite the project's expansion of number of participants from 2019. Realistically, this is a consequence of the Covid-19 pandemic. According to this report, Ecotrust has continued to pay the participants who have met the requirements, also after the outbreak of the pandemic.

#### 2.4. Summary of background

In this chapter, I have briefly introduced Uganda, and presented how the Covid-19 pandemic has affected the country. I have also presented Mount Elgon as my study area and addressed the area's history with forest governance and carbon forestry projects. In the last section I introduced the TGB-project. The background information I have presented in this chapter will be relevant in contextualising both the course of the fieldwork which will be presented in chapter 4, and the empirical findings presented in chapter 5 and 6.

### 3. Theoretical perspectives

In this chapter I will outline the theoretical perspectives for this master thesis. In the first section I will present political ecology, as a way of approaching human and nature. In section 3.2, the issue of environmental justice is addressed, and in section 3.2, I turn to the emergence of Sustainable development and the idea of sustainable livelihoods. In the fourth section of this chapter, I will present the development of ecosystem services, focusing on different ways of valuing nature and turning it into schemes of paying for ecosystem services. In the last section, I turn to the concepts of carbon forestry projects and carbon offsetting.

#### 3.1. Political ecology

Political ecology can be understood as a critical approach for studying environmental questions. This implies focusing on power relations and questioning statements about development and the environment which others might take for granted (Benjaminsen & Svarstad, 2017, pp. 15-16). According to Benjaminsen and Svarstad (2017) researchers within this field usually study local people living in their own environment and how national and global decisions affects the local communities. A key theme in political ecology is therefore local conflicts over natural resources driven by national and global processes.

As political ecology investigates different environmental questions, one of the main concerns is distribution of goods between different stakeholders. Benjaminsen and Svarstad (2017) focus on how use of different resources creates different economic wins and losses for different people. As regards this aspect, it is important to keep in mind that power is a huge factor in the management of natural resources, which is one of the most central themes in political ecology (Benjaminsen & Svarstad, 2017, pp. 18-19).

According Svarstad et al. (2018), power is something that is exercised by actors, and they refer to Engelstad's definition of power as something intentional, relational, and causal. This implies that someone exercise power with an intention to obtain something, it happens between two or more actors, and that the actions produce an intended result. One of the power approaches that is widely discussed within the field of political ecology is discursive power. This is one of the poststructuralist power perspectives which are based on the ideas of Foucault. Discourses is a shared perspective on a topic, and one exercise discursive power when actors, whether individually, government agencies or corporations, create an idea of the reality and makes other actors contribute to the production and reproduction of this discourse. The authors argue how literature on discursive power consists of discourse and narrative

analysis which show how different actors produce discourses on issues and narratives of specific cases to make them suitable for themselves (Svarstad et al., 2018).

According to Benjaminsen and Svarstad (2017) there are two dominating discourses within the global carbon market. The first is the win-win discourse which claims that carbon trading is a cost-efficient strategy for mitigating climate emissions and at the same time, it creates income opportunities for local people in The Global South. Within this discourse, carbon trading is presented as profitable for both The Global North and The Global South. As a contrast, the second discourse has emerged, the radical discourse, which is rather critical about carbon trading. This discourse questions the amount of emission which are actually reduced through carbon trading, and the strategy is seen as a “greenwashing” of the activities and consumption in The Global North. According to the radical discourse, carbon trading might provide negative consequences for the most vulnerable people in The Global South (Benjaminsen & Svarstad, 2017, pp. 168-169).

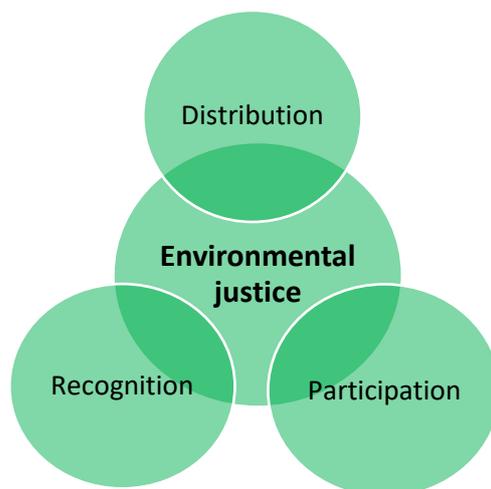
A perspective within political ecology is to study how actors and structures affects development and environmental governance. Benjaminsen and Svarstad (2017, pp. 22-23) argues that environmental management is always a result of the actions of actors, which can be individuals or larger organisations or bureaucracies, with different aims and values. These actions are affected by social structures in the society which creates both opportunities and constraints.

In development research, researchers often consider how structures at different scales affect each other, especially how global structures affects environmental governance at a local scale (Benjaminsen & Svarstad, 2017, pp. 22-23). Often, it is the countries in The Global South which mostly gets the negative consequences of structures at a global scale, and this is a result of the different courses of development in the world after the Second World War. In this period, the Western countries became the centre of the world, while the previous colonies became the periphery of development. According to Cavanagh and Benjaminsen (2014), this distinction between The Global North and The Global South world has further extended after the emergence of the market for ecosystem services, as it often involves The Global North reducing environmental changes through projects in The Global South. They argue that this result in production of new, and reproduction of old, inequalities at a global scale (Cavanagh & Benjaminsen, 2014).

### 3.2. Environmental justice

Svarstad and Benjaminsen (2020) argue how one should discuss environmental justice and political ecology together, as the two approaches are concerned with justice, human rights and environmental sustainability as its core values. Evidently researchers within the two approaches often study the same issues, only the political ecology approach has been focusing more on the power relations whereas the environmental justice approach has been focusing on addressing justice (Svarstad & Benjaminsen, 2020).

The understanding of justice is widely discussed, but Sikor et al. (2014) argues that it is about what is morally right. Yet, there are obviously different notions of what is morally right. Schlosberg (2004) argues how justice is constituted of three interlinked dimensions; distribution, recognition and participation, as shown in figure 2. Distribution is about how goods are (un)equally distributed among people, and looking at environmental justice, this is about how the goods of the environment are distributed. Recognition is about how one must recognise different groups of people, and that lack of recognition is a part of the reason for unjust distribution. Svarstad and Benjaminsen (2020) emphasises how productions of discourses and narratives favourable to certain stakeholders impact the knowledge other stakeholders get, and that this further impact the degree of recognition. The last dimension, participation, refers to how important democratic and participatory decision-making procedures is both an element and a condition for social justice (Schlosberg, 2004).



*Figure 2: A model made after the interlinked dimensions of environmental justice from Schlosberg (2004)*

Fisher et al. (2018) discuss how mitigation projects, such as carbon forestry projects, raise a lot of questions about environmental justice where the costs and benefits are distributed unevenly between different stakeholders. The authors have used the dimensions of Scholsberg

(2004) to discuss empirical notions of environmental justice in a carbon forestry project. They see distributive justice as the ability of actors to enjoy environmental and economic benefits generated by natural resources. Participation relates to how people are involved in decision-making processes about environmental management, and recognition refers to how the identities of individuals and society, with their history and culture, are valued in the decision-making process (Fisher et al., 2018).

The framework of justice may help to understand how decisions that affect ecosystems are made and how the costs and benefits are distributed. Different PES-schemes includes a collaboration between The Global North and The Global South, and there are often a question whether the governance should consider human or nature, which often result in local people being marginalised to the advantage of nature or the environment (Sikor et al., 2014). Fisher et al. (2018) also argues how environmental justice reflects unequal power relations and political and economic context, especially in the market-based mitigation measures like carbon forestry projects.

### 3.3. Sustainable development

The term “Sustainable development” was put on the international agenda in 1987. This happened after the industrialised countries initiated the first United Nations Conference of Human Environment in Stockholm in 1972 when the environmentalist had presented their concern for the pollution coming from industrialisation. This led to further work on the anthropogenic effects on climate changes which was summarised in The Brundtland report, Our Common Future (Adams, 2020, pp. 49-54). It was in this report that sustainable development was first officially used, and it was described as a “ *development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*” (World Comission on Environment and Development, 1987, p. 41).

The definition of sustainable development implicates equity both within the generation of today and between present and future generations. The report outlined the importance of inequalities between countries and considered how the poverty and inequality was a push-factor of the global environmental issues (Adams, 2020, pp. 55-56). To obtain the goal of sustainable development, one must consider the environmental aspect as well as the economic and social aspect (World Comission on Environment and Development, 1987). This has further developed into the three spheres of sustainable development, where it is equally important to consider economic and social development as well as how human actions has impacts on nature (Adams, 2020, pp. 2-3)

Since the first conference in Stockholm in 1972, there have been several international conferences where the aim has been to discuss the human impacts of nature and society today and make a plan for how to reduce the impacts on climate changes. This includes among others the Rio-conference in 1992, where the idea of ecosystem service management firstly emerged, and the Kyoto-conference in 1997, which established the Clean Development Mechanism (CDM), where countries could invest in carbon reduction projects in other countries if they were not able to meet their own promised emission reductions (McMichael, 2017, p. 254). The latest agreement is the Paris-agreement from 2015, where every participating country had agreed that the global temperature would not increase beyond 2 degrees, and to pursue efforts to keep it below 1,5 degrees. The worlds countries committed to make strategies for reducing greenhouse gas emissions, adapt to the impacts of climate changes, and make financial plans to meet these adaptations. For the first time, the agreement included all the countries in the world, and everyone agreed to reduce their carbon emissions. Every country made their own targets and strategies to reduce their emissions, and they were to be updated every five years. The latest UN Conference on Climate Changes, the COP26, was in Glasgow in 2021, where the targets from the Paris-agreement were assessed (UKCOP26, 2021a).

### 3.3.1. Sustainable livelihoods

The idea of sustainable livelihoods was introduced in The Brundtland-commission and was further expanded in Agenda 21 in 1992 (Karki, 2021). According to Chambers and Conway (1991), sustainable livelihoods consist of three interlinked concepts which is capability, equity, and sustainability. Capability refers to the way one is able to perform basic functioning, and thereby being able to cope with a crisis. Equity refers to equal distribution of capabilities, assets and opportunities, and sustainability refers to both environmental- and social sustainability, which considers both present and future generation. Accordingly, a livelihood is sustainable when one can cope with and recover from shocks and crisis, one can maintain or enhance one's capabilities or assets, and at the same time provide sustainable livelihoods for the future generation. In addition, the livelihood is sustainable if it can contribute to benefitting other local and global livelihoods (Chambers & Conway, 1991; Karki, 2021).

A livelihood can easily be understood as a household, which includes a group of people sharing the same hearth of cooking. It can also be defined as having adequate flows of food and money to cover basic needs (Chambers & Conway, 1991). According to Karki (2021)

“livelihood” is about the means, activities, entitlements, and assets in which people make a living. The assets include natural capital as access to natural resources; physical capital as access to basic infrastructure, housing and means and equipment for production; human capital which include among others health, knowledge, and information; social capital which include among others membership to groups and access to wider institutions; and financial capital as financial resources available (Majale, 2002). The model below shows the relations between the assets and livelihood outcomes, and how this is affected by the vulnerability context.

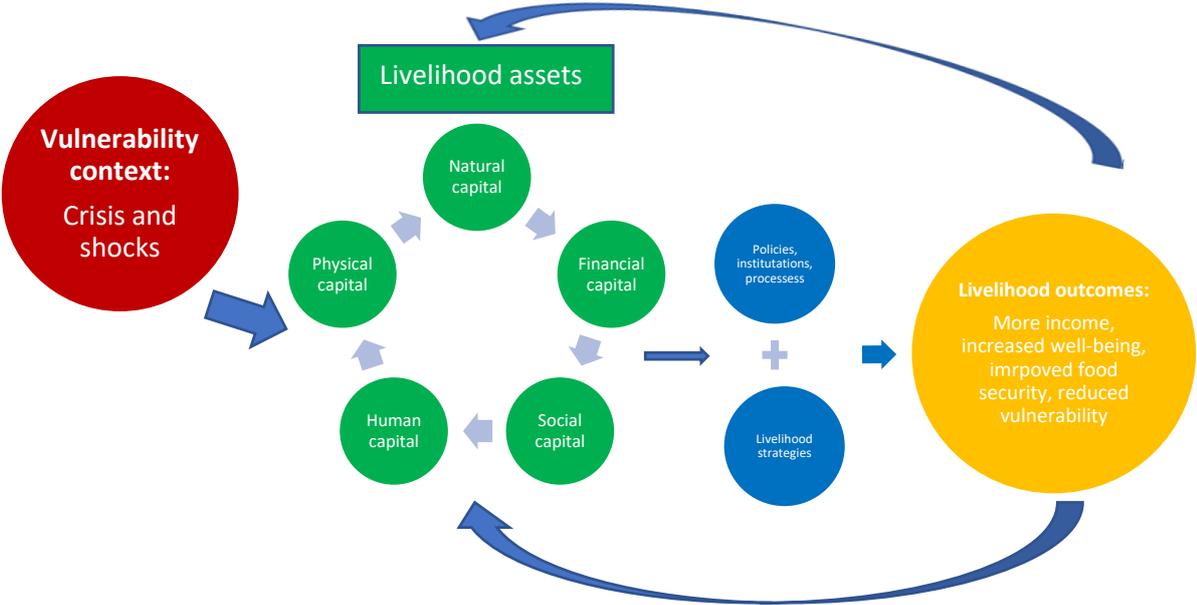


Figure 3: A model made after the sustainable livelihood's framework

The sustainable livelihood approach emphasises the importance of putting the livelihoods of the poor people at the centre of any poverty reduction strategy. People are to be in the centre of development, and they should be able to participate in identifying their livelihood priorities. This approach seeks to eradicate poverty by building on the assets they already have (Majale, 2002). According to Karki (2021), to obtain sustainable livelihoods, one must increase the economic power of people and empower them. She argues that the most common way of talking about poverty is by addressing income and consumption. Yet, that is only one aspect of it, as poor people themselves usually addresses vulnerability and insecurity, levels of health and education, access to assets and recognition by other members of the household, community or government, as other aspects that is important when measuring poverty (Karki, 2021).

The main concern of Chambers and Conway (1991), when addressing sustainable livelihoods are the rural poor. Evidently, the authors argue that to obtain sustainable livelihoods for the rural poor, there is a need for enhancing capability, including the resource opportunities; improving equity, including minorities and women; and increasing social sustainability, including providing safety nets to be able to cope with crisis (Chambers & Conway, 1991).

#### 3.4. Valuing nature as ecosystem services

From the 1990s, the evolution of sustainability became a worldwide phenomenon, and one started to talk about sustainability in the language of economics. Nature was re-imagined as “natural capital”, and new values was added to natural and environmental resources to make it possible to analyse the cost and benefits of using nature, not only in terms of the already existing market benefits of nature, but also the non-market benefits. This new way of valuing nature provided several advantages, like market-based instruments that offered a way to manage the environment by calculating how to reduce greenhouse gas emissions (Adams, 2020, pp. 81-82).

When natural resources were implemented in the language of economy, the term “Ecosystem Services” grew to describe the benefits that nature provided and to show how dependent human wellbeing is on natural capital. Ecosystem services was really established on the international agenda after the publication of the Millennium Ecosystem Assessment, published in 2005 (Adams, 2020, pp. 83-84). This assessment was one of the first frameworks to try to value ecosystem services by outlining the inextricably link between biodiversity and human well-being. The goal was to establish the scientific basis for actions needed to enhance the sustainable use of ecosystem services to meet the human needs (Millennium Ecosystem Assessment, 2005, p. iii).

The Millennium Ecosystem Assessment (MEA) provided a framework for the connection between nature and human well-being. The ecosystem services were divided into four different categories: supporting-, regulating-, provisioning-, and cultural services. The supporting services contains the basis for life on earth, like soil formation and the photosynthesis, and the regulating services are those who regulate the climatic events such as water quality and regulation of climate. The provisioning services are products we get directly from ecosystem services, like timber and food, while the cultural services are non-material, including recreational and spiritual benefits. In the same framework, the MEA distinguish between five components for human well-being, and link those up to the ecosystem services. These components are security, basic material for good life, health, good social relations, and

freedom of choice and action. Many of these components are directly or indirectly linked to biodiversity and ecosystem services, see figure 4 (Millennium Ecosystem Assessment, 2005).

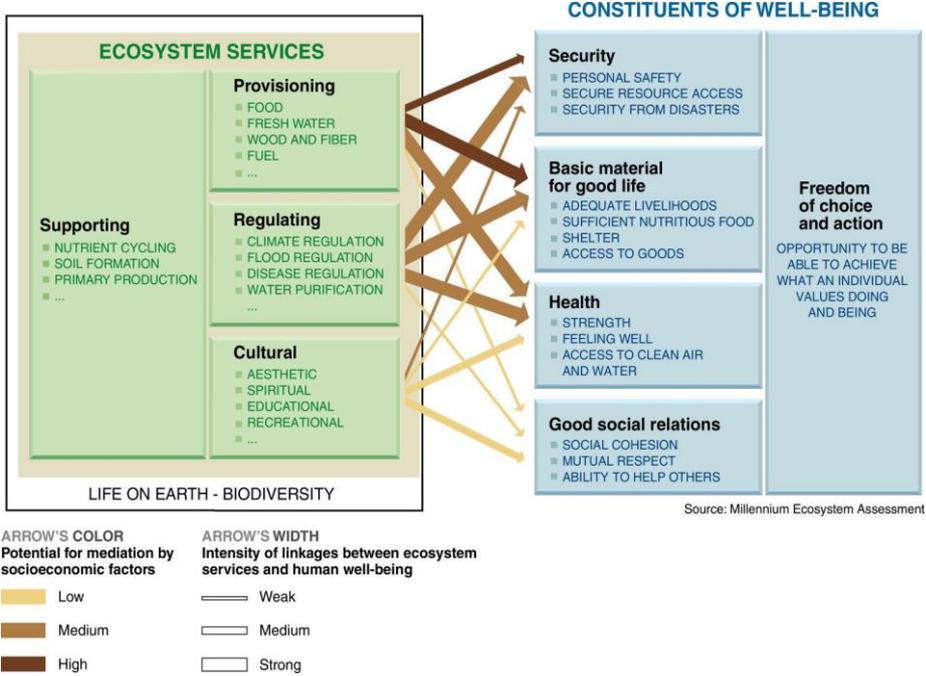


Figure 4: The Millennium Ecosystem Assessment framework (Millennium Ecosystem Assessment, 2005, p. 19)

Many scientists are being critical about putting nature into monetary metrics because it does not capture the complexity of it. However, others argue that it makes it easier for policy-makers, business people and consumers to identify actions and decisions about the development of the nature to best enhance social welfare (Adams, 2020, pp. 92-93). This latter argument has led to the development of payments for ecosystem services (PES).

### 3.4.1. Payment for ecosystem services

After the emergence of ecosystem services, PES-schemes have been developed as market-based management of ecosystem services where they are valued economically and secured through market transactions (Milne & Adams, 2012). PES-schemes involve contracts where ecosystem services are defined and purchased by buyers which secures provision of that service from a seller. The providers of the ecosystem service are to be rewarded by the purchasers as a compensation for the benefits they generate. At the same time, the providers are to be held accountable for providing the service. These schemes aim to generate win-win outcomes for biodiversity and society (Adams, 2020, p. 123). Carbon forestry projects are examples of PES-schemes, where local people are paid in “carbon finance” to participate in activities such as tree planting or protection of forest, both to sequester carbon (Jindal et al., 2012).

Milne and Adams (2012) argue that PES is a “neoliberalisation” of conservation and environmental management as it urges to solve environmental problems with a market-based approach depending on privatisation and commodification. The potential for PES is that the environmental payments will alleviate poverty in The Global South because of the win-win approach (Jindal et al., 2012), but as Milne and Adams (2012) point out, it can often lead to unfair agreements caused by asymmetrical power relations between the buyers and the providers. The authors are critical about the way PES-mechanisms reduces the complexity of the environment and social relations and promotes powerful and capitalistic interests (Milne & Adams, 2012). These concerns can be seen in relation to the radical discourse of carbon trading within political ecology, as presented in 3.1.

### 3.5. REDD+ and carbon forestry projects

Since the concerns about how human actions affects the climate changes emerged some decades ago, sustainable development and mitigation measures have grown more and more on the political agenda. One of the mitigation measures is related to the forests of the world, with a particular interest in the rainforests, as they are claimed to be “the lungs of the world” (Adams, 2020, p. 176). Trees have several environmental advantages, as they play an important part in the photosynthesis where carbon dioxide is transformed into oxygen. In addition to converting the carbon dioxide, they are a natural storage for this gas. During the last decades, forests have been discussed more in terms of ecosystem services, particularly valued for carbon sequestration, and supplying stream water. Yet, forest resources are important for different reasons, where a large number of people depend on the resources directly in their livelihood, like timber, food and construction of home (Adams, 2020, p. 178).

Carbon forestry projects are projects where landowners or land-right holders are paid using carbon finance to grow trees for sequestering carbon as a mean of climate change mitigation. It can also be projects which re-establish cleared forest or preserve existing forest. (Fisher et al., 2018). The cornerstone of political forest management is the REDD+-programme. This programme is mainly and objective, and The United Nations Framework Convention of Climate Change (UNFCCC) refers to it as a broad set of approaches and activities that will reduce emissions. It is a developing mechanism which follows a PES-scheme, where countries, mainly in The Global South, are paid for doing activities that will reduce emissions from deforestation and forest degradation (Angelsen & Wertz-Kanounnikoff, 2008, pp. 11-12).

The essence of REDD+ is climate change mitigation, conservation of biodiversity, maintenance of vital ecosystem services, and poverty alleviation (Adams, 2020, p. 196). It seeks to reduce greenhouse gas emissions at a minimum cost, and at the same time promote sustainable development. To achieve this, the activities should cover three criteria: effectiveness, efficiency, and equity. The first two address whether the activities actually lead to emission reduction and whether it is done with minimum costs. The last criteria, equity, has several dimensions, as it urges for fair distribution of cost and benefits between the participating countries, economic development, and poverty reduction (Angelsen & Wertz-Kanounnikoff, 2008, pp. 18-20). On the background of this, carbon forestry projects are often presented with a triple-win solution for biodiversity conservation, climate change mitigation, and socioeconomic development (Cavanagh & Freeman, 2017).

### 3.5.1. Carbon offsetting

To achieve the objectives of REDD+, a multi-level PES-scheme has been established, where carbon is sold and bought at an international market (Angelsen & Wertz-Kanounnikoff, 2008, pp. 12-13). This PES-mechanism is often referred to as “carbon offsetting”, as it allows countries, mainly in The Global North, to offset their emissions by paying for emission reduction projects mainly in The Global South (Angelsen et al., 2008, p. 33). The carbon offsetting-scheme emerged with the Kyoto Protocol after the UN Framework Convention of Climate Change in 1997 under the Clean Development Mechanism (CDM) (Bumpus & Liverman, 2008). One of the main ideas was that since the greenhouse gas emissions are spread out evenly in the atmosphere, one does not need to locate the emission reduction in the same place as where it comes from. From an economic perspective, the mitigation initiatives should be located where the investment costs are relatively low (Gaast et al., 2016). The concept of carbon offsetting has therefore grown as a strategy for development and conservation in The Global South, where carbon emissions have become a commodity that links The Global North and The Global South in complex ways (Bumpus & Liverman, 2008).

According to Apostolopoulou and Adams (2017), offsetting is a way of treating ecosystem services as quantitative units, where they are defined, valued, and characterized to represent specific ecosystem attributes which is considered exchangeable across time and space.

Accordingly, standards for carbon accounting have therefore been developed at the voluntary carbon market, where both public and private actors can invest in afforestation and forest management projects to contribute to the mitigation of climate change emissions (Gaast et al., 2016). To be able to trade carbon, it has been necessary to reduce it into units, which have

been set to tonnes of carbon dioxide equivalents (tCO<sub>2</sub>e), also called carbon credits. These units are measured from a scenario where the business-as-usual outcome is calculated with a project-scenario where emission reduction activities have taken place. Calculating carbon units is extremely complex, as it is difficult to determine accurately the amount of sequestered carbon (Bumpus & Liverman, 2008).

### 3.5.2. Critique of carbon offsetting and carbon forestry projects

Even though carbon offsetting is seen as cost-efficient mitigation measures, and carbon forestry projects urge for sustainable development, as presented in the past sections, there concept has received criticism. Despite its win-win outcome in theory, there are concerns of how this works in practice. This is especially related to how long the sequestered carbon will remain in the trees, how to monitor and determine the amount of sequestered carbon, and how to handle risks such as fire or diseases (Gaast et al., 2016). In addition to the complexity of calculating carbon credits, there are also concerns about how the concept does not consider the time lag between damages caused in the development site and future gains in the offsetting site (Apostolopoulou & Adams, 2017).

In addition to the concerns about the complexity of trading carbon, there are many authors who criticize the concept of equity within carbon forestry projects. Cavanagh and Benjaminsen (2014) addresses the social aspects of carbon offsetting, and argues how it, as a mean within green markets, result in reproduction of inequalities and restrictions of access to natural resources. They also question the climate and environmental justice, in which carbon offsetting is a way of mitigating the global environmental changes, mainly caused by The Global North, at the expense of vulnerable communities in The Global South (Cavanagh & Benjaminsen, 2014). This is also argued by Fisher et al. (2018) who discuss different perspectives on justice within the concept of carbon offsetting. They point out how carbon offsetting urge for more social inequalities at a global scale, where those who already are less advantageous must compensate for the emissions from the industrialised countries (Fisher et al., 2018).

Jindal et al. (2012) discuss how studies show that carbon forestry projects have mixed effects in the way they help alleviate poverty despite their goal. In some occasions, poor people and smallholders cannot participate in such projects because of insecure land tenure, high transaction costs or insufficient size of land to set aside for these projects. As for the participants in agroforestry projects, it can be difficult because of access to technical

assistance and the inability to meet the investment and maintenance costs to be able to adapt to new agricultural technology (Jindal et al., 2012).

### 3.5.3. Carbon forestry projects position on the political agenda today

According to Adams (2020, p. 197), REDD+ is mainly just an idea today, and there are few projects that has actually been proceeded under the UNCFCCC framework. Gaast et al. (2016) argues that the reason for the slow implementation in the international politics is because it is still considered as a risky investment, based on the issues presented earlier in this chapter. Consequently, the carbon forestry projects of today are mainly established on the voluntary market, where private actors, states, or corporations are buying carbon credits from NGO's (Bumpus & Liverman, 2008). Yet, Gaast et al. (2016) argued after the 21<sup>st</sup> Conference of Parties (COP21) in 2015, when the Paris-agreement was established, that carbon forestry projects might be more relevant in the future because the countries committed to reduce their emissions by determining their own targets, and carbon offsetting can be an cost-efficient alternative.

Article five in the Paris-agreement is dedicated to forest, and includes REDD+ as one of the tools for meeting the emissions reduction targets (Climate Focus, 2015). This was further emphasised during the COP26, where 141 countries signed the "Glasgow leaders' declaration of forest land and use" (UKCOP26, 2021c). According to Jantawong et al. (2022), 23% of the mitigation measures needed to limit the global warming by 2030 can be provided through conservation, restoration, and improved management of among other tropical forests. As forest has gained more focus on the political agenda where REDD+ is explicitly mentioned as a framework, and there have been made improvements in the methodologies for carbon accounting (Gaast et al., 2016), there might be a growing number on carbon forestry projects in the future.

## 3.6. Summary

In this chapter I have presented theories that will serve as the theoretical fundament for this master thesis. Political ecology was firstly presented as an approach for understand human and nature, and this is the perspective I have used during this research project. Secondly, I presented the approach of environmental justice, which will be used in the discussion of whether the carbon forestry project promotes justice in chapter 7. In section 3.3., I presented the emergence of sustainable development since this concept have led to a broader focus on equity between present and future generations, in relation to both human and nature. I have

also presented the idea of sustainable livelihoods, which will be used to discuss the benefits and costs in chapter 7.

In section 3.4, the development of ecosystem services was outlined, where I presented the MEA-framework which I will use to distinguish between the different benefits and costs the participants brought up during the focus group discussions, in the analysis. The concept of PES-schemes was also presented in the same section. In the last sections of this chapter, in section 3.5., I presented the concepts of REDD+, carbon forestry projects and carbon offsetting to understand the essence of the TGB-project. In this section I have pointed out the idea behind the concepts, the critique of them, and the status of these kinds of projects today.



## 4. Method

In this chapter I will present the research design for my thesis and go through the choices I made both in preparation for, and during, the fieldwork. In the first section, the fieldwork we did in Uganda will be introduced, and in the next section I will explain the methodological approach I used to collect data. In the next section, I will go through the fieldwork; how the participants were collected and the course of the interviews. Further, an explanation of the preparation of the fieldwork will be presented, before I, in the last section, present some critical reflections in relation to the data collection and discuss some ethical considerations.

### 4.1. Introduction to the fieldwork

As this master thesis is a part of the CoSTClim-project, in a collaboration with NTNU and Makerere University, I conducted my fieldwork in Uganda, more specifically in two different districts in the Mount Elgon-region: Manafwa and Bududa. The fieldwork was conducted in October and November 2021, and I travelled with a fellow student, Malene Kristiansen with whom I did all the data collection. The research area was chosen to ensure that we could conduct the fieldwork together and that we could get the relevant data material for both of us.

The focus group discussions were carried out in two sub-counties, Bukoso in Manafwa and Nakatsi in Bududa. These sub-counties were chosen because it was where the TGB-project had been implemented. In Uganda, they use different terms to describe the different areas in the country. Villages are the lowest administrative level, and a sub-county constitutes of several villages. A district is a higher administrative level and constitutes of different sub-counties. Since the project had been implemented in several sub-counties in the districts, the participants arrived from different villages and sub-counties to participate in the focus group discussions. Therefore, I will from here on refer to the districts further in the thesis as the main objective is to refer to the different focus group discussions in the research area.

Our stay in Uganda lasted for five weeks. We used the first week to prepare for the fieldwork and get used to the Ugandan way of life. The next three weeks were spent in the Mount Elgon-region, where we conducted the interviews and gathered data. The last week was sort of a “buffer-week”, where we had prepared for having focus group discussions if the weather prevented us from going out in the field. However, as we were lucky with the weather, we finished our fieldwork after three weeks, and spent the last week exploring the West-side of the country.

Together with us in the field was our driver, Juma, who drove us safely around in the steep slopes of the area, and our research assistant, Yeko, who assisted in the data collection. In addition, we always brought with us an interpreter which we used during the focus group discussion. I will discuss the issue of language further in section 4.6.1.

#### 4.2. Choice of methodological approach

For this thesis I chose to use a case study, which is an approach where one can study one instance of a phenomenon to get a deeper understanding of the phenomenon in general. By studying one single case, the researcher might verify or falsify existing theories of a concept, or contribute to develop new theories (Baxter, 2016, pp. 130-131). The purpose of this thesis was to get insight and a deeper understanding of the socioeconomical impacts of carbon forestry projects, and for that reason I chose the TGB-project as my case. After having read much literature about the concept of carbon offsetting and carbon forestry project, I thought this case study could contribute to get a deeper understanding of how the TGB-project impacts the participants, and generally, how a carbon forestry project might work.

While I conducted the fieldwork in two districts, my case study includes one case, not two. The reason for collecting data in two different districts was to see whether there were any differences in the perception of the project in the two districts. It turned out that the experiences were similar, and it was not necessary to make comparisons between the districts.

To collect data for my case study, I conducted six focus group discussions, three in each district, and five in-depth interviews. I chose to do different types of interviews, as that is a much-used method to collect data in qualitative studies, according to Tjora (2017, p. 17). In addition, I collected some data through observation, which helped me get a better understanding of what the participants shared during the discussions.

#### 4.3. Focus group discussions

During a focus group discussion, one gathers a group of people to discuss one or several topics. This is an effective approach to generate much information in short time, and it might be less intimidating for the participants to interact with the researcher (Tjora, 2017, pp. 123-124). I chose to do use this approach because I was able to generate more information from different people in a short period. I also thought it might seem less intimidating for the local people to participate in the discussions, because they were able to rely on the other people in the same group rather than being alone with me. For the focus group discussion, I gathered the farmers who participated in the TGB-project, with the aim of letting them discuss and reflect over their experiences and opinions of the project they participated in.

During the preparation week in Kampala, we started the process of getting participants for the focus group discussions. To select participants for my fieldwork I received help from a professor at Makerere University who contacted one person from each district that would serve as my “gatekeeper”. This is a person who is crucial in getting access to the selected field and in mobilising participants (Kearns, 2016, pp. 322-324). Both of my gatekeepers had positions in the districts that made them capable to select the right people for the focus group discussions.

In collaboration with my fellow student and the professor, I decided that I wanted to have six focus group discussions, three in each district. In each district, I chose to have one with only men, one with only women and one that was mixed. This was because my research assistant warned me that if the discussions were mixed, it might be a possibility that the men would be superior to the women. As noted by Conradson (2005, p. 133), having a homogenous group in regard to gender provide a safe environment where the participants can speak freely. In the first mixed group, I experienced this difference. The men were seated on chairs while the women sat on the ground, some with their babies on their lap. In this discussion, the men were more eager than the women, and we had to work harder to get the women speaking. However, this was not the experience in the second mixed group, as everyone was seated on chairs and the women expressed themselves as much as the men.

After I got in touch with the “gatekeepers”, I explained to them that I wanted to use criterion sampling to get participants. This is a method where all the participants are selected by specific criteria (Stratford & Bradshaw, 2016, pp. 123-124). For my purpose the criteria were that they all had to be participants in the TGB project, I wanted both men and women, and I wanted the participants to be spread out over different age groups, to get as many perspectives as possible. When we had agreed on these criteria, the gatekeepers started to mobilise participants within these criteria.

According to Cameron (2016, p. 210), there should be between four and ten participants in a focus group, while Tjora (2017, p. 124) argues that it should be between six and twelve. In my focus group discussions, I had between eight and eleven participants. To begin with, we set ten participants as the limit, but as the venue was often located at a public space, sometimes more people than expected attended. At first, we tried to keep the limit, but as we got more experienced, we realised that there were often some people that participated less than others, so we opened up for more participants to ensure that we got the amount of information that we expected.

As presented in table 2 in the appendix, the focus groups discussions in Manafwa totalled 29 participants, 15 women and 14 men. In Bududa, the total number of participants were 30, whereas 15 women and 15 men. Their aged ranged from 19 years old to over 80 years old, and the average number of the participant's household members was 8.

#### 4.3.1. Carrying-out the focus group discussions

The focus group discussions followed a semi-structured interview guide. This is an interview guide which includes some primary questions to start the discussions, and some secondary questions to follow-up the topics if the participants do not bring them up by themselves (Dunn, 2016, pp. 154-158). Because I used this type of interview-guide, the structure and the sequence of the questions changed during the different interviews, where I would rather ask new questions to follow up issues posed by the participants instead of strictly following the guide. In addition to the interview guide initially being semi-structured, I had to do some changes during the fieldwork because I got more insight after interacting with the participants. After the first discussions, I knew more about the project in general, so it was easier for me to adapt the questions to make them more specific about the TGB-project and not carbon forestry projects in general.



Figure 5: From one of the focus group discussions (Photo: private)



Figure 6: From another focus group discussion (Photo: private)

At the beginning of the interviews, we always started by introducing ourselves, including the other student and the research assistant. After we had introduced ourselves, all the participants said their name, age, and number of household members. This was a part of the warm-up period to get the participants to start talking, which Dunn (2016, p. 164), argues is important when starting an interview. After this section I started with some large questions, that I knew many of the participants could easily answer, before I went over to more reflexive and in-

depth questions. Some questions triggered long discussions, and my task was to engage everyone who wanted to say something and to follow-up interesting comments. Other questions were met with more hesitation, and in those cases I had to engage the participants by clarifying the questions or move on to other questions. This is what Conradson (2005, p. 139) argues is one of the main tasks the researcher has during the focus group discussion. At the end of the discussions, I always closed the interview by asking if anyone had something that they wanted to add that they had not gotten the chance to say. By doing this, I opened up for additional questions and comments, and at the same time prepared for the end of the conversation. The focus group discussions lasted for about an hour.

#### 4.3.2. Recording and fieldnotes

There are two main techniques for recording interviews; audio-recording and note-taking. According to Dunn (2016), the advantage of using an audio recorder is that it allows the researcher to make a rather natural conversation and pay attention to what the participants are saying instead of being occupied by taking notes. It also allows the researcher to pay attention to gestures and expressions. On the other side, the recorder may make the participants uncomfortable, and then restrain their opinions (Dunn, 2016, pp. 168-169). During all my interviews I used a recorder. This was an advantage for me, especially when someone had an interesting comment, as it was easier for me to address it at once and ask follow-up questions. That could have been difficult if I was partly busy taking notes. In addition to the recorder, Malene took notes of the sequence of the participants speaking. This made it was easier to identify the participants during the transcription. Having two moderators during all of the discussions was helpful to get a broader view of the interactions, and to get all the details and information that could be valuable for the analysis, as argued by Conradson (2005, p. 141).

During the fieldwork I used a research diary to write down observations, reflexions, and questions after the interviews. This is a helpful tool to reflect over the interactions when the details are still fresh in the memory (Dowling, 2016, p. 35). For me, since it was a long period between the data collection and writing process, it was useful to be able to read what I thought and reflected on in that exact moment.

#### 4.4. In-depth interviews and observation

In addition to the focus groups discussions, I collected data through five in-depth interviews and observation. As further discussed in section 4.5.2., I chose to only use data from three out of the five in-depth interviews I conducted with the key informants. In-depth interviews are a good approach to get a deeper understanding of an issue, as it provides the researcher with

different opinions, reflections and experiences the interview person has (Tjora, 2017, p. 114). I chose to have in-depth interviews with some of the people who were in particular positions to get more insight in their role in addition to the chosen case, and how they experienced the project. These people had more specific information and knowledge about the project than I was able to get from the local farmers, as they had participated in implementing the projects in the districts. This was one of the reasons why I chose to keep them out of the focus group discussion, and instead had a one-to-one conversation with them.

The other reason for why I chose to distinguish between the farmers and those in higher positions was because of the asymmetrical power relations between them, and I wanted to ensure that the power relations should not affect the discussions. One of the key informants had previously been the district counsellor representing his sub-county and was one of the people who had worked for the implementing the TGB-project in the district in 2017. The other key informant worked as a caretaker for the department of natural resources, while the third worked as a farmer coordinator for Ecotrust.

The in-depth interviews I had were mostly arranged at the same venue as the focus group discussions, due to the proximity to where the informants worked. However, I had one interview with one of the key informants at a café in Mbale because that was more convenient for her. The in-depth interviews lasted between 15 and 25 minutes.

#### 4.4.1. Observation

In addition to interviews, observation is a much-used method to gather information. This is an approach where the researcher goes out in the field to observe a phenomenon as they occur in a particular environment. There are several purposes for using observation in social science whereas complementing and contextualizing are two of them (Kearns, 2016, pp. 314-315). As for my research, the observations came in addition to the interviews to get a deeper understanding of how the farmers planted and kept the trees for the project. In addition, the observations were also for the purpose of contextualising, where I got the direct experience of the project as I went along in the field. By using observation in addition to the interviews, I got the chance to engage more in the daily life of the participants, and I had a better understanding of what they were talking about during the interviews.

There are several approaches the researcher can use to gather information when using observation as a tool in collecting data. When I went to see one of the participant's gardens, I used a "go-along" interview as presented in Kearns (2016, p. 315), where I asked questions as

we walked together and observed the trees. It was easier to ask more specific questions about the tree species, spacing, and sizes of land and tree seedlings when I could see it by myself. In this case, I did not use the recorder, but took notes as we went along. I also took pictures as we went along.



*Figure 7: The farmer took us with him to see his garden, and he showed us how he had planted the TGB-trees with other crops (Photo: private)*

During the observation, I used a field diary to write down my observations as soon as possible, to ensure I did not lose valuable information. Fieldnotes are useful to write down thoughts and questions one has during the interaction, in addition to specific details. This is really helpful because it is a valuable source of data to use in further reflection and analysis (Kearns, 2016, pp. 328-329).

#### 4.5. Preparation of the data material

After five weeks of fieldwork, I waited until January before I started to process the data material I had gathered in Uganda. During the entire process of preparing the data material, I have had to make choices and decisions related to what I wanted to present in the thesis, and I will present these choices in this section.

##### 4.5.1. Transcription, coding and analysing

I started to transcribe the interviews after I got back to Norway. The transcribing process is the process where one reproduce the interaction into a written text. This was a time-consuming task, but since it was a long period between the interviews and the transcription, it

was a valuable process for me to reengage with the material, which Dunn (2016, p. 170) emphasises is an important part of the process. In some cases, it is necessary to do a full transcription of the interviews to get all the details, but in others cases, the researcher can assess in what degree a complete transcription is necessary in a particular context (Tjora, 2017, pp. 173-174). In this research, I did both a complete transcription and summaries, depending on the interpreter we used in the specific focus group discussions and the questions I asked. In some of the interviews, I wrote down exactly what was said, but in other interviews, I had to write summaries of what the different participants were saying. This decision was made because of the linguistic barriers that some of the interpreters had. Sometimes it was easy to write down exactly what the interpreter said, but in other cases, because of the linguistic barriers, the sentences were not always correctly interpreted, so I had to write the essence of the statement instead of the exact sentence.

Because of the linguistic barriers the interpreters had, the transcriptions contain a lot of errors as it is written either as a literal transcription of what was said or in summaries. Consequently, I have chosen to keep these errors in the citations presented in chapter 5 and 6 to make the statements as true as possible to what the participants said. The statements were already translated once by the interpreter, see further discussion in 4.6.1., and I did not want to modify them even more. All the key informants spoke in English, but they too had some linguistic barriers. Consequently, the citations from the in-depth interviews also contain a lot of errors which I have chosen to keep.

After I had transcribed all my interviews, I started the analysis process by using concept mapping to visualise data and the relationship among them, as argued by Cope (2016, pp. 375-376). I started searching for major themes in the data and made word clouds and flow charts to look at the relations. This made it easier to get an overview of the most important topics in my data and helped me choose what to focus on and what direction I wanted for my thesis.

When the concept mapping was done, I started the coding process. There are several ways of coding an interview, whereas descriptive codes and analytic codes are two of them. The first approach is to search for specific words or phrases in the data to search for visible patterns. The latter approach searches for the themes which appear during the interviews, but might not always be as visible in the text (Cope, 2016, pp. 378-379). I chose to combine the two approaches and started with the descriptive coding. Here, I used the themes from the concept mapping and looked for words that could fit into the different themes. I used different colours

to mark the different themes. After having done the descriptive coding, it was easier to go over to the analytical approach. In this case I looked for the themes that were not so visible, for instance, how the understanding of what carbon is, was expressed by only a few people saying something about it.

#### 4.5.2. Selection of data material

When I started writing the thesis, I had to make some decisions in relation to the data material that I wanted to present. The first decision I made was to only use three out of five in-depth interviews, as two of them did not add any additional information about the topic after all. These interviews were with people in certain positions in the society, but as they did not give any additional information or knowledge about the TGB-project, I chose not to proceed with them further after I had transcribed them. Consequently, the data material presented in this thesis is based on three in-depth interviews and all the six focus group discussions.

The next step was to choose the citations that I wanted to present in the discussion. When I made these decisions, I was concerned about showing the wide spectrum of the participants' experiences and expressions. Many of the participants brought up the same issues, and this was shown by selecting citations from different focus group discussions. In addition, I wanted to show the variation of the expressions from men and women. Some issues were brought up by both men and women, and I wanted to show this by choosing some from each gender. In other topics there were differences in the answers from men and women which I wanted to display.

#### 4.6. The quality of the research

To ensure the quality of the research project, it is important to reflect over the validity and reliability of the work, which is about the trustworthiness of the research. In this section I will therefore present some critical reflections about my work.

##### 4.6.1. Validity

Validity is about in what degree the conclusions we draw in the research actually answers the aim of the project (Tjora, 2017, p. 232). Another important factor with the validity is whether the researcher presents the actual voices of the participants, or if the reality is reconstructed (Mansvelt & Berg, 2016). To ensure that the questions from the focus group discussions answered the aim of my project, the construction of the interview questions was important, as they set the foundation for the discussions. In constructing the questions, I had to make sure that they were constructed in a way that the participants would understand them, and at the

same time ensure that they would generate answers that would help me answer my research questions.

The biggest challenge with the validity of this research was to ensure that I presented the actual voices of the participants. This was a challenge because I did not speak the local language, and therefore I was dependent on an interpreter to translate the interaction I had with the participants. This might pose problems when doing cross-cultural research because of the linguistic misunderstandings that can occur and if the interpreter change the message without neither the participants nor the interviewer noticing it (Valentine, 2005, p. 126).

Many of the people in higher positions spoke English, so we were able to have conversations with them without an interpreter. There were few who spoke English among the farmers, so we depended on the interpreter to interact. Some of the interpreters we used seemingly translated directly without giving the statements more meaning, but with others we had to ask several questions to the interpreter to ensure that they accurately interpreted the participants without adding their own opinions. In those cases, I was worried that the opinions and reflections of the participants were not correctly translated which would have implications for the validity of my work. Luckily, we were two students during all the interviews, so we could support each other in ensuring that the translation was done correctly. Also, our research assistant spoke one of the local languages, so he was also helpful in ensuring the correct translation, and then again ensuring the validity of the data collection.

#### 4.6.2 Reliability

The reliability of the research project is about in what degree another researcher would make the same conclusions if he/she had done the same research and followed the same research design. Thagaard (2013) discusses how this might not be as important in qualitative research as in quantitative, because one does not urge to come to generalized conclusions that could be replicated. Instead, she argues that one can ensure the reliability of the work by looking at how the data have been treated during the research process (Thagaard, 2013, pp. 201-202). Since I used an audio recorder, I know that I did not lose important details from the discussions along the way. Further, the transcriptions are the beginning of the analysis process, and it is easier to look into the “objectivity” of the data, when questioning how my subjectivity interferes in the written analysis and conclusion.

Another important factor to ensure the reliability of the work is to do a critical reflection over the researcher’s subjectivity and power relation with the participants, which always plays a

role in qualitative studies. During qualitative research, the presence of the researcher will always play a role, because it is about the interaction between him/her and the participants (Tjora, 2017, p. 235). For me, it was important that I critically reflected over my position as a researcher compared to the participants before, during and after the focus group discussions. Even though I had done a lot of background research before my fieldwork, both critical and positive, I tried not to have an opinion before I talked to the participants. I also tried to not ask leading questions, even though this was not always easy because of the linguistic barriers, which in some cases forced me to explain the questions more than intended.

#### 4.7. Research ethics

When doing qualitative research, the researcher engages with people, and therefore there are several ethical issues one must consider both in preparation for and during the data collection process. One of the first things I did when starting this project was to apply to the Norwegian Centre for Research Data (NSD) to get the permission to conduct my research. During this application I had to ensure that I was going to protect the participants and that I followed the ethical considerations (see appendix). The most important ethical considerations were informed consent, confidentiality and the issue of different power relations between me as a researcher and the participants.

##### 4.7.1. Informed consent and confidentiality

When doing research, it is important to ensure informed consent from all the participants, which means that the participants know what they are participating in, and that they at all time can withdraw themselves from the research project (Dowling, 2016, p. 32). Before I started the interviews, I assured that the participants gave me their consent to join my project. First, I explained who I was and what the purpose of the project was, before they signed the informed consent-sheet, which included a short description of the aim for the project. We chose to write a simplified version of a consent form to make sure that the participants understood the main aim of our projects but were not confused by a lot of information in a language they did not understand.

One of the most important principles in every research is that the researcher assures the confidentiality of the participants, which means that the participants should be protected during the entire process. In qualitative research, the participants share personal opinions and experiences, so it is important that the information is properly considered, and that the participants are not exposed. This means that all the personal information about the participants should be anonymised, so it is not possible to identify them (Thagaard, 2013, pp.

28-29). During the introduction round, I assured the participants that they could speak freely and that they could withdraw their consent whenever they wanted to. To protect the participants when processing the data, I stored all the audio recordings and transcriptions in a safe space, and their names were left out of both the transcriptions and the analysis.

#### 4.7.2. Power relations

Power is a socially constructed phenomenon, and it is inevitable in interaction with other people. Either way, as a researcher, it is important to acknowledge the power relation between oneself and the participants, and in that way avoid that this relationship will have a big impact on the research. Power can both be connected to knowledge and/or social positions (Dowling, 2016, pp. 35-37).

Power relations are connected to both knowledge and social positions, and before the fieldwork I was prepared that this could be an issue. On one side I was afraid that me being a young female should make it hard to get the authority I needed to be able to accomplish the data collection. In the cases where this was an issue, I had to make sure to get the authority I needed without crossing the line where I was superior to the others.

In most of the cases, I was more concerned with the fact that I, as a student from Norway, should be put in a higher social position than the local people, and that this would interfere with how the participants would express themselves. Because I had more academic knowledge, and I was the one who was going to use their information to write a master thesis, I tried to outline the differences by telling the participants how valuable the information was to me, and that I could not write my thesis without them. Another issue was with me coming from a richer country and asking them questions about a project they attended to. At the end of some discussions, there were some participants who asked me whether I could help with the changes or making the situation better for them. In those cases, I had to emphasise that the aim was to write the thesis, and that I could not promise them anything.

One of the issues we met was that we had to pay all the participants and the mobilisers we worked with. This is an issue that often occurs when doing research in another culture, particularly when it involves white people coming from The Global North to do interviews in countries in The Global South, as it might seem as a continuation of the power difference that was between coloniser and the colonised (Valentine, 2005, pp. 124-125). We prepared for this issue already when we were still in Norway, and out in the field, we were glad to be able to pay the participants since they used their time sharing valuable information with us. In

addition, many of the participants had to drive a bodaboda (motorcycle) to get to where we had our focus group discussions. Realistically, we had to compensate for the costs. However, as we wanted to pay the participants, we sometimes felt that the payment to the mobilisers, the people in higher positions, went a little bit out of our control. Several times they had engaged more people than we had agreed upon to mobilise participants or we had to interview people without us seeing it necessary, and then we had to pay them. After a few incidents, we had to explain to our research assistant that we did not want to pay people more than we had agreed on in the beginning. We were concerned about the project participants, the local farmers, more than the people who already had a job in the district.

#### 4.7.3. Issues with the participants understanding of the questions

One of the most intriguing issues during my focus group discussions was that I experienced several times that the participants did not see the connections between my questions.

Sometimes they did not answer a question but came up with comments or questions at the end. This happened mainly in relation to the questions where I asked the participants to reflect about the costs and potentials to improve the project. This made me wonder why they did not answer these questions when I asked them. Firstly, it could be me as the researcher who was the problem. It could be the way I asked the questions, that they were either too complicated to understand or maybe the farmers found it difficult to answer questions that demanded reflections.

Secondly, it could be that they felt a distance between us that made them feel too uncomfortable to answer. If this was the reason, the power relations between us had an even greater impact than expected. The fact that I had to use an interpreter, could also be a part of the problem. Since I asked the questions in English, and the interpreter translated in a language I did not understand, information could have been lost in translation, which made it more difficult for the participants to understand the essence of my questions.

Third, the possibility could be that the participants did not want to complain about the project because they were afraid that they would lose the benefits that they were getting. Maybe the asymmetrical power relation between them as farmers, Ecotrust as an organisation, and me as a researcher, made it difficult for the participants to express themselves the way they wanted to, because they were afraid of the potential consequences. Before one of the focus group discussions, I had to make sure that one of the project coordinators was not close to the discussion because I was afraid that his presence would interfere with what the participants would say. This was because he had been rather critical about me coming there as a researcher

and writing critically about the project. When I, as the researcher, had that feeling, the participants might also be afraid to say something “wrong” in the presence of a person in a higher position than themselves.

#### 4.8. Summary of the method

In this chapter I have presented the course of how I have conducted this research. I have presented the fieldwork, the methodological approach I used to collect the data, and presented the choices I made both before and during the fieldwork. I have also presented how I processed the data material when I got back to Norway, to explain the choices and thoughts behind the data which will be presented further in this thesis. To be transparent about my role as a researcher, I have in the last section presented some critical reflections and ethical considerations in relation to both the fieldwork and further in the process of writing this thesis.

## 5. The benefits, the costs, and a crisis – the socioeconomic impacts of the carbon forestry project

*The sun is shining, and we are climbing hills in skirts and mountain boots. We are visiting one man's garden to see what kind of trees he is planting for the TGB-project. He is nicely dressed, smiling, and is more than willingly talking about his trees in a language I do not understand. Reaching the highest point of his garden, the man explains that he has planted 1500 trees for the project on the six hectare of land he has. Yesterday he told me that he was happy with his trees and all the benefits he got from being part of the project. Yet, he also told me about the hardship he and his family have experienced as a consequence of the Covid-19 pandemic – some of them due to participating in the project.*

In this chapter I will present findings from the fieldwork and discuss to what extent and eventually how the TGB-project provide ecosystem services which the participants can benefit from. Accordingly, I am going to answer two of the research questions: 1) What is the local inhabitant's perception of the regulations in the carbon forestry project? What is their perception of the benefits gained from this type of project?, and 2) How has the COVID-19 affected the local inhabitant's socioeconomic conditions? In what way has the pandemic affected their perception of the carbon forestry project?

I have divided this chapter into four: In section 5.1., I will discuss how the trees provide both benefits and costs in relation to the provisioning services, and in section 5.2. I will discuss the regulating services the trees bring. In section 5.3., I will present the education and the empowerment the TGB-project provides. In section 5.4., I will present and discuss the impacts the Covid-19 pandemic has had on the local people participating in the project.

### 5.1. The provisioning services

As presented in 3.4., according to the MEA-framework, the provisioning services are the products we get directly from the ecosystem services (Millennium Ecosystem Assessment, 2005). In this case, it is mainly the trees the local people plant for the TGB-project.

I always started the focus group discussions by asking the participants what types of trees and crops they were planting, and what benefits they got from participating in the carbon forestry project. They firstly pointed out what they planted on their lands and listed up a number of trees and crops. These included the trees promoted and provided by Ecotrust, and crops which produced different kinds of food. The crops they planted provided them some of the basic necessities in the livelihood, and those they did not use in the household, they sold at the

marked. Figure 8 shows some of the trees and crops the participants mentioned that they planted on their lands.

Trees from the TGB-project	Crops the farmers plant on their land
<ul style="list-style-type: none"> <li>•Albizia</li> <li>•Mahogany</li> <li>•Grevillea</li> <li>•Markhamia</li> <li>•Avocado</li> <li>•Muisi</li> <li>•Mango</li> <li>•Bisola Macambria</li> </ul>	<ul style="list-style-type: none"> <li>•Coffee</li> <li>•Sweet potatos</li> <li>•Kassawa</li> <li>•Soya</li> <li>•Banans/matoke</li> <li>•Beans</li> <li>•Maize</li> <li>•Jams</li> <li>•Jinuts</li> <li>•Passion fruit</li> </ul>

Figure 8: List of the trees and crops the farmers planted

After the participants had listed up the crops they planted on their lands, they turned to the benefits they got for participating in the project. In all the six focus group discussions, the participants firstly pointed out the direct products they got from the trees as the biggest benefit, which were food, fuelwood, and timber. The food they get directly from the trees is avocados and mangos, which they can use as food in the household or sell at the market. Since both Manafwa and Bududa are in rural Uganda, most people are dependent on firewood for cooking which the participants now got from the trees they had planted for the project. Usually, people must go into forest reserves to collect firewood, but when they can collect from their own garden, they do not need to go far to get it. One woman pointed at this as a benefit as she said:

We don't no longer go into the forest or the reserve to collect firewood (Woman 6, FDG 1, Bududa).

According to the participant who took us out in the field to show us his garden, they can cut as many branches as they want to, as long as there are six remaining branches which sequester carbon, as showed in figure 5. Because of that, they do not need to go into the protected area to collect firewood for own use anymore, and they can sell some of the branches that they do not need to use for themselves or sell to their neighbours. This was one of the biggest benefits the participants mentioned, and was emphasised by a woman who said:

The trees are not mean, they support me. I am very happy. I don't lack firewood at home (Woman 6, FDG 1, Bududa)

In addition to food and firewood, the participants often pointed out timber as a benefit, which can either be used for constructions in the households, or they can sell them at the market. As presented in 2.3.1, the project's agreement, signed by the farmers, states that the trees have to mature for 25 years before they can cut them down (Ecotrust, 2020). Because of this, the participants had to see the trees as a long-term investment, as one man stated:

After a period of 20 years, the trees will belong to me. After those years, when the trees have matured, I will sell them and get some money and use it with my family (Man 6, FDG 2, Bududa).

Many of the participants pointed out that they felt more economic security due to the products they could harvest from the trees, and the timber itself. One man pointed out that because of the long-term investment, the trees might act as pension for them:

They asked us how many got pension, and we said none. So they advised us that the trees will act as pension (Man, 5, FDG 2, Bududa).

As presented in 3.3.1., increased financial capital will help improving people's livelihoods (Majale, 2002).

When the participants can sell their products harvested from the trees, or use them in the household, they can use the money to buy other supplies, and this might enhance their livelihood. As the MEA-framework shows the relation between direct products and well-being (Millennium Ecosystem Assessment, 2005), one can argue by these findings that the direct products from the trees the participants plant help them covering the basic material for a good life, as they have access to food and shelter, and this leads to adequate livelihoods. This secure access to the natural resources that the trees provide might also increase the personal security of the participants.

In addition to using the products in their household, many of the participants pointed out how the products from the trees help them to pay for school fees for their children, which again enhances their livelihoods. One woman expressed:

They help me educate my children. I have cut timber when they have matured, and I have paid the school fees for them (Woman 6, FDG 1, Bududa).

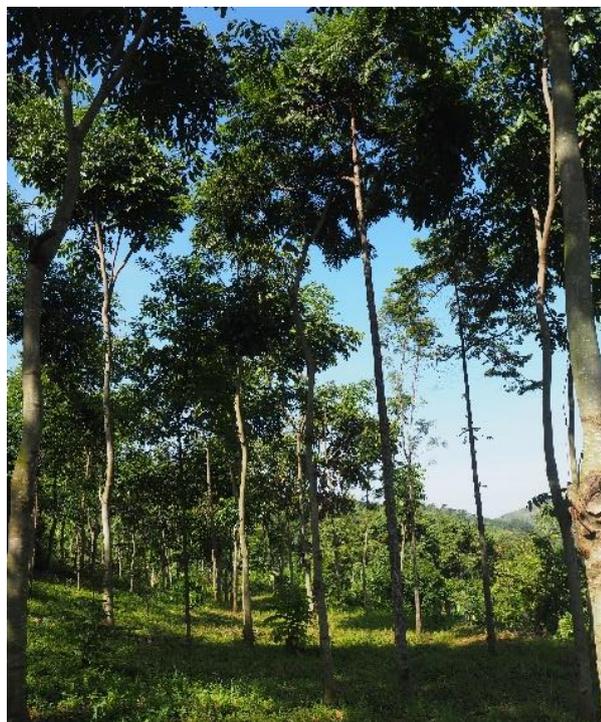


Figure 9: Trees planted for the project where the farmers has cut branches (Photo: private)

Evidently, when the children are able to go to school, it also enhances their livelihoods and increases both their access to goods and their personal security in the household.

During all the focus group discussions, I asked the participants if they felt any costs from using their land for planting trees instead of other crops, as they had to make room for the trees. None of the participants expressed that they wanted to plant other crops instead of trees and referred to the trees being good for agroforestry. One man said:

There is no problem because we have enough land where we have been planting trees and also where we are planting other crops (Man 3, FDG 2, Manafwa)

Despite none of the participants mentioning a problem with the trees taking up the space in their gardens, some of them mentioned that they had met other difficulties with the trees dying after planting them. Consequently, as the trees died, the farmers were not able to use the products coming from the trees. Two of the men pointed out this issue:

One of the hardships is that after I planted the trees, they have gotten a disease which rings and bends them, so they are not growing well (Man 5, FDG 2, Bududa).

One of the challenges is I don't know what is happening to the trees, they keep on drying. For me, the trees has dried (Man 1, FDG 2, Bududa)

Based on the findings from the focus group discussions, the participants expressed mostly that they had gotten benefits from the provisioning services the trees provided.

## 5.2. The regulating services

In addition to the provisioning services, the participants brought up the regulating services as benefits they get from the project. The regulating services provides the climatic benefits (Millennium Ecosystem Assessment, 2005), as presented in 3.4. One of the major benefits the participants pointed out during the discussions was that the trees they plant for the TGB-project have a lot of benefits for the soil. The trees they plant are good for agroforestry, so it enhances the quality of the soil and the number of other crops that they can plant among the trees. One woman expressed:

If you are planting them as a forest, without spacing, we would feel the costs because the place will dry up. But the way we plant them, in the agroforestry way, we don't feel it. Because we are growing other crops, while the trees are also growing (Woman 2, FDG 1, Manafwa).

Alongside the trees, the local people plant crops like coffee, bananas, maize, soya, jams etc. as presented in table 1. Several of the participants pointed out that they had experienced better

conditions for the crops after they had planted the trees, because the trees make the soil more stable and the leaves act as fertilisers. One man expressed:

Another thing is that the trees hold the soils firm, so it's preventing soil erosion and the risks of maybe mudslides [...]. And the trees give us organic fertilisers, after the leaves drop, they increase the fertility of the soil, so the production of the land is increased (Man 11, FDG 2, Bududa).

In addition to the soil being improved, the participants pointed out that the trees brought shade on the land, which also improved the growing conditions. One woman said:

Basing on the issue of climate change and temperature, these trees are giving shade, the crops benefit from the shade, and improving the health of the bananas and the coffee (Woman 9, FDG 1, Manafwa).

As the participants pointed out the benefits of the shade, they also said that they felt better climatic conditions in the community after they had started to plant the trees. Many talked of the trees acting as windbreakers and that it was more rain in the area now than before. Two of the participants pointed this out as they said:

More rain. The trees act as windbreakers. It used to be a lot of wind, now it has reduced (Man 2, FDG 3, Manafwa).

Before it was no rain, but after planting of the trees, it's more rain. It's better for the crops (Woman 7, FDG 3, Manafwa).

The local people also talked about how the trees gave them “good air” in their homes. One woman stated:

In the issue of cool air, previously we had few trees around us, you couldn't notice the good air. But now when there are more trees around us, we can see the good air coming. Because of planting the trees. We notice the difference before and now (Woman 1, FDG 1, Manafwa).

All these regulating services the participants brought up, enhances agricultural production, which also helps increase the basic material for good life because it gives them better conditions for growing food to eat or to sell to get money. It also helps increase their security



Figure 10: The trees from the project are planted in the farmer's garden (Photo: private)

of access to resources, and at the same time keeps them more secure when faced with natural risks such as landslides or floods. This is in accordance with the relation between regulating services and security as presented in the MEA-framework (Millennium Ecosystem Assessment, 2005). Landslides are a huge problem in the area (Broeckx et al., 2018), and some of the participants pointed out this issue had decreased after planting the trees. One man said:

We still need the trees because we have stopped the landslide problems around (Man 11, FDG 3, Manafwa).

The issue of landslides is a problem particularly in Bududa, so according to one of the project coordinators, this is one of the motivations for recruiting participants to plant trees in this area. He said:

We have a lot of issues of landslides. One of the reasons why we encourage people to plant trees is to hold the soil (Key informant 3).

The findings presented in this section show that the local people benefit a lot from the regulatory services as they experience better growing condition for their crops, which again increases their chance of getting food for their household or sell to generate income.



*Figure 11: A garden where the farmer has planted the trees together with other crops (Photo: Private)*

### 5.3. Education and empowerment of women

Despite the benefits the participants get from the regulating services, one can discuss in what degree it is the carbon forestry project which have introduced the access to these benefits, or if the participants would have been able to generate the same benefits by planting trees independent from Ecotrust. In one of the focus group discussions, the men said that they would continue to keep the trees after the agreement with Ecotrust is finished, so I asked them if they would have planted the trees if it was not for the project. On this question, the men said that they would, which indicated that they have knowledge and experience with the benefits they get from planting trees independent from the TGB-project. However, many of the participants pointed out the education they got from Ecotrust as one of the major benefits.

When the project was implemented in both areas, people from Ecotrust came to the villages to educate the participants in what type of trees they should plant, how to space them, and how to prune the branches. The participants pointed out that they enjoyed this kind of education and felt more educated in meeting with agroforestry. One man said:

I was motivated from Ecotrust itself with the sensitization they brought to the community. When they sensitized us about the benefits of planting the trees, teaching us when you are planting the trees it will increase rain fall formation and when rain is there you know that these crops are growing well because of the trees (Man 7, FDG 2, Bududa).

A woman in another focus group discussion had the same experience with the education and had appreciated the meetings Ecotrust set up when they recruited participants to the project. She said:

During those meeting they teach us how to take good care of the trees, encourage us to plant other crops between. Sometimes they take us out to the field to show us what we can do physically (Woman 9, FDG 1, Bududa).

In the same focus group discussion, there was another woman who also saw the benefits of them being educated as farmers. She pointed out that she appreciated the education of the entire lifetime of the trees, and how to get as many benefits as possible from them. She said:

I am very grateful of one of the benefits, that they educate us. How to plant them, to space them, and to cut them when they have matured. And when you cut them, you replace them (Woman 2, FDG 1, Bududa).

These examples show that the education the participants get from Ecotrust does give them more knowledge about how to plant trees to increase their agriculture than they had before.

In addition to the positive experiences with the education the participants got from Ecotrust, several of the women in the focus group discussions also pointed at how the project helps to empower the women. They saw this as a major benefit, as the project helps empowering the women by focusing on them joining the project as well as their husbands. The participants said that it was not only the men who planted the trees, but some of the women had registered their own application to ensure that they could plant their own trees. One of the women said:

What motivated me to be part of the project was that my husband was harsh on the trees, he couldn't allow me to cut down branches as firewood. So I wanted, as a mother of the house, to have my own trees to use as firewood (Woman 2, FDG 1, Bududa).

Usually, in rural Uganda, it is the men who are the head of the households, but according to some of the women, they had the possibility to register their own applications. When I had the discussions with the all-male group, some of the men said that it was not just them who took care of the trees, but the women and children also participated in planting the seedlings and taking care of them. When the women participate in this process, they also benefit from it, which again helps them feel more empowered. This was emphasised by another woman who expressed:

Women now have money. [...] We can cut timber and get firewood and sell it on the market. Now, there is even women that get allowance and we don't need to depend on our husband, for either school fees or other small things in the household. Now we are empowered, we have money, and we can also sustain something in our home (Woman 6, FDG 1, Bududa).

These findings show that the local people experience more benefits from participating in the project than only the products they get from the trees, as education and women empowerment impact their social relations.

#### 5.4. The impacts from the Covid-19 pandemic

When I asked the participants about the impacts they experienced for participating in the project, they mainly pointed out the benefits they got, as presented previous in the chapter, and I got few answers about how the project had affected them negatively. However, many of them expressed difficulties due to the Covid-19 pandemic when this issue was introduced as a topic.

The Covid-19 pandemic has affected the global society for a long time, and through the focus group discussion, I realised that the pandemic had severely affected the local people in the research area. The participants talked much about how it had affected the socioeconomic

conditions both in the household and the communities. Because of the pandemic, there was a complete lockdown in Uganda for almost two months, between March and May 2020, and there were many national restrictions both in relation to social distancing and traveling the last two years (Ecotrust, 2021; Mahmud & Riley, 2021). Consequently, the pandemic has had a severe negative social impact for the local people in rural Uganda. During the focus group discussions, the participants told me that the restrictions had led to many people losing their jobs and source of income. One man expressed:

Our business has collapsed. I used to ride a Bodaboda, but now I have been cut off (Man 11, FDG 3, Manafwa).

During the lockdown, the markets were completely closed, so people could no longer go to the markets and sell the fruits and vegetables they had grown. Because of that, they lost their source of income. One woman said:

The household income has gone down. It's hard to buy salt and soap because of the lockdown (Woman 7, FDG 3, Manafwa).

When the pandemic came, many people in urban areas lost their jobs, and the schools and universities were closed for a long time. Consequently, many people had to move back from the cities to the villages. One man expressed the difficulties of increased population in the villages by saying:

It has brought unemployment and increased population in the villages. People who were in town to search for jobs have moved back, so it's increased people in the villages. They are endangering the trees, people want to build homes (Man 6, FDG 2, Bududa).

Since there were more people in the villages now than before the outbreak of the pandemic, the participants said that they felt more pressure on the natural resources in the villages. The lockdown and the restrictions which followed the outbreak of the pandemic had led to even more poverty in the villages, and the families were struggling to get enough food for their children.

In addition to the closed markets and people losing their jobs, one of the main issues the pandemic has brought was that the schools had been closed for nearly two years. Since the children could not go to school, the participants talked about an increased number of teenage pregnancies and early marriages. This was expressed by two of the participants who stated:

As every parent, everyone would do their best at keeping the child. Before they stayed at school for most of the time. Now, when the pandemic came, education was closed. She has a lot of freedom. The parents may think, maybe they just have fun. But then they end up pregnant. If the schools would be open, she would spend time at school (Woman 4, FDG 1, Manafwa).

Covid has brought in more harm. Children who are school going, they should be promoting from one class to another, but they are still at home. It's resulting to marriages (Man 2, FDG 2, Bududa).

With the schools being closed for such a long time, the children grow up more quickly because of teenage pregnancy and early marriages. This has negatively affected their education level, which again has a negative impact on the livelihoods of the household. Some participants also brought up the issue that they had already paid the school fees when the schools were closed, and then lost a large amount of money. In Uganda, people have to pay school fees for their children, which is expensive. One man said:

The Covid came when we had already paid, now they have locked schools, and our money is there, and we haven't gotten the benefits for paying the school fees (Man 1, FDG 2, Bududa).

Since there is no system for refunding the money, some of the people have lost their money and struggles to take care of their households with the small amount they have left.

Despite the effort of empowering women through the TGB-project, women's rights have also been challenged by the Covid-19 pandemic, as many of the participants pointed out that they experienced more domestic violence after the outbreak of the pandemic. One of the women stated:

The pandemic has increased domestic violence and income. Before we could bring food to the market and sell, get some income. Now we cannot sell, and not earn money, so we need to ask our husbands. The women ask their husbands for food, the husband is hungry and says no. more domestic violence (Woman 8, FDG 1, Bududa).

The increased domestic violence was also a result of the lockdown and restrictions due to the pandemic. Since the children were not at school, the number of people staying at home all day had increased, and the parents were struggling to get enough food to feed everyone throughout the day. Because of the different power relations between men and women in the country, the women were being treated badly by their husbands when the pressure of the situation grew worse.

#### 5.4.1. Impacts on the TGB-project

In addition to the general problems the local people faced due to the pandemic, several of the participants brought up issues related to the TGB-project. When I asked if the participants had felt more pressure on cutting down the trees they had planted for carbon to use in their daily life after the outbreak of the pandemic, most of them answered that they had managed to keep their trees. Yet, some of them indicated that the urge of cutting down the trees was more frequent than before the pandemic. Many of the participants did not see it as a challenge to continue to keep the trees throughout the pressure they felt from the pandemic, while others felt more desire to cut them down to enhance their livelihoods. One man said:

You want to buy food for your family, you want to go and cut down the tree, but the tree still belongs to the project, it's not yours. It has not matured, really it's very hard (Man 2, FDG 2, Bududa).

This was further emphasised by two other participants who stated:

It's too much pressure. Sometimes we feel like we should cut down the trees to get money and food, but in the end of the day, the trees are not ours (Woman 4, FDG 3, Bududa)

The project is good, but the challenge is coming. The schools are opening in January, and we have no money, so we are wondering if we are going to cut down the trees to get money to pay for school fees, but the trees are still the projects, they are not ours (Man 1, FDG 3, Bududa).

In addition to this pressure of keeping the trees for the project, many of the participants said that they felt that their trees were endangered. Many of them had experienced jealous neighbours and young boys cutting down their trees because of more pressure on the natural resources in the area. One man said:

One of the challenges is jealousy neighbours, they feel envy of us. They cut down the trees (Man 2, FDG 3, Bududa).

The neighbours would both cut down the entire tree, to get timber, and cut down branches to use for either firewood or brooms. This problem had increased as a result of increased population in the villages.

The participants also discussed how the closed schools had led to many young boys cutting down branches of their trees, either for building small houses or to participate in getting income sources for their family. Two women from different districts pointed out that this was an issue they had experienced as they expressed:

There are children in the communities that goes and cut trees for their own use [...] they want to build their own small houses, and cut the trees (Woman 7, FDG 3, Manafwa).

There are too many children, going around in their garden, cutting down trees for firewood to sell. Due to increased population (Woman 4, FDG 3, Bududa).

This was a challenge for the farmers who owned the trees because they lost their source of income and the resources they could use to sustain the livelihood for their families.

In relation to these issues, several of the participants expressed that the Covid-19 pandemic had also affected their experiences with Ecotrust and the TGB-project. One of the complaints from the local people was that the pandemic had affected the contact they had with Ecotrust. Before the pandemic, Ecotrust came and monitored the trees regularly, but when I did the fieldwork, the participants expressed that they had not seen them in a long time. One woman said:

But now, after the pandemic, we have not seen any monitoring, we have no hope for payment, and we are even wondering if the project is still running or it has died with the pandemic (Woman 2, FDG 1, Bududa).

The local people expressed that the absence of Ecotrust had led to less motivation for staying in the project, despite many of the participants initially being satisfied with it.

## 5.5. Concluding the chapter

In this chapter I have discussed the benefits and costs the local people have experienced for participating in the TGB carbon forestry project in Manafwa and Bududa districts. As presented, the participants get a lot of benefits from the trees they have planted which help them in their daily life, both related to provisioning services and regulatory services. These benefits help the local people improving the agricultural production, which again increases their possibility of covering basic needs in the household.

However, despite these benefits, the Covid-19 pandemic has showed that people are struggling to cope with this crisis. The local people have struggled covering their basic needs as a consequence of the market being closed, people losing their jobs, and more pressure on the resources due to increased population in the villages. In addition, the participants have experienced difficulties in relation to the project, as they have felt more pressure in keeping and protecting their trees after the outbreak of the pandemic.

## 6. Carbon and “carbon finance” – the complicated sides of the carbon forestry project

*We are fifteen people sitting inside a rather a small room, having a conversation. It is a rainy season in Uganda, so ten minutes into the focus group discussion, we had to move inside. The rain is pouring down, and despite the six square meters we are all sharing, it is nearly impossible to hear each other under the noise of the rain slamming on the tin roof. After having a rather short discussion, without getting any answers about neither negative impacts of the project nor wishes for improvement, we are starting to discuss what carbon is and where it comes from. I try to explain it, and my research assistant explains that the carbon even comes outside from Mbale and Kampala. A few minutes later, and some discussions in the local language between the participants, there is a man who says:*

*We are good at producing good air, for the whole world, and the payment is very small. And for you, you are very rich people at the other side, why aren't you giving us this money? (Man 3, FDG 2).*

In this chapter I will discuss the perception the local people have of carbon based on the findings from the fieldwork. I will also discuss “carbon finance”, as the payment the local people are to receive from participating in the project. In relation to this issue, I will discuss in what degree the people are aware of the global carbon trading system they are a part of, and how this knowledge affects the demand for compensation. Based on these issues, I will present findings that relates to the third research question: In what degree does the carbon forestry project have negative impacts on the participants? What changes should be done to make carbon offsetting just for the local inhabitants as well as the global environment?

I have divided this chapter into three sections. In section 6.1., I will present the knowledge the local people expressed about what carbon is and where it comes from. In section 6.2, I will present the issue of “carbon finance”, in the way that the local people do not get the payment promised or have knowledge about the extent of the global trading system they participate in. In section 6.3, I will present the suggestions for improvement as proposed by the participants during the focus group discussions.

### 6.1. Different knowledge about carbon

The most intriguing aspect of carbon offsetting is the fact that it is about trading air. As presented in 3.5.1., calculating carbon is extremely complex (Bumpus & Liverman, 2008), and it is difficult to understand how carbon trading works in practice. During the focus group discussions, I always asked the participants what they knew about carbon. According to the

project coordinators in the districts, who implemented the projects in the area, all the participants had been educated in the beginning about what carbon is and why it is important to plant trees to sequester it. One of them said:

At first, they were told that they should plant a tree and then they will get paid. Why are you paid? Because there are some bad gas in the air, which the whole world needs to get rid of (Key informant 1).



Figure 12: From the focus group discussion we had to move inside because of the rain (Photo: private)

According to the project coordinators, the participants were educated about the entire process, and they have knowledge about the importance of sequestering carbon. This was supported by one of the participants who expressed:

Another thing is when we were trained, we didn't know there was bad air here. We didn't know that it was carbon in the air, that it was bad for the environment and our bodies. But when they thought us, we are feeling the effect, we can breathe well (Man 8, FDG 3, Bududa).

Despite the education the participants receive in the beginning, and the project coordinators perception of them knowing about it, the amount of knowledge varied between the participants when I asked them about it during the focus group discussions. Usually, this question was met with many falling silent, and just a few answering. In one of the focus group discussions, only one out of ten participants answered this question, and she explained it by talking about the cooking stove they had inside the house. She said:

Previously, they were using traditional way of cooking, this smoke was always dangerous. But Ecotrust taught us that when this smoke goes out in the air, it pollutes it. So Ecotrust have advised us to mould the cooking stoves better and create pipes, so that the smoke can go out safely where they cook from. Now they are okay, the smoke doesn't enter our eyes [...]  
(Woman 6, FDG 1, Bududa)

The beginning of this answer shows some understanding of polluting air, and Ecotrust might have used the cooking stove as a comparison to make it more understandable for the participants. Yet, as the woman talked mostly about the cooking stove, it did not seem like she

had a clear understanding of the question or that she did not have another way of explaining what carbon was.

In other focus group discussions, there were usually between one and three answers about what carbon was, and many of them often used the term “bad air” to explain it, as expressed by these women:

We are told, there is up there, but for us, we have never seen it, and we don't know it. And, we hear it's bad air, but for us, we don't have that perception of it (Women 4 & 2 FDG 1, Manafwa).

A man from the same district had a similar explanation of it, as he said:

They came and taught us that we planted the trees. That there is bad air that we want to reduce from the environment. For us, we don't know that air (Man 3, FDG 2, Manafwa).

In these answers, the participants explained that they understood carbon as “bad air” but emphasised that they had not seen it or did not know it. However, some of the participants could express something more about the carbon cycle and pointed at the education they had gotten from Ecotrust. One of the women said:

When we were trained, they told us that there were too much bad air in the surface. And they told us that when we plant trees, they will compart the bad air into good air because trees feed on bad air, and you get good air from the trees (Woman 5, FDG 3, Bududa)

One man from the other site could also point at the carbon cycle, which they had been sensitized about by Ecotrust:

When they came and taught us, they told us for us we breath out carbon dioxide, then we receive oxygen from the trees. and in the process, in between us, there is carbon in which we replace with oxygen (Man 1, FDG 2, Manafwa).

While some of the participants mentioned the carbon cycle, there were only three out of all the participants who expressed that they had more specific knowledge about what carbon was and where it came from. Two of the men from the same focus groups discussion said:

This oxygen is something we all live on. And it can be given to other countries, that produces a lot of carbon dioxide. So we are fighting carbon. We are planting these trees that are giving oxygen. Uganda is selling this oxygen (Man 4, FDG 2, Bududa)

Carbon, like places which are industrialised, those fumes, emissions that goes out in the air are dangerous to our health. But when they plant those trees, they take up the carbon from the air and makes our air cleaner for conservation (Man 6, FDG 2, Bududa)

These men expressed that they understood that carbon came from pollution, and that it was not good for the air. In addition, there was one man at the other site who mentioned the factories as he said:

So they needed those trees to be there so that they could reduce the bad air which were coming from the factories and other places (Man 3, FDG 2, Manafwa).

After the man had answered this on the question, I asked him further if he knew where the bad air came from, but that he did not know.

These findings show that there is a difference in how much knowledge the local people have about what carbon is and why they participate in a project where they are sequestering carbon. Some of the participants had some knowledge about what it was and understood that it had something to do with the air we breathe, while a few could point at factories and pollution as the source. Yet, as there were only a few people in each focus group discussion who answered the questions about carbon, one can argue that the participants on average did not have that much knowledge about the drives behind the carbon forestry project they participate in.

## 6.2. The carbon income: Absence, delay and little knowledge about where it comes from

According to the Plan Vivo Project Design document, as presented in 2.3.1., the participants of the TGB-project are to receive both non-cash and cash benefits. The non-cash benefits are the provisioning and regulating services presented in chapter 5, while the cash benefits are to come in addition. According to the agreement, the participants are going to be paid in carbon finance six times the first ten years they participate in the project. The payment is adjusted after how many trees the participants have, and they get the promised payment if they have met the annual targets (Ecotrust, 2020).

During all the focus group discussions, I asked the local people to point out the benefits they got from participating in the project. As presented in chapter 5, the participants pointed out many benefits. Yet, there were none of them who pointed out the allowance from Ecotrust as a benefit. When I asked them directly if they had received any money from Ecotrust, there was a great diverify in the number of people who had got it and not. During the focus group discussion with only men in Bududa, everyone claimed that they had gotten the payment they

were supposed to. On the contrary, in Manafwa, there were someone who had not gotten any payment since the project started up in 2017, while some had received payments several times. One of the men expressed:

Different payments. Some have had two times, for me three, for my friend here four. We don't know why they differ (Man 3, FDG 2, Manafwa).

When I asked them why they had not gotten the payment, and if they knew why it differentiated, they said that they did not know. In addition, several mentioned that they had never received any payment from Ecotrust, or that they had not been paid since the project was implemented. This was expressed by a woman who asked:

There was a question if we were benefitting monetary, and we said we were benefitting in 2017. Do you have an idea of where we can start from, of Ecotrust, to ask them why we haven't been paid since 2017? (Woman 6, FDG 1, Manafwa).

That the participants did not receive the money promised, or that it was delayed, was something some of the participants pointed out as in issue with the project. One of the men expressed:

There are some years when we don't get paid. I am asking whether they forget or there are some years that we don't get paid [...] So there is a challenge in the payment, some get, some don't (Man 11, FDG 2, Bududa).

That the farmers do not receive payment every year is in accordance with the project document where they only get paid six out of ten years. Yet, as the participants experienced the payment as an issue, it might indicate that either they do not receive the money in accordance with the terms in the agreement, or they do not receive any payment at all. Either way, the findings indicate that the participants are not adequately informed about the payment schemes and why they do not receive the money as promised.

#### 6.2.1. The coordinators knowledge about the carbon finance

Since the participants did not know why they did not receive the money promised by the project, I asked the key informants about this during the in-depth interviews. One of them said that she did not know why they had not been paid in a long time, as she answered:

They received their first and second payment, but I think we lost contact with Ecotrust along the way. We don't know if they have gotten any more (Key informant 2).

Neither the participants nor the project coordinators from the districts knew why there was a delay in the payment, or why some had received their money while others had not received any payment. This shows a deviation of what the project promises and what the participants actually get. When no one knows the reason of the issue, it might lead to demoralisation of the participants, which both the participants and the project coordinator indicated.

When the participants expressed that they did not know where the payment they got were coming from, I asked the key informants from the different districts if they knew. One of them answered:

Plan Vivo is an international organization, I think. [...] Those who pay, I think it is international. It's not local here in Uganda (Key informant 2).

The other key informant answered:

The carbon finance payment, I think that one, I may not be so much aware. For us, we expect that it comes from Ecotrust. But Ecotrust, they tell us that it comes from outside Uganda, maybe from. I'm not aware of the country. But what I know that it is a donation with the purpose of conserving the environment (Key informant 3).

As he did not know exactly where the money came from, he knew that it came from donations outside. At the end of the interview, he also expressed the importance of bringing in more funding so that the project could continue in the area, which indicates that he had some knowledge about the global collaboration. He asked:

I have a request. When you go back to advocate for the project. We are bad loaf, but we are trying. To provide landslides. Can you attract more funding to attract more farmers with your proposal? Maybe the donors. Maybe they can fund some trees so we can continue planting trees (Key informant 3).

These answers show that the coordinators are aware that the payment comes from outside of Uganda, and that it is Ecotrust who is coordinating with the global market. Two of the key informants could answer that the absence and/or delayed payment might be caused by the donors at the global market, which affected the payment Ecotrust gives to the participants. Despite the participants not knowing about the global agreements, the coordinators did have some information about it without having the exact information about which countries donating money.

Since I did not get any answers about the reason for the delay in the payment, from neither the participants nor the project coordinators, I attempted to get in touch with the Executive Director of Ecotrust to ask her. Unfortunately, she did not have the time to respond on my questions when I was in Uganda, and it has been difficult to try to connect with her afterwards. Consequently, I do not know why the participants do not get the money they are promised, particularly as Plan Vivo promises that they are to receive sixty percent of the income generate by the carbon they sequester, and they have an agreement which says how much carbon they are to sequester if they meet their targets (Plan Vivo, 2022b). Accordingly, there are two options; either the money goes to the NGO itself, or the money is not generated on the global marked, so neither the NGO nor the participants get any money. Yet, for me, this question remains unanswered.

#### 6.2.2. Does more knowledge lead to more demands of profits?

As these findings show, knowledge about carbon differentiated between the participants, and none of them expressed knowledge about why they did not get the payment they were promised or where the money came from. This indicates that the participants in the carbon forestry project do not have much knowledge about the global project they participate in, where they sequester carbon which is bought on the global marked by purchasers from other countries. However, towards the end of one of the focus group discussions we started to discuss more about what the term “global” meant and where the “bad air” came from. After this discussion, there was one man that questioned why they did not get more allowance from Ecotrust since they participated in a global project. He asked:

We are good at producing good air, for the whole world, and the payment is very small. And for you, you are very rich people at the other side, why aren't you giving us this money? (Man 3, FDG 2).

During the same discussion, there was another man who asked:

We work as farmers, why don't Ecotrust pay us monthly as a work for the government? (Man 6, FDG 2, Manafwa).

These questions from the two men indicates that even though they earlier in the discussion had not indicated issues related to participating in the project, they started questioning the justice of it when they got more information. This finding shows the importance of having knowledge about carbon and the global marked for the local people to be able to consider whether they are compensated fairly for participating in the project or not. As presented in

chapter 5, the participants see all the benefits they are getting now, and those help them maintain their daily life. But if they had more knowledge about the extent of the project, maybe even more of the participants would have demanded that they were to receive the allowance they were promised so that they could benefit more for participating, as the men cited above did.

After the focus group discussion where these questions came up, I had an in-depth interview with one of the key informants. When I asked him about what he thought about the fairness of the project, in the way that the participants planted trees to sequester carbon coming from countries in other parts of the world, he answered:

Yes, it is good. There is no way we can prevent it. It is a natural thing. There is no way we can stop this bad air. So the only way we can stop this bad air is to plant trees (Key informant 1).

This answer, in addition to the other answers above, reveals that neither the participants nor the key informants have very good understanding of the global emissions and the drivers behind the concept of carbon forestry projects. As one can understand that they do not have knowledge about the concept of trading of carbon, as it is truly complicated, it is more questionable that they did not have sufficient knowledge about where carbon comes from and why it is important that they sequester it.

### 6.3. How to strengthen the carbon forestry project

As these findings show, there are some issues related to the carbon forestry project, mostly related to the “carbon finance” and knowledge about carbon and the global market. In addition, the issues of the Covid-19 pandemic, as discussed in chapter 5, have brought more difficulties for the participants in the project. Consequently, the TGB-project have potentials for improvement, and I would like to dedicate this section to the suggestions for improvement the local people brought up during the focus groups discussions.

Towards the end of the focus group discussions, I always asked the participants what they wished for if there was room for making changes in the project agreement. As discussed in 4.6.3., I often experienced a hesitation when I asked the participants about the costs they felt for participating in the project, or wishes for improvement. Sometimes I did not get any answers on these questions, but at the end of the focus group discussion, I got some comments of questions after all. One example was when a man said:

For me, as you have been coming, I have gotten a lot of interest in the tree planting. And since you have come here, can there be any changes in the agreements? What changes can it be? I am requesting you to bring the changes (Man 11, FDG 3, Manafwa).

That question made me realise that even though the participants had not brought up any costs or wishes for improvement earlier, they were not completely satisfied. A similar case was in the same discussion when I asked the question on how to improve, and one woman answered:

We are ready if they bring more changes in the agreement, we are ready to go by it (Woman 9, FDG 3, Manafwa).

When I further asked them again if they had any particular wishes for changes, they just said that they agreed on the agreement they had now, but once again emphasised that they were ready for the changes. These answers show that the participants would like more benefits from the project, but many of them did not have concrete suggestions. However, there were some topics that came up, that several of the participants pointed out would improve their livelihoods.

#### 6.3.1. Strengthening the supplies coming from Ecotrust

Despite the hesitation presented above, some of the participants pointed out some wishes for changes that would improve their livelihoods. One of them was that they wished for more tree seedlings from Ecotrust. When the project was implemented, the participants got tree seedlings for free, but the number of seedlings varied. Some told me that the number of seedlings varied in how big their land was, while others did not know why they had gotten different amounts. One woman pointed out that she felt she had gotten few seedlings to begin with and wanted more because she was not able to meet the Plan Vivo targets, and therefore she did not get the allowance she hoped for. She said:

One of the hardships is that we want more seedlings to plant, but we can't access them. The other thing is the targets the project has set, we can't meet them because we have no more seedlings. And another thing is the allowance, it tends to delay. And that one hinders us in getting more seedlings to meet the target. When you don't meet the target, you don't get allowance (Woman 4, FDG 3, Bududa).

Another thing some of the participants pointed out was that some of the tree seedlings they had gotten from Ecotrust had died, and they were left with less trees than expected to benefit from. Some of the trees had also dried up, which made them useless for the farmers. They said that this had a negative impact on their livelihood, and that they would like for Ecotrust

to replace these trees/tree seedlings for free, so that they did not have to buy new seedlings by themselves. One man said:

I agree, but if they change, for us we need more trees for planting. More seedlings (Man 11, FDG 3, Manafwa).

According to one of the project coordinators, Ecotrust does not have a system for replacing the tree seedlings or trees that dies due to natural disasters or diseases. He said:

No, only that they help, they can give you some money to buy new one, but they never replace it. They pay you the little money for carbon so you can buy another one. But they have not reached the point where they can replace it due to the natural climate (Key informant 3).

Because Ecotrust does not have a system for replacing these seedlings, the participants have to use their own money to buy new ones. Getting a system for replacement would help enhance the participants effort in the project, and they would have a greater possibility for reaching the targets and getting the allowance from Ecotrust. A replacement of the tree seedlings would let the local people to use their small fundings for improving their livelihoods instead of using them to buy new seedlings to be able to continue participating in the project.

In addition to the seedlings, a few of the participants also brought up that they wanted Ecotrust to bring in other supplies to enhance their livelihoods while they were waiting for the trees to grow. Two of the participants suggested that Ecotrust could bring in other crops in addition to the trees to strengthen their productivity. They expressed:

For my interest, we include in the process of planting beans, maize, soya, in addition to the trees (Man 1, FDG 3, Manafwa).

We appreciate Ecotrust, there is not much, but at least they could add in some things like crops, maybe fertilizers, which they can gain and take to the market as they wait for the trees to occur (Woman 3, FDG 1, Bududa).

There were also discussions about what other kinds of supplies Ecotrust could bring to the participants to enhance their activities and livelihoods. These suggestions included that Ecotrust could add on cows, gumboots and simple tools to enhance their farming productivity. The participants brought up these issues as they thought these supplies could help them enhance their livelihoods.

### 6.3.2. Frequently payment and a loan scheme

Another potential for improvement that the participants pointed out was a more frequent payment to ensure that they could improve their livelihoods. Some of the participants were complaining about the payment being too small, which demoralised them. One of the men said:

The reason why there are few is because they give us little payment, little motivation (Man 3, FDG 2, Manafwa).

To raise the moral, some pointed out that they wanted more frequent payment, so that they could know when they could expect money if they had met the targets. One woman said:

I hope that Ecotrust makes a uniform payment rate, then even timing, that after six months we are making payments, after six months, payment (Woman 2, FDG 1, Bududa).

These wishes for frequent payment are in accordance with the absence of payment discussed in the previous section.

In addition to more frequent payment, some of the participants discussed the opportunity of creating a loan scheme developed by the TGB-project. In one of the villages, some of the participants had already initiated a saving group, but it had ceased after the outbreak of the pandemic. The participants therefore pointed out that they wished Ecotrust could initiate a loan scheme so they could be able to improve their livelihoods as they were waiting for the trees to grow. One woman stated:

Ecotrust should give us a loan so we can use for our other trees while the trees grow [...]. We get some money, but in a way it delays. So if we can put it in a loan scheme, we can use the money for improving at home as we wait for the trees to grow (Woman 4, FDG 3, Bududa).

It was usually the women who brought up the wish for a loan scheme during the focus group discussions, where they emphasised how a loan scheme for the women participating in the project would help improve their income in the livelihood. One woman said:

Ecotrust should come more closer to us, and encourage the mothers to have their group of leaders, and they open an account, so that when Ecotrust pose their money in form of a loan, and they also provide them seeds or seedlings (Woman 2, FDG 1, Bududa).

According to the Plan Vivo project document, Ecotrust are supposed to encourage a loan scheme at the project sites (Ecotrust, 2020), but according to the participants, it had not been done in neither of the districts where I collected data. Establishing even more loan schemes

for the participants would help enhance their livelihoods as they would have been able to sustain their household, and maybe even enhance it, while they are waiting for their trees to generate this money.

### 6.3.3. More participation

During the focus group discussions, a few of the participants pointed out that they wished for more participation in the process. One man pointed out that he wanted more participation in creating the project agreement as he expressed:

In the agreement, when those people came to teach us, we need to include a sample, a group of us, we can contribute in the process of benefitting ourselves (Man 1, FDG 3, Manafwa).

One man pointed out that he wished that the local governments should be more included in the policy making process, so that when Ecotrust made decisions, they would do it in line with what the districts was also planning. He said:

Ecotrust should bring in the different district local governments on board, so that if they are implementing policies, they are implementing them in line with what the district is planning so that the benefits can be expanded (Man 6, FDG 2, Bududa).

According to one of the project coordinators, the project had been implemented in a participatory process. She said:

We went to the farmers and talked to them. Told them to tell us their interest. We ranked the interest. They take the lead, and you technically guide them. Participatory means that whatever step we move, we sensitize them. We guide them technically, but they decide, for example the species to plant (Key informant 2).

Understanding this answer, the participatory process has been more about the participants getting involved in the process and getting the information, than them deciding the benefits. Despite the coordinators vision that the participants had participated in the development of the project, this was one of the desires a few of the participants expressed during the focus group discussions.

## 6.4. Concluding the chapter

In this chapter I have discussed the issues of carbon and carbon finance in relation to the TGB-project. The findings from the focus group discussions indicates that the knowledge about carbon varies between the participants, and they expressed limited knowledge about where carbon came from and why it is important to sequester it by planting trees. I have also presented how the participants did not get the payment they were promised from the project,

and that neither they nor the project coordinators had knowledge about why they did not receive it. As the findings show that the participants had limited knowledge about carbon and the global compensation system they are a part of, one might question in what degree they are able to demand a fair compensation for their efforts.

As the statement from one of the key informants showed that he knew the benefits the participants got were not sufficient in relation to what they are promised, there are room for improvement in the project. Accordingly, I have in the last part of this chapter, presented the suggestions for improvement the participants pointed out during the focus group discussion.



## 7. Discussion and conclusion

Implemented in a PES-scheme, carbon forestry projects is promoted as an efficient mechanism which can provide a triple win outcome for biodiversity conservation, climate change mitigation, and socioeconomic development for local livelihoods (Cavanagh & Freeman, 2017). As this thesis have focused on the socioeconomic impacts the TGB-project has on the participants, I will not dwell on doing calculations about the degree it urges for biodiversity conservation or climate change mitigation. However, I will in this chapter discuss in what degree the chosen carbon forestry project urges for socioeconomic development for the local livelihoods, and whether the impacts of the project promote justice or not.

In this chapter I will review the findings from the fieldwork and discuss these against the theories presented in chapter 3. During this discussion, I will be able to answer the main research question for this thesis:

How does a carbon forestry project impact the socioeconomic conditions of local people participating in the tree planting activities? To what degree does these impacts promote justice between the stakeholders involved in the project?

To answer this question, I will first summarise the findings from the fieldwork before I will discuss them towards the sustainable livelihoods approach to look at the project's impacts on the socioeconomic conditions of participants. I will further discuss whether the TGB-project promotes justice between the different stakeholders involved in the project by looking at the idea of sustainable development and the dimensions of environmental justice.

### 7.1. Summary of the findings from the fieldwork

As carbon forestry projects are complex in the way that trees are valued as an ecosystem service, I have in this thesis divided the empirical findings in two chapters. In the first chapter, I have treated trees as a natural resource, and in the next chapter, I presented the more complex sides of the concept, where trees are treated as carbon storage.

When it comes to the benefits and costs the participants expressed during the focus group discussions, they naturally found it easier to talk about the trees as the natural resource than trees as carbon storage. As chapter 5 presented, the local people have gotten a lot of benefits after planting trees for the TGB-project, in terms of both provisioning and regulating services. The direct benefits they receive from the trees is mainly firewood, timber, and food, which they can use in the household. They can also sell these resources at the market, and then use the money to pay for other necessities, like for example school fees for the children. The

regulating services provide the local people with better soil and growing conditions at their lands, which improves their agriculture and again increases their production level.

The costs the participants felt from planting the trees were mostly related to the Covid-19 pandemic. As the pandemic has severely affected the local people in the research area, both in terms of social and economic conditions, they have also met challenges for participating in the carbon forestry project. This is mainly related to other people damaging their trees, and Ecotrust being more absent than before. Despite the benefits they get for participating in the project, the local people feel more difficulties as a consequence of the pandemic.

In chapter 6, I have discussed the more complex sides of what the trees provide when implemented in a carbon forestry project, which is related to how they work as carbon storage. I have discussed the degree of knowledge the local people had about what carbon was and why it was important that they planted trees to sequester carbon. The findings showed that this knowledge varied between the participants. Some of the participants had an idea of what carbon was and pointed at the education they had gotten from Ecotrust, while many of them did not show that they had a perception of it. In the second part of this chapter, I discussed the issue of the participants not receiving the payment they were promised, and that neither they nor the key informants knew why they did not get the payment. This lack of knowledge shows that the local people do not have the whole perception of the global trading system they participate in.

In the last section of chapter 6, I presented the suggestions for improvement the local people pointed out during the focus group discussions. These suggestions included among others frequently payment, a system for replacing seedlings that dies and more participation in implementing the project.

To further discuss how these benefits and costs impact the socioeconomic conditions for the local people participating in the project, I will discuss these findings toward the concept of sustainable livelihoods.

## 7.2. In what degree does the TGB-project promote sustainable livelihoods?

As presented in 3.3.1., the core of sustainable livelihoods is about people being able to maintain or enhance their livelihoods through a crisis or shock based on the assets they have (Chambers & Conway, 1991; Karki, 2021). The assets include natural-, physical-, human-, social- and financial capital (Majale, 2002). As I have presented the benefits and costs the

participants get from the project, I would like to use these findings to discuss whether the TGB-project promotes sustainable livelihoods or not.

As the benefits were presented in chapter 5, one can argue that the project encourage sustainable livelihoods since the participants are provided with provisioning and regulating services from the trees they plant for the project. The trees provide benefits that the local people have experienced after they joined the project, and as the participants emphasised the importance of the education they got from Ecotrust, they would probably not have had the same experience if they had planted trees without this knowledge. Evidently, one might argue that these benefits would not be in the communities if it had not been for the TGB-project. The project therefore promotes sustainable livelihoods as it increases the participants access to natural resources. The improved natural capital also affects the financial capital, as access to the resources from the trees cover some of their needs in cooking, construction, and food, and they can sell what is left at the market and then pay for other basic needs.

In addition to enhanced natural and financial capital, the social and human capital is increased as a result of the education they get, and how the project urges for empowerment of the women in the communities. As presented in 3.3.1., there are many different aspects for measuring poverty, where vulnerability, insecurity, and recognition by other household members are some of them (Karki, 2021). One of the fundamental aims of the TGB-project is to increase empowerment of the women in the communities (Ecotrust, 2020). As Chambers and Conway (1991) argues that equity between people is important to obtain sustainable livelihoods, this empowerment of women urges for sustainable livelihoods in the communities. When women are able to sustain something for themselves, they are able to evolve and participate more in the community. The empowerment and labour the women get, and the education the participants get from Ecotrust, enhance social, political and human capital in the households, which again leads to more sustainable livelihoods.

However, despite these impacts on the different assets, as presented in chapter 6, the participants have not got the right amount of payment they are told to receive for participating in the project. The participants has signed an agreement with Ecotrust which promises them to be paid six times during the first ten years if they meet the annual targets (Ecotrust, 2020). If the local people had gotten the payment promised, probably they would have been able to increase the financial capital even more to generate more assets.

Despite money not being the only crucial part for addressing poverty, it is an important aspect, as it helps improve livelihood security both in relation to education and health. The non-cash benefits help the participants maintaining their livelihoods, but when the participants do not receive the allowance promised, they are not able to improve their economic status. As none of the participants mentioned the allowance they got from Ecotrust as a benefit, this indicates that they have not improved their financial capital in the household after participating in the project, they have only been able to maintain *status quo*. In addition, the question from one of the participants about whether the farmers should be paid as a government worker, as presented in section 6.3, shows that the income generated by the natural resources is not adequate.

In addition to the participants not receiving payment as promised, the local people have been severely affected by the Covid-19 pandemic. As the main issue of sustainable livelihoods is that the local people are able to cope with, and recover from, a crisis (Chambers & Conway, 1991; Karki, 2021), the findings presented in chapter 5 indicate that the participants lack assets to cope with the crisis. The pandemic has brought in more poverty, reduced access to education, and increased early pregnancies and domestic violence. In addition, the participants have struggled because of the project itself, as they experience more difficulties in keeping the trees for the project. All this have made it difficult for the participants to cover the basic needs in the household, and when they experience losses of natural resources due to other people stealing from them, they struggle even more to cope with the crisis.

Based on these findings, I would argue that the TGB-project does not promote sufficient degree of sustainable livelihoods. Yes, it is good that the project provides different assets, but in relation to what the local people are told that they are to receive, the financial assets the project provides are not adequate. The absence of payment shows that the project does not lead to socioeconomic development in the communities, which is both one of the aims of the project itself (Ecotrust, 2020) and of the REDD+ idea (Angelsen & Wertz-Kanounnikoff, 2008, pp. 18-20). In addition, the local people have not been able to cope with the crisis of the pandemic with the assets they have available. One can argue, by the extent of the pandemic that it is too much to ask of the project to provide assets to be able to cope with that kind of crisis. Yet, with increased financial capital, the consequences might have been reduced. Increasing the financial capital of the local people participating in the project is an important contribution for improving their livelihoods, and this might lead to people being better equipped to manage a new crisis.

### 7.3. Justice for who?

Chambers and Conway (1991) focus on improving the livelihoods of the rural poor when addressing the issue of sustainable livelihoods. As presented in 3.3.1., to obtain sustainable livelihoods, the authors encourage enhancing capabilities, improving equity and increasing sustainability, both social and environmental. As I have discussed the capabilities of the local people, I will in this section turn to the aspects of equity and sustainability, as this leads to the second part of the research question; does the carbon forestry project promote justice between the different stakeholders?

As presented in 3.2., justice is a complex issue as it implies what is morally right, and obviously, this varies between different stakeholders (Sikor et al., 2014). In this thesis I have chosen to discuss the idea of justice in light of environmental justice, as the trees the participants plant for the TGB-project both serve as natural resources for the local people and as carbon storage which benefits the environment. Because of the complexity of carbon offsetting, there are many stakeholders to consider when discussing how it promotes justice.

#### 7.3.1. Environmental justice from a perspective of sustainable development

Looking at justice from a perspective of sustainable development, it is important to ensure that there is a just distribution of environmental goods between present and future generation. As presented in 3.3., sustainable development considers economic, environmental and social impacts, and promotes use of resources which covers the needs of today and for future generations (World Commission on Environment and Development, 1987).

Many researchers are critical about the emergence of valuing nature as ecosystem services, particularly because of the reduction of nature's complexity (Milne & Adams, 2012). However, some argue that treating nature in economic terms, makes it easier to see the relation between nature and human well-being. This relation is presented in the MEA-framework, which emphasises the importance of using natural resources in a sustainable way (Millennium Ecosystem Assessment, 2005), and it has brought more attention to the importance of considering both the nature and the environment to enhance human well-being. One can argue that the TGB-project considers these issues because when the local people plant trees, they increase the biodiversity and sequester carbon for the environment, which again should enhance both theirs, and human well-being in general.

In addition to this relationship between human and nature, the emergence of PES-schemes has made it possible to develop a collaboration between buyers and providers of natural resources (Milne & Adams, 2012). Evidently, on paper, this market-based approach of governing nature

promotes benefits for all stakeholders involved; the rich, the poor, today's and future generation, and the environment. Accordingly, the question is whether all these stakeholders are equally considered in the TGB-project?

According to Gaast et al. (2016), carbon offsetting is a cost-efficient strategy to locate the emissions reduction in The Global South despite the emissions mostly coming from The Global North, as the emissions mix evenly in the atmosphere. Looking at carbon offsetting from an environmental and economic perspective, one can therefore argue that it is a cost-efficient strategy for mitigating climate changes, and since the emissions are reduced, it is good for the environment. Accordingly, the environmental goods are distributed equally between present and future generation.

However, Sikor et al. (2014) argue how it is important to consider environmental justice in ecosystem governance because from a social perspective, use and distribution of ecosystem services should not only be effective and efficient, but also just. As one of the aims of sustainable development is securing equity both within and between generations, it is not sufficient to only look at the environmental and economic perspective, one must also consider the social perspective of present generation. Despite its cost-efficiency, one can discuss whether carbon offsetting promotes socioeconomic development for the local people involved in the carbon reduction activities. To further discuss the social sphere of sustainable development, I will turn to the three dimensions of environmental justice, as articulated by Scholsberg (2004).

### 7.3.2. Distribution, recognition and participation

As presented in 3.2., environmental justice constitutes of three interlinked dimensions, where the first of these is distribution (Scholsberg, 2004). As Fisher et al. (2018) argues, distribution is the ability for actors to enjoy the economic and environmental benefits provided from natural resources. As discussed earlier, the participants in the TGB-project get benefits from the trees they plant, but as they do not receive the payment that they are promised, one can argue that there is an unequal distribution of benefits between the different stakeholders involved. There are different actors who have purchased their carbon credits from the TGB-project (Ecotrust, 2021), and in return they have gotten the benefit of being able to write off their emissions without reducing their own actions. Yet, as those purchasers may benefit from these carbon credits, the local people providing these credits have not received their payment and have not been able to benefit from the sale. Since carbon forestry projects are a type of PES-scheme, which indicates "payment", it should include the participants getting the

allowance for producing the ecosystem services, not only the purchaser getting the benefits from writing off their emissions. When the participants do not get their money, the distribution of benefits between the produces and the buyer is not just.

In addition to distribution of goods, Schlosberg (2004) see recognition and participation as important aspects of environmental justice, as presented in chapter 3.2. The unequal distribution of goods can easily be seen in relation to insufficient recognition of the stakeholders involved. As Milne and Adams (2012) argues, PES-schemes often promotes powerful and capitalist interest, and the asymmetrical power relations between the buyer and sellers might create unfair agreements for the sellers. This is something Svarstad and Benjaminsen (2020) also emphasises, as they argue the important of having adequate access to information. They show how local communities are often presented with discourses and narratives which are favourable to the dominant actors, and without adequate knowledge, the local people are not capable of assess the justice of their actions. As pointed out in chapter 6.2.3., the lack of information about the global trading system might be one of the reasons why the participants do not demand more from Ecotrust and that they continue to participate in the project without getting the payment they are promised.

The findings from chapter 6 show that the participants did not have the sufficient knowledge about the extent of their actions and the global collaboration they participate in. Most of them are not aware that the trees they plant sequester carbon which is sold at the global market, and this emphasises an unequal power relation between the stakeholders. The participants are presented with a narrative where carbon is told to be “bad air” and that they have to help other countries by producing “good air”. What they are not told is that the “bad air” comes from the actions of the industrialised countries themselves, and that instead of reducing their own emissions, they pay the local people in Uganda to reduce it for them. The win-win discourse of carbon forestry projects is therefore presented for the participants (Benjaminsen and Svarstad, 2017, p. 168), in favour of the stakeholders contributing to the pollution.

In addition to the recognition related to information and knowledge, the suggestions for improvement as brought up by the participants during the focus group discussions, show that their needs have not been recognised in the decision-making process. This is easily related to the last interrelated dimension of environmental justice, which is participation (Schlosberg, 2004).

As presented in section 6.3.3., one of the wishes from the participants was that they could be more included in the decision-making process, either as a sample group or at the different political levels within the district. This indicates that the participants have not been able to participate much in the decision-making process. This is something Fisher et al. (2018) has pointed out as an issue with the implementation of the TGB-project in which it is based on a top-down strategy, where there are a fixed set of criteria, and little room for participation from the participants. Ecotrust uses the framework of Plan Vivo when implementing the TGB-project, and the participants does not get the opportunity to make any changes. The lack of participation and recognition of the needs and wishes from the local people leads to an unjust distribution of goods between the global society and the local communities. If either the local governments or a sample group could be involved more in the implementation of the project and making the agreements, maybe the benefits for the participants would be increased.

As we have seen throughout this discussion, I would argue that the environmental justice of the TGB carbon forestry project is not adequate. The distribution of goods does not promote equity between the different stakeholders, and the local people who participate in the tree planting activities are neither adequately recognised nor able to participate in the decision-making process. Cavanagh and Benjaminsen (2014) argues that carbon forestry projects lead to more social inequalities between The Global North and The Global South as the purchasers of carbon credits benefits more than the local people selling it. In relation to the findings from this research project, I would argue that the benefits the participants get is not sufficient in relation to the fact that they do not receive the allowance promised and that they do not have adequate knowledge about the extent of the carbon forestry project they participate in, which make them unable to demand more benefits.

#### 7.4. Conclusion and recommendations

As the first part of this discussion shows, the TGB-project does not promote adequate degree of sustainable livelihoods for the participants, as the assets the project provides are not sufficient in relation to what they promise. Consequently, the project does not lead to socioeconomic development for the local people involved. I would therefore argue that the impacts on the socioeconomic conditions are not adequate in relation to how the idea of carbon forestry project promotes poverty alleviation as one of its aims. However, as I have presented the many benefits the local people experience for participating in the project, I would argue that if Ecotrust recognises the participant's desires for improvement, it might be a project that can improve the socioeconomic conditions for the local people.

As the project does not contribute to a sufficient degree of sustainable livelihood for the local people, I would argue that it does not promote justice between the different stakeholders involved. As this discussion shows, the TGB-project favours the environment over increasing social development. Evidently, one can argue that there is a just distribution of environmental goods between present and future generation. However, the carbon forestry project does not promote equity within this generation, as it is the most disadvantaged who gets the smallest benefits. When states, industries, and individuals in The Global North can buy themselves out of their emissions, instead of reducing them, and the local people in rural Uganda provide these mitigation projects without knowing the extent of their efforts, it enhances the already unequal power relations. While the idea of carbon forestry projects is to promote sustainable development, where reducing inequality is one of the aims, it is a paradox that it actually leads to more inequality between the stakeholders involved.

As REDD+ is a concept which is included in the Paris-agreement (Climate Focus, 2015), and projects for sustainable forest use was further emphasised in the latest COP26 (UKCOP26, 2021c), it is likely that even more carbon forestry projects are to be established in the years to come. Accordingly, there is a need for focusing more on the socioeconomic impacts the carbon forestry projects have on the local people involved. More equal distribution of environmental goods between the different stakeholders, and strengthening recognition and participation of the local people, might lead to more sustainable livelihoods for the local people. Strengthening the rights and needs of the local people might then contribute to making carbon forestry projects more just for all stakeholders involved.

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# Appendix

Appendix 1: Participants

Appendix 2: Interview guide focus group discussions

Appendix 3: Interview guide in-depth interviews

Appendix 4: Consent form

Appendix 5: Assessment NSD

## Appendix 1: Participants

### Participants from the focus group discussions

02.11.2021		03.11.2021	11.11.2021		12.11.2021
FDG 1, Manafwa	FDG 2, Manafwa	FDG 3, Manafwa	FDG 1, Bududa	FDG 2, Bududa	FDG 3, Bududa
Woman 1	Man 1	Man 1	Woman 1	Man 1	Man 1
Woman 2	Man 2	Man 2	Woman 2	Man 2	Man 2
Woman 3	Man 3	Man 3	Woman 3	Man 3	Man 3
Woman 4	Man 4	Man 4	Woman 4	Man 4	Woman 4
Woman 5	Man 5	Woman 5	Woman 5	Man 5	Woman 5
Woman 6	Man 6	Woman 6	Woman 6	Man 6	Woman 6
Woman 7	Man 7	Woman 7	Woman 7	Man 7	Woman 7
Woman 8	Man 8	Woman 8	Woman 8	Man 8	Man 8
Woman 9		Woman 9	Woman 9	Man 9	Woman 9
Woman 10		Man 10	Woman 10	Man 10	
		Man 11		Man 11	

### Key informants from the in-depth interviews

03.11.2021	06.11.2021	12.01.2021
Key informant 1	Key informant 2	Key informant 3

## Appendix 2: Interview guide – focus group discussions

### 1. Opening questions

- What is your name, what do you work with and how many are there in your household?
- What do you grow on your land?
  - What type of crops? Is it to sell or food for your family?
  - What type of trees?
- What experiences do you have with environmental issues? Drought, flooding, landslides etc.?

### 2. Perception of the carbon offset project they are involved in

- What is your experience with the TGB-project? How do you participate, when did you start participating?
- What is your motivation for being a part of this kind of project? How do you and your household feel about planting trees for carbon sequestration?
  - What are the benefits?
- Do you see any costs for being part of the project? Is there anything that is difficult for you now that you have planted the trees?
- What do you know about carbon?
  - Why is it important to sequester carbon?
  - What happens if we do not sequester carbon?

### 3. How the COVID-19 pandemic has affected the perception

- How has the outbreak of the COVID-19 pandemic affected your livelihood? In terms of food, income, other ways?
- Has your perception of the carbon forestry project changed after the outbreak of the pandemic?
  - Is it more or less pressure on using forest land for crops or fuelwood, if so, why? Are there more people in the villages than before the outbreak?
  - Do you get the same benefits as you did before the pandemic?
  - Do you think it is fair that you grow the trees on your land instead of growing other crops that you could use in your daily life? Have this changed after the outbreak?

#### 4. Perception of fair compensation due to being part of the program

- What do you think about the benefits you get now? Are they fair in relation to the costs?
- What would you have done differently if you could do some changes in the agreement?
  - More money? Money spread out over a longer period?
  - Job opportunities?
  - Public goods/services?

### Appendix 3: Interview guide – in-depth interviews

- Who are you, and what is your role in the district/with the carbon forestry project?
- How and when was the TGB-project introduced in this area? How many farmers are involved?
- Do you think the participants understand why it is important to sequester carbon?
  - Do you know about the global carbon market?
  - Do the participants know about it?
- Do you have a lot of contact with Ecotrust?
- What is the participants motivation for being a part of this project?
- What is your opinion about the project?



# Appendix 5: Assessment NSD

10.05.2022, 13:23

Meldeskjema for behandling av personopplysninger

## NSD NORSK SENTER FOR FORSKNINGSDATA

### Vurdering

**Referansenummer**

309669

**Prosjekttittel**

Skogforvaltning i Mount Elgon - karbonfangst og påvirkning på lokalbefolkningen

**Behandlingsansvarlig institusjon**

Norges teknisk-naturvitenskapelige universitet / Fakultet for samfunns- og utdanningsvitenskap (SU) /  
Institutt for geografi

**Prosjektansvarlig (vitenskapelig ansatt/veileder eller stipendiat)**

Haakon Lein, haakon.lein@ntnu.no, tlf: 73591913

**Type prosjekt**

Studentprosjekt, masterstudium

**Kontaktinformasjon, student**

Ingrid Hasselgård Bøe, ingrihbo@stud.ntnu.no, tlf: 90716099

**Prosjektperiode**

21.10.2021 - 25.08.2022

**Vurdering (1)**

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**07.10.2021 - Vurdert**

Det er vår vurdering at behandlingen av personopplysninger i prosjektet vil være i samsvar med personvernlovgivningen så fremt den gjennomføres i tråd med det som er dokumentert i meldeskjemaet med vedlegg den 07.10.2021, samt i meldingsdialogen mellom innmelder og NSD. Behandlingen kan starte.

**TYPE OPPLYSNINGER OG VARIGHET**

Prosjektet vil behandle alminnelige kategorier av personopplysninger frem til 25.08.2022.

**LOVLIG GRUNNLAG**

Prosjektet vil innhente samtykke fra de registrerte til behandlingen av personopplysninger. Vår vurdering er at prosjektet legger opp til et samtykke i samsvar med kravene i art. 4 og 7, ved at det er en frivillig, spesifikk, informert og utvetydig bekreftelse som kan dokumenteres, og som den registrerte kan trekke tilbake.

Lovlig grunnlag for behandlingen vil dermed være den registrertes samtykke, jf. personvernforordningen art. 6 nr. 1 bokstav a.

**PERSONVERNPRINSIPPER**

<https://meldeskjema.nsd.no/vurdering/611cc7da-6498-4a25-beea-6fda4b0f72eb>

1/2

NSD vurderer at den planlagte behandlingen av personopplysninger vil følge prinsippene i personvernforordningen om:

- lovlighet, rettferdighet og åpenhet (art. 5.1 a), ved at de registrerte får tilfredsstillende informasjon om og samtykker til behandlingen
- formålsbegrensning (art. 5.1 b), ved at personopplysninger samles inn for spesifikke, uttrykkelig angitte og berettigede formål, og ikke behandles til nye, uforenlige formål
- dataminimering (art. 5.1 c), ved at det kun behandles opplysninger som er adekvate, relevante og nødvendige for formålet med prosjektet
- lagringsbegrensning (art. 5.1 e), ved at personopplysningene ikke lagres lengre enn nødvendig for å oppfylle formålet

#### DE REGISTRERTES RETTIGHETER

Så lenge de registrerte kan identifiseres i datamaterialet vil de ha følgende rettigheter: innsyn (art. 15), retting (art. 16), sletting (art. 17), begrensning (art. 18), og dataportabilitet (art. 20).

NSD vurderer at informasjonen om behandlingen som de registrerte vil motta oppfyller lovens krav til form og innhold, jf. art. 12.1 og art. 13.

Vi minner om at hvis en registrert tar kontakt om sine rettigheter, har behandlingsansvarlig institusjon plikt til å svare innen en måned.

#### FØLG DIN INSTITUSJONS RETNINGSLINJER

NSD legger til grunn at behandlingen oppfyller kravene i personvernforordningen om riktighet (art. 5.1 d), integritet og konfidensialitet (art. 5.1. f) og sikkerhet (art. 32).

For å forsikre dere om at kravene oppfylles, må dere følge interne retningslinjer og/eller rådføre dere med behandlingsansvarlig institusjon.

#### MELD VESENTLIGE ENDRINGER

Dersom det skjer vesentlige endringer i behandlingen av personopplysninger, kan det være nødvendig å melde dette til NSD ved å oppdatere meldeskjemaet. Før du melder inn en endring, oppfordrer vi deg til å lese om hvilke type endringer det er nødvendig å melde: <https://www.nsd.no/personverntjenester/fylle-ut-meldeskjema-for-personopplysninger/melde-endringer-i-meldeskjema>

Du må vente på svar fra NSD før endringen gjennomføres.

#### OPPFØLGING AV PROSJEKTET

NSD vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.

Lykke til med prosjektet!

