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Can the Clean Development Mechanism bring Community Co-benefits?

A case study of the Kachung Forest Project, Uganda



Photo: Karin Edstedt, Dokolo District, Uganda, 2017

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Abstract

Global warming is one of the greatest challenges of our time. To globally reduce green house gas emissions, the Clean Development Mechanism (CDM) was created under the Kyoto Protocol. The mechanism allows industrialized nations in the Global North to meet their emission reduction targets under the Kyoto protocol, by purchasing carbon credits generated from CDM projects implemented in developing countries. CDM projects are to contribute to local sustainable development in the host country. This research explores the impacts of a CDM afforestation project to local communities in Uganda. As use rights to land and resources for surrounding communities have been altered, the research aims to study to what extent the project has achieved socio-economic development. A qualitative field study was carried out during ten weeks in Dokolo District, Uganda, consisting of semi-structured interviews and observations. To analyze the data, a livelihoods framework is used to define changes to local livelihoods. To discuss the wider implications of the project, the concepts of green grabbing and climate justice are used. Contrary to claims about socio-economic development and poverty alleviation, the study confirms that the project has increased the vulnerability of households and raised poverty levels. Severe implications for climate justice has been recognized, as this study concludes that the project has resulted in conflict and externalized costs of mitigating climate change to local communities in the Global South.

Key words: Climate change mitigation, CDM, Afforestation, local livelihood implications, Uganda

This study has been carried out within the framework of the Minor Field Study (MFS) Scholarship Programme and the Travel Scholarship funded by the Swedish International Development Cooperation Agency (Sida).

The MFS Scholarship Programme gives Swedish university students the opportunity to carry out fieldwork in low- and middle income countries, or more specifically in the countries included on the *DAC List of ODA Recipients*, in relation to their Bachelor's or Master's thesis.

Sida's main purpose with the Scholarships is to stimulate the students' interest in, as well as increasing their knowledge and understanding of development issues. The Minor Field Studies provide the students with practical experience of fieldwork in developing settings. A further aim of Sida is to strengthen the cooperation between Swedish university departments and institutes and organizations in these countries.

The Department of Human Geography at Lund University is one of the departments that administer MFS Programme funds.

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List of abbreviations:

A/R	Afforestation/Reforestation
CDM	Clean Development Mechanism
CER	Certified Emissions Reductions
CFR	Central Forest Reserve
GHG	Greenhouse Gases
GRAS	Green Resources AS
KFP	Kachung Forest Project: Afforestation on Degraded Lands
KP	Kyoto Protocol
LDC	Least Developed Countries
NFA	National Forest Authority
SEA	Swedish Energy Agency
UNFCCC	United Nations Climate Change Convention

1 INTRODUCTION

We asked her if she had time to speak to us. It was late in the afternoon, children were standing behind her, pulling the skirt of her dress while curiously looking at the visitors. The sun was still high in the sky, burning the dry soil and making the air hot to breathe. There was a slight breeze coming from the tall wall of dark pine trees standing in straight lines on the other side of the cassava field. She said, “I have time, if I can continue to peel my groundnuts while we speak.” We all sat down in the shade of a big mango tree. The children sat around their mother and they all started to peel the nuts that were spread out on a blue cut-open plastic sack on the ground.

They had come to arrest them, she said, her and her husband, when they were going to the field to harvest their maize. She had managed to escape. She ran through the plantation, navigating her way through the pine trees, until she reached her home where the seven children anxiously waited for her. Her husband had been taken to the local police station, and was released only after some days. After this, they left the maize in the field, as they did not dare to go back for it. Tears fell down her cheeks; she dried them with her blue dress and continued speaking. Now when farming on the small plots available around the homestead, they could only sell enough crops to afford to buy soap and salt. One of her girls was supposed to start secondary school, and one boy was almost finishing but they were no longer going. She bursted into tears and I closed my notebook, and listened to the breeze. When she looked up, she asked us if there was any way we could tell them to at least give some land back? (Int.13)

This woman is living close to a climate mitigation project conducting afforestation in Uganda. To reduce global greenhouse gas (GHG) emissions, the United Nations Framework Convention on Climate Change (UNFCCC) introduced the Clean Development Mechanism (CDM) under the Kyoto Protocol (KP) in 1997 (UNFCCC, 2014). This is a market-based mechanism that allows industrialized countries in the Global North to fund and implement emission-reduction projects in the Global South (UNFCCC, 2006). Projects of the CDM generate Certified Emissions Reduction credits (also known as ‘carbon credits’) that can be traded and sold by industrialized countries to meet their emission targets under the Kyoto Protocol (UNFCCC, 2014). The mechanism is to contribute towards local sustainable development in host countries (United Nations, 1998).

Forest management is a growing part of the global governance to tackle climate change (Leach and Scoones, 2015) and reducing GHG emissions by managing deforestation and land degradation have become central in climate policy (Hajdu et al., 2016). Carbon forestry is conducted across the African continent, involving various actors (Leach and Scoones, 2015). The Swedish Government, through the Swedish Energy Agency (SEA) purchases carbon

credits from a CDM Afforestation/Reforestation (A/R) project in Uganda (Swedish Energy Agency, 2012). The project, “Kachung Forest Project: Afforestation on Degraded Lands” (KFP), aims to contribute to community development and poverty alleviation (PDD, 2012). In Uganda, employment, agricultural subsistence, production and wellbeing are determined by access to land, as 80 % of the population derives their livelihoods directly from subsistence agriculture (Okuku, 2006). In the case of KFP, it is questionable whether the project is delivering objectives of poverty alleviation (Namanya, 2008) since the project has altered the use rights of land and resources for the surrounding local communities (PDD, 2012).

Giving the rationale of the CDM, and since the ability of CDM projects to achieve local development has been contested, it is important to study projects in their own context to explore which local implications they have (Leach and Scoones, 2015, Boyd et al., 2009, Osborne, 2015). Since actors describe that projects will bring local development benefits to get approval from the CDM to generate carbon credits, it is key to evaluate such interventions and their implications for the lived realities of local communities. By viewing the direct implications of a CDM A/R project in Uganda, this research will contribute to a larger debate about climate change mitigation facilitated through offsetting schemes as it gives insights in how global process are reflected local livelihoods.

1.1 Aims

This study uses a climate justice perspective to reflect upon market-based solutions to climate change mitigation and the impacts that these bring to local communities in the Global South. To shed light on local implications of global efforts to mitigate climate change, the study aims to explore how the CDM project “Kachung Forest Project: Afforestation on Degraded Lands” have facilitated sustainable development in local communities in the host country, Uganda. Based on a qualitative case study in the communities surrounding the project plantation, the study strives to gain an understanding of how the establishment of the project has impacted local livelihoods and explore to what extent the project has managed to deliver its claimed co-benefits of community development and poverty alleviation to local communities in Uganda.

1.2 Research Questions

The study aims to answer the following over-arching research question:

To what extent has the CDM project “Kachung Forest Project: Afforestation on Degraded Lands” facilitated socio-economic co-benefits in Dokolo District?

The analysis of the study will be guided by the following sub-questions:

- *What socio-economic co-benefits do the project actors (The Swedish Energy Agency and Green Resources) claim from this project?*
- *To what extent has the project implemented these co-benefits? To what extent have communities surrounding the KFP benefitted from the co-benefits?*
- *What wider impacts has the project engendered?*

1.3 Scope and Delimitations

This study is based on a qualitative case study conducted in Dokolo District, in Uganda. A single case of CDM A/R project is covered in this research.

As the study strives to place the KFP in a larger perspective of a global governance of climate mitigation, it will not discuss the responsibility of any specific actor in regards to the project in detail. There are several aspects to the project that is out of scope for this study. Technical aspects of the project, such as calculating revenues gained by actors will not be discussed at length. Legal aspects of the implementation process will not be covered. Since the study intends to explore the socio-economic impacts of the project, it will not try to cover the climatic and environmental impacts that the KFP contributes to locally or globally. With this case study, I do not aim to provide general conclusions about the CDM. However, cases studied in their own context can hold important lessons for other projects and for current focus in global governance.

1.4 Structure of Thesis

The second chapter of the thesis provides a literature review outlining different aspects of efforts to mitigate global climate change followed by a description of the research case. The third chapter presents the three theoretical concepts chosen for the study; a livelihoods framework, green grabbing and climate justice, and how they interrelate and can help understand and analyze the fieldwork findings. In chapter four, I describe what research design and methodology I have chosen to work with. The practical steps of the fieldwork are explained as well as ethical considerations, positionality and limitations to data. Chapter five describes and analyzes the interview material from the research using a livelihoods framework, examining altered access to assets and activities for households living close to the project. Chapter six discusses the wider implications of the project, starting with the livelihood outcomes and then linking the findings back to the other theoretical concepts. This is followed in an overall conclusion of the study in chapter seven.

2 LITERATURE REVIEW

This chapter provides a background to the case analyzed in this study. It covers broader discussions on climate governance before becoming case-specific, discussing forest legislation in Uganda and the ‘Kachung Forest Project’ in particular.

2.1 Climate Mitigation

Anthropogenic GHG emissions contribute to extreme climate-related events and long-term irrevocable climatic changes. Efforts made to avoid dangerous climate change, defined as more than 2 °C degree increase in global temperature, by mitigating GHG are essential (IPCC, 2014). To mitigate global GHG emissions, the United Nations Framework Convention on Climate Change (UNFCCC) in 1997 adopted the Kyoto Protocol (KP), (UNFCCC, 2014), which requires industrialized nations, Annex 1 countries¹, to reduce their GHG emissions to specific targets by 2012 (Boyd et al., 2009). The protocol states that it places a heavier burden on Annex 1 countries to take responsibility for global warming since it recognizes that these nations are most responsible for the current high levels of GHG in the atmosphere (UNFCCC, 2014). This is emphasized in Article 3.1 of the KP, which states that climate change shall be avoided “...on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities” (United Nations, 1998). This Article reflects a climate justice perspective, which will be introduced and discussed in Chapter 3. Also, as one of the principles in the UNFCCC reads, “policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost” (UNFCCC, 1992, art. 3.3), the UNFCCC encourages market-based solutions to globally mitigate GHG emissions (Boyd et al., 2009). Flexible market mechanisms established in the KP enables trade of emissions permits, to encourage Annex 1 countries to reduce their emissions in the most cost-effective way (UNFCCC, 2014). One of these market-based mechanisms is the Clean Development Mechanism (CDM) (Corbera and Brown, 2010), to be discussed in detail in the next section.

2.1.1 The Clean Development Mechanism

The Clean Development Mechanism is a flexibility mechanism allowing emission-reduction projects to be implemented in non-Annex 1 countries. This offered an opportunity for increased private investment to reduce GHG while contributing, supposedly, to sustainable development (UNFCCC, 2006). Annex 1 parties, through public or private financial means, fund and implement the projects in ‘host countries’ that are non-Annex 1 parties or LDC’s

¹ Annex 1 countries, Non-Annex 1 countries and LDC’s are all groups of nations divided by the UNFCCC. Annex 1 countries are including industrialized countries (members of the OECD) as well as countries in economic transition. Non-Annex 1 countries include developing nations. LDC’s are nations that are given special consideration under the convention as they have a limited capacity to respond and adapt to climate change. Uganda is in the LDC’s category of nations (UNFCCC, 2104).

(Least Developed Countries). The projects generate carbon credits to be traded and bought by Annex 1 parties (CDM, 2016). The trading of carbon credits is based on the assumption that the reduction of carbon emissions can occur anywhere regardless of geography and still have the same mitigation effect (Corbera and Brown, 2010, Lohmann, 2011). In practice, the CDM allows offsetting of carbon emissions, i.e. that Annex 1 countries purchases carbon credits from projects in the Global South to substitute reductions in the Global North (Böhm, 2009). The rationale underlying the CDM is to solve the main global challenges of our time; the climate crisis and poverty (Osborne, 2015), when aiming to achieve both climate mitigation and sustainable development, creating a win-win scenario (Boyd et al., 2009, Osborne, 2015). For non-Annex 1 countries and LDC's the incentive for hosting a CDM project lies in its ability to deliver co-benefits from the CDM projects in terms of sustainable development (Ebeling and Yasue, 2008).

Predominantly, the mechanism includes industrial projects established to enhance renewable energy sources in host countries, such as wind power, hydropower and solar power projects (UNEP, 2017). Despite the focus on sustainable development under CDM, and its rationale of supporting the poorest nations, LDC's are underrepresented as host countries of existing CDM projects (Boyd et al., 2009) and a majority of the projects are hosted by India, China and Brazil (UNEP, 2017). Of the CDM projects registered up to 2009, Sub-Saharan African countries hosted 2,97 % of the total carbon credit volume registered (Boyd et al., 2009). Yet, countries in Sub-Saharan Africa host plenty of potential for emission reductions in land use management, primarily in afforestation and reforestation (Purdon, 2015). A/R projects make up 0.8 % of the total number of CDM projects (UNEP, 2017). The next section will describe such projects in greater detail.

2.1.2 Afforestation

“Forests play a critical role in the climate cycle as both sinks and sources of carbon dioxide” (Tienhaara, 2012). The role that avoided land degradation and deforestation plays in reducing carbon emissions has been recognized as central to climate change mitigation (Hajdu et al., 2016). In line with a rationale of cost-efficiency, industrialized nations often offset their emissions by investing in projects conducting carbon forestry abroad. Project implementers claim that they locate the projects to where forest reserves are plenty, where there's land available to conduct A/R or where there's opportunities to reduce degradation (Leach and Scoones, 2015:1-42). Forest management as a climate mitigation strategy includes afforestation, reforestation and preservation of forests (Tienhaara, 2012).

A/R are the main forestry activities under the CDM. The activities aim at either planting forest on land that was previously labeled as 'degraded' or planting trees on land already covered with forest to increase the carbon stock within the area (Hajdu et al., 2016). Other forms of forestry (such as 'avoided deforestation', which provide credits for managing existing forests) are currently not included under the CDM (Tienhaara, 2012). Yet, since deforestation plays a significant role in global carbon dioxide emissions, there are ongoing discussions within the UNFCCC to include avoided deforestation in future market mechanisms, such as suggested REDD+ (Korhonen-Kurki et al., 2017). After this brief

description of carbon forestry, the next section will outline the critiques raised against carbon trading schemes.

2.1.3 Critique of Carbon Trading

Scholars and activists have raised critique against the fact that global governance for climate mitigation has generally embraced carbon trading as a market-based solution to climate change. This critique must be seen in the light of a wider critique of the commodification of nature (Böhm, 2009:14). The ‘green economy’, has been described as the hegemonic discourse for global environmental governance and implies that market-based mechanisms are applied to environmental management, creating new commodities, such as carbon credits, to be traded on the market (Corson et al., 2013). Re-valuing nature has created opportunities for investors, local elites and governments to earn a profit from such interventions (Fairhead et al., 2012).

Activists have called market-based solutions to climate change ‘false solutions’ to the problem (Böhm, 2009:6). This is in line with the general critique against carbon trading; that it has delayed real measures taken to mitigate climate change (Böhm, 2009:10). Civil society organizations have argued that actors buy the right to pollute the atmosphere by purchasing carbon credits and that this creates an illusion that high-consumerist lifestyles in the Global North can be maintained without affecting the climate. Since market-based mechanisms do not address the root causes of climate change, such as ending the usage of fossil fuels, it is argued by civil society organizations that carbon trading is simply a ‘lucrative alternative to reducing GHG emissions’ (The Durban Declaration On Climate Justice, 2004). Evidence underpins this critique; market-based mechanisms established have not been able to reduce global GHG emissions. On the contrary, they have contributed to the growth of carbon emissions (Böhm, 2009:9).

Carbon offsetting schemes have also been criticized for failing to promote sustainable development in the Global South (Böhm, 2009:9). In the case of carbon forestry, the mitigation projects often appropriate land of marginalized people (Osborne, 2015). A powerful discourse has been created around the ‘win-win’ outcomes of carbon-offset projects; against the rhetoric that the projects intend to benefit both environmental purposes (globally) and developmental purposes (locally) (Leach and Scoones, 2015, Andersson, E. and Carton, 2017, Nel and Hill, 2014, Osborne, 2015). Literature discussing the CDM concludes that it has been unable to contribute to sustainable development locally in host countries (Nel and Hill, 2014, Bond et al, 2012, Leach and Scoones, 2015). Boyd et al (2009) confirm that CDM projects contribute very little towards socio-economic development in host countries and discusses the shortcomings to this in relation to the issue of accountability, as the host country is responsible for monitoring developmental benefits from projects (Boyd et al., 2009). Osborne (2015) argues that socio-economic benefits from CDM projects especially fails to benefit forest communities, as carbon forestry projects undermine community benefits from common property management. As forests in the Global South are typically owned by the state, the use rights often overlap with the ownership. When transition of ownership of forests takes place it often results in increased vulnerability amongst forest users (Tienhaara, 2012).

Also, colonial histories of practices are present in contemporary discourses of land use in Africa (Leach and Scoones, 2015:4, Fairhead et al., 2012).

Further, carbon offsetting schemes have been described as a form of ‘carbon colonialism’ (Osborne, 2015., Leach and Scoones, 2015., Lyons and Westoby, 2014.), by which the responsibility for mitigating climate change is outsourced to the Global South and whereby burdens of the projects are distributed unequally.

The literature on carbon forestry under the CDM confirms that the win-win scenario is not reflected in reality (Leach and Scoones, 2015, Osborne, 2015., Boyd et al., 2009). The literature also recognizes that carbon forestry projects in general have led to displacement of local people and reduced or denied access to crucial resources, which has spurred local conflicts (Leach and Scoones, 2015, Tienhaara, 2012., Carton, 2016). Leach and Scoones (2015) describe these conflicts as ‘carbon conflicts’ and state that a win-win scenario will never be realized as carbon forestry projects inevitably create carbon conflicts, by contributing to an unequal distribution of, and access to, resources and unequal sharing of project benefits and burdens (Leach and Scoones, 2015:6). As Tienhaara (2012) describes it,

“Even if communities are provided with financial payments emanating from the sale of carbon credits or other benefits such as jobs and services, the value of this compensation may well be lower than the welfare benefits derived from subsistence use of forest products, particularly in the long term” (Tienhaara, 2012:566)

This quote provides a relevant insight to how forest users value assets from forests compared to other benefits. To place the carbon forestry project discussed in this study in the context of Uganda, the next section will examine the history of Ugandan forest legislation.

2.2 History of Ugandan Forest Legislation

Central Forests Reserves (CFR) in Uganda are forests used and managed by the government since the colonial era (Lyons and Westoby, 2014, Hajdu et al., 2016). During the post-colonial period until the early 2000s, land acts provided local communities access to state owned lands (Lyons and Westoby, 2014; Samuelson, 1954). Historically CFR were available for local people to use (Okuku, 2006). Owned by the state, the reserves can be labeled as a ‘common-property resource’ (Press & Economics, 2016). The property rights commonly held by people utilizing the reserve during the colonial period until the early 2000s are access, defined as *“the right to enter a defined physical property”* and withdrawal, defined as *“the right to obtain the ‘products’ of a resource”* (Press & Economics, 2016:250). The forest users did not have the rights to management, exclusion and alienation of land (Press & Economics, 2016, Okuku, 2006). The access and use rights to forest reserves sustained local livelihoods by allowing animal grazing, fishing, collection of firewood and medical herbs and access to watering holes etc. (Lyons and Westoby, 2014; Ostrom et al., 1999).

As a part of a larger liberalization of the economy, there was a national policy shift towards liberalization of forest legislation in Uganda in the early 2000s. The shift made authorities of

the Ugandan Central Government, such as the National Forest Authority (NFA), act to enable private international investments in land management. For example, the Central Government in Uganda has labeled CFR as “degraded” as it is often a prerequisite for international investors that land is labeled as “degraded” to enable investment in commercial forest plantations (Lyons and Westoby, 2014). Following this shift, the National Forestry and Tree planting Act in 2003 was enforced. This Act has created the conditions for foreign investments in land and enabled international investments in of carbon forestry projects in Uganda. The Act is a turn from the previous public access to public lands to increased restrictions enforced on forest use (Lyons and Westoby, 2014). Under ‘Prohibited Activities’ the Act states:

“no person shall... in a forest reserve or community forest a) cut, take, work or reduce forest produce; b) clear, use or occupy land for: grazing, camping, livestock farming, planting or cultivation of crops, erecting of a building or enclosure, or recreational, commercial, residential, industrial or hunting purposes...” (Uganda Legal Information Institute, 2003: 32.1).

In the case of KFP, the Act has been a pre-condition for project actors to lease land and enabled them to carry out project activities. The restrictions of the ‘National Forestry and Tree Planting Act of 2003’ were enforced in the CFR in Dokolo District when KFP was established (Int. 40). The next section will discuss the carbon forestry project that is the case of my research in detail.

2.3 Kachung Forest Project: Afforestation on Degraded Land

Uganda hosts 12 registered CDM projects, of which five are reforestation projects and one is an afforestation project (Climate Change Department, 2015). The case researched in this study is the ‘Kachung Forest Project: Afforestation on Degraded Land’ (KFP), a registered CDM project conducting afforestation in Dokolo District, Northern Region, Uganda. The plantation mainly consists of pine and eucalyptus trees, planted on approximately 2099 hectares of land in a CFR. The project started in 2006 and is expected to continue for 60 years (PDD, 2012:26). The overall objective of the KFP is to *“contribute to mitigating climate change while meeting the growing demand for quality wood products from well managed plantation forests and contributing to sustainable environmental management, community development and poverty alleviation in Uganda.”* (PDD, 2012:2).

The specific social and economic objectives of the KFP are:

“To facilitate socio-economic development of the local communities through:

- *Promotion of tree planting/afforestation activities in the local communities;*
- *Provision of employment opportunities;*
- *Support for development initiatives for the communities through the sale of carbon credits;*
- *Establishing of community woodlots in the villages around KFP on*

community owned land, with the objective of increasing fuel and timber supply within the communities;

- *Designating 10% of the carbon revenues generated by the project to community development initiatives in the villages surrounding KFP;*
- *Develop local infrastructure including roads, health centers, water supply and communication systems. (PDD, 2012:3).*

This study discusses the socio-economic co-benefits of the KFP. With co-benefits I refer to benefits that are additional to the main activities of the project (mitigating climate change and producing timber). Co-benefits from a CDM project can be both indirect, such as general environmental and social benefits, and direct, such as giving opportunities for employment (Boyd et al., 2009). The following section describes the roles of the different actors involved in the project.

2.3.1 Actors

The main actors of the KFP are the NFA from the Ugandan Government, the Swedish Energy Agency (SEA) from the Swedish Government, Lango Forestry Co. Ltd (LFC) and Green Resources AS (GRAS).

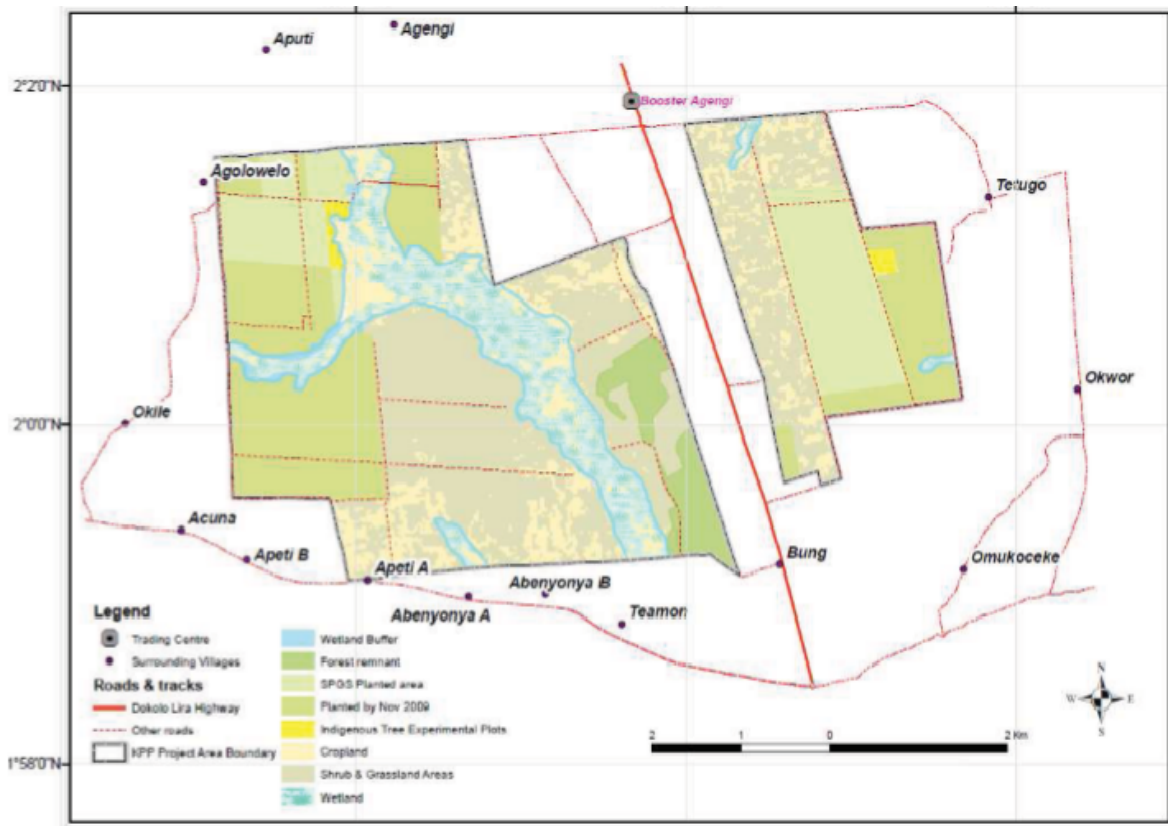
NFA is the governmental body responsible for all forest activities in Uganda (PDD, 2012:4). To meet the national targets of afforestation set out by the Central Government, and to create local employment and stimulate economic growth, the NFA encourages foreign investment in the forestry sector (Lyons and Westoby, 2014). The NFA has approved the leasing of 2669 ha of land to the KFP (PDD, 2012:4). The Ugandan state has no ownership of the rights to the carbon credits from the KFP (PDD, 2012:21).

LFC, previously under the name Norwegian Afforestation Group, is a Norwegian-registered company that owns the KFP (Habtetsion Gebremichael, 2016). LFC obtained a 50-year contract from the NFA to lease the land and a tree-planting license. The contract is open for renewal, creating possibilities from an extension of project activities. LFC are the owners of the carbon credits generated from the project (PDD, 2012:21).

GRAS is a Norwegian-registered company reported to be ‘the largest plantation forestry company on the African continent’ (Lyons et al., 2014). The company operates in Uganda, Tanzania, Mozambique and South Sudan (Lyons et al., 2014). In Uganda, it is engaged in two plantations (Lyons and Westoby, 2014). As the main shareholder in LFC, GRAS sells the carbon credits from the project (Habtetsion Gebremichael, 2016).

The SEA is the sole purchaser of carbon credits from KFP and signed a contract with GRAS in 2011 (Habtetsion Gebremichael, 2016) to purchase carbon credits from 2012 to 2032, worth 4 million USD (Lyons and Westoby, 2014). The SEA describes the project as a climate mitigation project that enhances poverty alleviation and promotes local development in Uganda (Swedish Energy Agency, 2012). Swedish journalists visited the KFP and made a documentary that highlighted the negative socio-economic impacts of the project, broadcasted on Swedish television in 2015. The documentary received a fair amount of public attention

Map 2.3.2 (2). Kachung Forest Project (PDD, 2012:6)



In 2012/2013, an estimation of 19,7 % of Uganda’s population was living below the absolute poverty line (UNDP, 2014). The Northern Region is the poorest region in Uganda and despite significant reductions; the poverty rates of the Northern Region remain twice as high as national average. This is due to low economic development and a lack of basic services in the Northern Region (UNDP, 2014:11)

Effects of climate change are posing serious challenges for Uganda's poorest (Lyons and Westoby, 2014). A high prevalence of climate shocks has affected the Northern Region significantly, as non-reliant rainfall make subsistence farmers increasingly vulnerable (UNDP, 2014:78). Just before and during the time when I conducted my fieldwork, Uganda and this region experienced the worst drought in recent history, causing a severe food shortage in the northern parts of the country (The Ugandan, 2017). The area surrounding KFP is generally dry and has an average temperature of 30 degrees Celsius. Usually there are two rainy seasons per year, from March-May and August-October. A longer dry season is experienced from December-February and a shorter from June-July (PDD, 2012:8).

2.3.3 Socio-economic background

The main socioeconomic activity in the area surrounding the KFP is subsistence farming, and 78.9 % of the overall population in Dokolo District are subsistence farmers. Subsistence crops cultivated in the area are mainly pulses (several types of beans and groundnut), roots crops (cassava, sweet potato) and cereals (millet, maize, sorghum, rice). There are also cash crops cultivated, such as cotton and tobacco. Income generating activities in the area are charcoal burning and collection of fuel-wood for commercial sale (PDD, 2012:11-12). In Uganda, the access to land for employment, agricultural production and food is key (Okuku, 2006). Research prior to the implementation of the KFP states that the literacy rates in the area are low (especially among women) and that there is a low access to services (5 km distance to nearest health service) (PDD, 2012:11-12). Generally, people living at the borders of KFP are vulnerable to changes in climate and access to land. UNDP emphasizes that there is a need to reduce the vulnerability amongst individuals and communities especially in the Northern Region, since poverty rates remain high (UNDP, 2014).

The next chapter will outline the conceptual framework used to analyze the livelihood impacts and the wider implications that KFP has brought to the local communities.

3 CONCEPTUAL FRAMEWORK

This chapter guides the reader through the conceptual framework used to analyze and discuss the findings of the study. A livelihoods framework will be used in the direct analysis of the data, using five different capitals needed to sustain rural livelihoods. To discuss the wider implications of the KFP, I will use the concepts of Green Grabbing and Climate Justice. Applying these concepts will enable a discussion of the political nature of the findings and how they can be understood in a critical discussion of the larger actors and processes that affect and impact the project studied. Both concepts fit within a broader focus on political ecology, which aims to explain environmental change and its impacts as conditioned by global economic and political forces. Political ecology, as an explicit alternative to ‘apolitical’ ecology, aims to identify broader systems that underlie change rather than putting the blame on local contexts and forces (Robbins, 2012). A political ecology approach suits the aim of this study, to reflect upon how carbon offsetting implicates justice.

3.1 A livelihoods framework

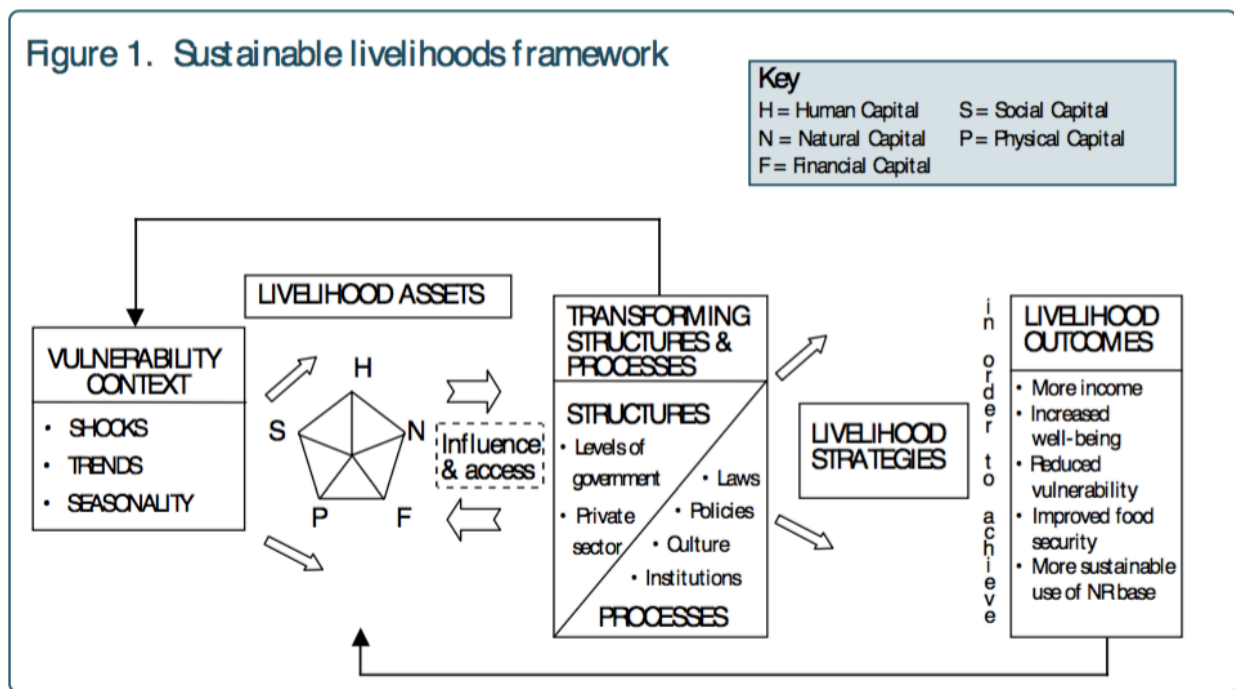
Livelihoods are understood as (access to) assets and activities available and needed to maintain a certain standard of living. Assets are different types of capital that are “*owned, controlled or claimed or by other means accessed by a household*” (Ellis, 2000:31). There are five types of capital commonly mentioned in a livelihoods framework: natural capital, physical capital, financial capital, human capital and social capital (Ellis, *ibid*).

1. ‘Natural Capital’ is described as natural resource stocks such as land, water and other biological resources. This includes gathering of forest resources, farming, fishing and hunting (Ellis, 2000:32). A close relationship between natural capital and vulnerability is recognized. The vulnerability of rural households that are depending on resource-based activities (such as farming, fishing or gathering resources in a forest) to derive a livelihood would increase severely in case access to these assets are altered or denied (DFID, 1999).
2. ‘Physical Capital’ is described as assets that will generate flows of increased assets in the future. Physical assets can be roads, houses, tools, machines, irrigation and bridges. Infrastructural assets have shown to be important to rural livelihood diversification. For example, roads facilitate the movement of goods and people as well as enable activities such as local markets and community gatherings, increasing the access to other types of capital (Ellis, 2000:32-33).
3. ‘Financial Capital’ describes the financial means that are available to a household, such as savings and loans. In Sub-Saharan Africa, keeping livestock is most often used as a way of saving the financial means of a household. These savings serve as a financial security, as it can be used in times of hardship or experienced shock that alter other forms of capital (Ellis, 2000:36).

4. 'Human capital' is described as the capability of a household to engage in labour work. Human capital is directly linked to educational and health services provided, as human capital within a household is strengthened through acquiring skills from education and trainings and increased by a good health. This capital can reduce the risk of vulnerability of a household if other types of capital, such as natural or financial, are altered. Being able to engage in wage-labour can act as a security to a household in times of unexpected events (Ellis, 2000:33-34).
5. 'Social Capital' is described as the social connections, based on trust and reciprocity that a household can gain a form of 'social insurance' from. By belonging to, and maintaining the relations with, a social group, a network and/or a family, the members of a household gain security and possibilities to maintain and increase their livelihood status. Social capital plays a crucial role in times of a household crisis in societies that lack an institutionalized welfare system to support households and individuals (Ellis, 2000:36-37).

It should be noted that one asset could have multiple benefits for a household. For example, access to land (natural capital) can be directly linked to financial capital, as people are able to use the land to derive products that they can sell and earn an income from (DFID, 1999).

Figure 3.1 Sustainable livelihoods framework (DFID, 1999:2.1)



Access to assets is crucial to reduce poverty in rural areas. The sustainable livelihoods framework explains livelihoods by stating that transforming structures and processes influence the vulnerability context by creating shocks and trends. These have a direct impact on the asset status of a household as they determine the future capability of households to sustain themselves. The vulnerability context that a household is exposed to determines its livelihood outcomes and can create or destroy assets. As it is externally imposed, it is very hard for individual households to influence or change their vulnerability context (DFID,

1999). For example, since rural poverty in Uganda is strongly associated with lack of land and livestock (Ellis and Bahigwa, 2003), the loss of access to these assets directly impacts rural livelihoods and challenge the future wellbeing of the members in the household (DFID, 1999). A framework discussing livelihoods also recognizes the relationship between accesses to assets and livelihood outcomes. Livelihood outcomes are with other words level of income, level of vulnerability, level of food security and the sustainable use of the natural resource base (DFID, 1999). To elaborate on the wider implications for livelihoods after the establishment of the KFP, I use the concept of Green Grabbing.

3.2 Green Grabbing

“They [carbon forestry projects] restructure ecologies, livelihoods, and relationships between people, land and resources... the effects can amount to, and be interpreted in terms of, the phenomenon of ‘green grabbing’ whereby, at a particular moment in the capitalist development, nature and resources become appropriated in a process of accumulation by dispossession, with carbon, once part of people’s lived-in-landscapes, becoming financialized and part of international markets to the benefit of others’ (Leach and Scoones, 2015:5).

‘Green grabbing’ is defined as the appropriation of land and resources for environmental ends. This is an increasing phenomenon as environmental agendas are promoting biofuels, conservation and carbon trading; all core drivers of grabbing land (Fairhead et al., 2012). Green grabbing can be situated in the greater debate of land grabbing, with the difference that its claimants are justifying appropriation of land based on ensuring environmental sustainability (Fairhead et al., 2012).

Appropriation of land has long been a subject in political economy, under the Marxist theorization of ‘primitive accumulation’ (Fairhead et al., 2012). Harvey (2003) has developed this into the concept of ‘accumulation by dispossession’ and argues that capital will be concentrated in the hands of those who already hold capital, at the costs of others who do not hold capital (Harvey, 2003, Fairhead et al., 2012). In the case of green grabbing, *“appropriation’ implies the transfer of ownership, use rights and control over resources that were once publicly or privately owned – or not even the subject of ownership – from the poor (or everyone including the poor) into the hands of the powerful”* (Fairhead et al., 2012:238). Though this process does not always exclude the previous users of the land or resources completely, it does restructure rules over access and use rights resulting in a new relationships between resources and land and its users (Fairhead et al., 2012).

What is new to the phenomenon of green grabs is the commercial intent of the grabbing (Fairhead et al., 2012) and its position in the ‘green Economy’ (Corson et al., 2013), as described in Chapter 2. Green grabbing also reflects the notion of ‘economy of repair’, described as economic measurements undertaken to repair unsustainable practices somewhere with sustainable practices elsewhere (Fairhead et al., 2012).

A critical focus of the ‘green grabbing’ literature is the legitimatization process behind interventions. Green grabbing allows me to evaluate these win-win claims by analyzing the

winners and losers in the green economy (Fairhead et al., 2012). Commonly, the distribution of costs and benefits is unequal between implementing actors and local beneficiaries. As Harvey puts it, “*enclosing public assets by private interests for profit often result[s] in greater inequalities*” (Fairhead et al., 2012:243). In the case of carbon forestry, the actors who initiate and implement the actions vary from state agencies to corporations, driven by international policy institutions. In some cases, military forces are involved in appropriating land (Fairhead et al., 2012).

Carbon forestry projects under the CDM can be seen as a form of green grabbing as their main activity is to conduct forestry, using large portions of land in countries in the Global South to facilitate trade of carbon credits (Leach and Scoones, 2015:40). These projects reinforce the process of ‘accumulation by dispossession’ by encouraging corporate actors to implement projects that reduce costs of emission reductions and allow their normal activities to continue, while simultaneously reshaping the conditions of livelihoods for local communities. A discussion of climate mitigation efforts and its implications for social justice can be found within the work of climate justice advocates. To place this study in the larger context of climate mitigation governance and to enable a discussion of implications across scales, I will use the concept of climate justice.

3.3 Climate Justice

There is a long history of writings in the environmental justice movement on the injustices involved with how we use resources and the natural environment more generally. This movement has directly influenced the conceptualization of climate justice. The inequity of experienced impacts of climate change-related events, and the lack of recognition of threats and of fair inclusion in political decision-making by the ‘poor’ was seen as another representation of social injustice. This recognition transformed into the concept of Climate Justice as a broad coalition of groups came together as the International Climate Justice Network in 2002. This network produced the ‘Bali Principles of Climate Justice’, which is seen as the first major statement of the idea of climate justice (Schlosberg, 2013).

Box 3.3. The Bali Principles of Climate Justice

The following core principles of climate justice (quoted from “The Bali Principles of Climate Justice”) have been defined as especially relevant to the analysis of the case of KFP:

13. Climate Justice affirms that any market-based or technological solution to climate change, such as carbon trading and carbon sequestration should be subject to principles of democratic accountability, ecological sustainability and social justice.

15. Climate Justice affirms the need for solutions to climate change that do not externalize costs to the environment and communities, and are in line with the principles of a just transition.

19. Climate Justice demands that public policy be based on mutual respect and justice for all peoples, free from any form of discrimination or bias.

24. *Climate Justice opposes military action, occupation, repression and exploitation of lands, water, oceans, peoples and cultures, and other life forms, especially as it relates to the fossil fuel industry's role in this respect.*

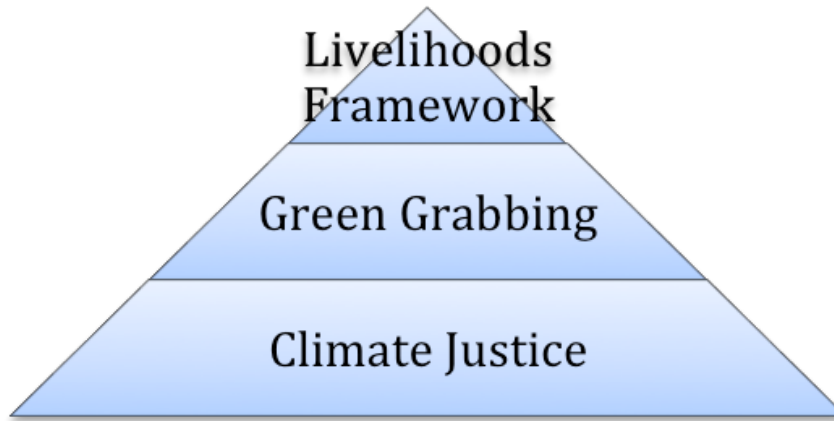
(ICJN, 2002).

Climate justice, as stated in the ‘Universal Declaration of the Rights of Mother Earth’², places as much emphasis on the disruption of ecosystems as on inequity and other injustices experienced by vulnerable human communities (Schlosberg, 2013). Climate Justice advocates and scholars are concerned with the distribution of burdens related to climate change, and amongst others, the effects of climate change mitigation policies (Fisher, 2015). Mainstream politics of climate governance has formed a consensus of dealing with climate mitigation within the existing capitalist system, creating carbon markets (Chatterton et al., 2013). The climate justice movement views corporate responses to climate change with great skepticism as they claim that it will cater the already wealthy and not the vulnerable (Schlosberg and Collins, 2014). The ‘Durban Declaration on Carbon Trading’, written and signed by a broad coalition of climate justice organizations and individuals in Durban 2004, rejects the claim that carbon trading will halt the climate crisis. It states that market-based mechanisms intensify the unequal impacts of climate change by sanctioning the continued use of fossil fuels at the same time as enabling the private sector to appropriate land supporting local livelihoods to continue the activities of industries in the Global North (The Durban Declaration On Climate Justice, 2004).

² Demands a set of legal rights for humans, species and ecological systems (World People’s Conference on Climate Change and the Rights of Mother Earth, 2010).

The combination of a livelihood framework, the green grabbing concept, and climate justice will be applied as the conceptual framework for this study according to the hierarchy outlined in Figure 3. The next chapter will describe in detail the research design chosen and the methodology used to generate data for this study.

Figure 3. Conceptual Framework used for this study



4 METHODOLOGY

This chapter guides the reader through the process of data generation. It includes a description of the research design, as well as how I accessed the field and conducted interviews. It also discusses the positionality and biases of the researcher, limitations to data generated and ethical considerations of the study.

4.1 Research Design

4.1.1 Ontology and Epistemology

The research is based on the ontology of constructionism, as I believe that the meanings to social phenomena are constructed and continuously revised by social actors. The epistemological stance of the research is constructivism, as knowledge is constructed through social interaction, between the research participants and the researcher (Bryman, 2102:33). I view the researcher as a central instrument in the research (Scheyvens, 2014:60-61) and that the researcher presents a subjective version of social reality (Bryman, 2102:33). I reject the notion of an existing objective truth (Hammet et al., 2015:5). Due to the epistemological standpoint, the empirical findings and analysis will be presented together (Bryman 2008:12).

4.1.2 Qualitative Case Study

This research is a qualitative case study conducted in six villages bordering KFP. Though the respective characteristics of the chosen villages differ slightly, they together construct one single case of the project. In this study, the KFP will be viewed as a representative case in the category of registered CDM A/R projects (Bryman, 2012:70). I aim to explore the complexity of the issues in a holistic way (Bryman, 2012:66) and understand the connections between actors, contexts and processes (Scheyvens, 2014:61).

4.1.3 Case selection

Previous research has shed light on carbon forestry projects and their implications for local communities (Leach and Scoones, 2015); and studies have associated the KFP with negative livelihood impacts (Lyons and Westoby, 2014). Despite this, actors of the project claim that the KFP facilitates poverty alleviation (The Swedish Energy Agency, 2012, PDD, 2012). Due to these conflicting narratives, this research focuses on the case of KFP and its ability to achieve co-benefits. As a Swedish student of Development studies, I am interested in the case since the Swedish government purchases carbon credits from the project and promote it as a ‘developmental’ project (Swedish Energy Agency, 2012).

4.2 Accessing the Field

To gain access to ‘the field’, I first met with the District Officer for Dokolo District. She gave a formal permission to carry out my research by signing letters of introduction that I had received from the Head of the Geography Department at Makerere University and Lund

University (Scheyvens, 2014:106). After this, I introduced myself and the research project to leaders at different levels of the local political hierarchy to get their approval (Bryman, 2012:150).

4.3 Research Assistant

To enable my fieldwork, I worked together with a research assistant. The assistant provided access to the 'field' by navigating the local political institutions, accessing interviews and translation. The research assistant has also played a key role in helping me grasping the cultural context of the research site as well as establishing a good rapport with the respondents (Scheyvens, 2014:152-155).

4.4 Data Generation

4.4.1 Sampling of interviews

I conducted 40 semi-structured interviews with various respondents. Thirty-one of the interviews were conducted with community members in villages bordering the KFP. Due to lack of resources I could not interview community members in every village surrounding the KFP (Punch, 2014:160-161). Purposive sampling was applied when sampling the context and the participants of the study (Bryman, 2012:417). I sampled six villages bordering the KFP to collect data across a geographical spread to increase the credibility of the study (Bryman, 2012:390). To enable deeper discussions about the KFP, I strived to interview older people who were the head of the household whom had lived in the area for a long time and experienced the transition of use rights within the CFR. At a later stage, to discuss other themes, I applied snowball sampling to find relevant respondents (Bryman, 2012:424). For example, in the end of an interview the respondent could be asked 'Do you know of anyone who used to live within the forest?'

The additional nine interviews conducted with local chiefs, a staff member at a health center and officials from GRAS and NFA were purposively sampled (Bryman, 2012:418). This procedure allowed me to include the perspective of the actors of the KFP, in regards to the co-benefits and the implementation of the project.

4.4.2 Semi-structured interviews with community members

The majority of interviews with community members took place in the respondent's home (most often in the shade of a mango tree) with one respondent at a time. When approaching a home, the research assistant first inquired if the head of the household was available and willing to be interviewed. If the person was not available at that time but still willing to participate, we arranged to meet another day. The interviews were conducted after given consent and was audio recorded when the respondent allowed it (Scheyvens, 2014:63). I learnt basic greeting phrases in the local language Luo and this was often very appreciated (Scheyvens, 2014:156).

Initially, the study followed an interview guide, with questions asked in a specific order. After

a few pilot interviews, I opened the interview with the question “What do you think of the plantation?” and the respondent spoke freely about his or her experiences. In most interviews, the opening question led to the overall theme of loss of assets. When discussing losses, I began to ask about the overall loss of assets before discussing the following assets; land for cultivation, land for grazing of cattle, access to collect firewood, access to collect medicinal herbs, and settlements. Follow-up questions about losses generally asked about what activities the households are not able to still carry out and how this has impacted the household. The second overall theme that was covered in the interviews was gain of assets. After asking about overall gains, I initiated the discussion of the following specific assets; distribution of seedlings, employment opportunities, and enhanced access to water and sanitation. In the end of the interview, questions relating to conflicts over resources, the gains of the forest company in relation to the gains of the community and the overall level of development in the community now compared to prior of the establishment of the project guided the discussion. The follow-up questions have differed across villages. When asking about gains, the follow-up questions differ as co-benefits have been implemented in some villages and not in others. The follow-up questions differed the most when asking about conflicts since the experiences of conflict differed widely across villages. The majority of the interviews with community members in the villages have been translated from Luo to English. During a few occasions respondents have been influenced by alcohol intake. I noted this and have taken it into consideration when analyzing the data.

4.4.3 Additional Semi-structured Interviews

Additional interviews were conducted with local authorities to hear their overall view of the project and how it had impacted the communities in the village, sub-county or District. The main theme covered when interviewing GRAS officials was the co-benefits implemented and their impact for local communities surrounding the KFP. During interviews with officials from NFA, land deals in Uganda, the Act from 2003 and the implementation process of KFP was discussed.

4.4.4 Observations

Data has been collected through unstructured observations of micro-geographies surrounding the interview sites and the area of KFP (Hammet et al., 2015:156-158) in connection to the interviews, when moving around in the area by foot or in a vehicle. The focus for the observations has been practices or features of the space that occurs or exists in connection to livelihoods, for example agricultural practices, grazing of cattle and road connections. As a geographer, I am interested to find out how space is a factor that can impact the livelihood strategy of local people. The observations have been recorded by taking field notes (Punch, 2014:153-154) and written reflections in a ‘field diary’ (Scheyvens, 2014:148-149).

In December 2016, I was invited to a seminar hosted by the Swedish Agricultural University in Stockholm (1:16/12/2016) where students and researchers presented their research findings from KFP. Officials from the SEA were present and part of a round table discussion

afterwards and co-benefits of KFP was discussed. I recorded this observation by taking notes (Punch, 2014:153-154).

4.5 Method used for analyzing data

The units of analysis for this study are transcripts and notes from 40 interviews, as well as notes from observations. During the process of transcribing, I have been able to identify broad themes in the data (Scheyvens, 2014:75-76). The coding of themes enabled the analysis, as the broader themes were broken down into more specific themes. After creating an index with the relevant themes, I applied the concepts used in the study to the themes (Bryman, 2012:578-582).

4.6 Positionality and Biases

During my fieldwork, I became increasingly aware of the fact that my positionality influenced the process, the agenda and the outcome of the research (Hammet et al., 2015:49). As I look the same as the previous Norwegian or Swedish officials from GRAS and SEA coming to make ‘field visits’, this shaped expectations of community members, as they perceived me as someone who has power to influence their situation. Throughout the research process, I have been conscious of this and tried to limit the expectations of the respondents by clearly stating who I am *not* and what I *cannot* do. Yet, I acknowledge that these expectations have influenced the data generated and I have taken it into account when writing the analysis (Hammet et al. 2015:56-57).

During my fieldwork, I reflected on my identity as an ‘outsider’ (Hammet et al., 2015:54-55). To establish a relation of confidence with my respondents I openly showed an interest to activities going on in the household, asked questions about the crops in the garden and learnt how to peel cassava.

In the past years, I have been involved in an international youth network working with climate change advocacy and had the opportunity to attend several United Nations Climate Change Conferences. Narratives put forward by political leaders, researchers and activists from the Global South has shaped my view on climate mitigation and adaptation policies (Hammet et al., 2015:51-54) and I acknowledge that this has influenced my biases. To avoid this to influence my study, I have strived to highlight all perspectives of case studied in a balanced manner.

4.7 Limitations to data generated

The need for translation of the interviews has been a limitation as it has created a distance between the respondent and myself. Gatekeepers within the household have influenced interviews with community members. During interviews with older women, it has not been uncommon to find the woman’s son sitting next to her and ‘fill in’ the answers, despite my request to only interview one person at a time. Local political authorities and GRAS have tried to influence the data generated (Scheyvens, 2014:172—174) by giving firm advice on

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what to consider when writing the analysis of this study. I am aware of the underlying interests from these respondents and I have taken this into consideration.

4.8 Ethical considerations

When conducting this field study, I have strived to avoid harming anyone and I have therefore kept the anonymity of every person involved as well as the sampled villages (Scheyvens, 2014:161-187). This is important since KFP is a politically sensitive issue.

It has been of great importance to me to not take too much of the respondents' time. To avoid this, we have arranged the interview setting so that the respondent could continue with the activity that she or he was occupied with when we came. As a compensation for participating in the interview, each respondent has been given a bar of soap (Scheyvens, 2014:176-177).

The interviews often brought strong emotions of sadness and frustration to the respondents. I have tried to be sensitive to the respondent's reactions by taking breaks from the interview to sit in silence or talk about something else. There have been times when we have ended the interview early because the respondent was too upset to continue.

The next chapter will guide the reader through the observations and analysis of the interview material derived from the fieldwork.

5 . OBSERVATIONS AND ANALYSIS

“The most important thing in Africa here is the land. When you have the land, you have everything” (Int. 22).

This chapter guides the reader through the analysis of the data collected during fieldwork in Dokolo District, Uganda. It starts by viewing claims of socio-economic development made by actors of the project followed by an analysis of natural, financial, human capital and physical capital that the project has influenced in detail. The discussion will not include social capital, as the KFP has mainly influenced the other four types of capitals.

5.1 Claims of socio-economic co-benefits

To enhance community development in Uganda, GRAS states that it *“facilitates socio-economic development and poverty alleviation in rural areas through provision of employment, infrastructure development, schools, health and other community development”* (Green Resources, 2015:25).

When I met with officials from GRAS at their office in Lira (Int. 25) the officials emphasized that the greatest benefit brought to local communities was employment opportunities. One of the officials claimed that *“economic development has happened”* (Int. 25) and referred to the monthly payment given to employees, as directly beneficial since it enables employees to pay for school fees and medical expenses. 350-400 people are employed in the plantation during the rainy season when the work of slashing weeds and small bushes in the plantation intensifies. During dry season the company does not provide a lot of employment, as the work is less. 40-45 workers are employed permanently.

When discussing the community use of natural resources, GRAS stated that firewood collection within the plantation is allowed (for domestic purposes only) as long as it is not more than what someone can carry on her head. The company stated that community members are also free to collect grasses (for construction), medicinal plants and fruits within the plantation if they are available.

The officials of GRAS stated that according to the National Forestry and Tree Planting Act of 2003, no grazing of animals are allowed within forests reserves across the country. GRAS does allow community members to graze their animals in the wetland in the middle of the plantation.

GRAS has given trainings to 16 community members on how to construct energy saving stoves out of local materials, to reduce the household need for firewood. GRAS intends to continue the trainings.

Community members are given 10% of the seedlings from the production of trees every year. The company stated that they couldn't give out seedlings to all community members, but that different community members are selected to receive seedlings each year, according to a rotating schedule. According to the company, the distribution of seedlings empowers

individual households as it provides them with an income from selling the trees as timber, providing soil protection and firewood. The company avoids giving seedlings to community members who have a small plot of land, as growing trees would decrease their food security. GRAS did not answer my question about during what season the seedlings are given out.

GRAS said that they have constructed two children's wards in health centers close to the plantation and argued that this is a sustainable effort that will be beneficial to community members. The company has constructed four water springs (one inside the plantation) and three boreholes. When establishing the KFP, GRAS constructed 35-40 km of roads around the plantation and view the roads as community co-benefits as they are used by the community members too and not only the company (Int. 25).

The SEA makes similar claims about the project. It describes KFP as being not only a climate mitigation project but also promoting "*community development and poverty alleviation in the 14 villages surrounding the project area*" (Swedish Energy Agency, 2012:35). On their website, the SEA states that 10 % of the revenues from the purchased carbon credits from the project will be allocated to fund local development efforts such as roads, health centers and water resources (Swedish Energy Agency, 2015). During a round-table discussion (1:16/12/2016) officials from the SEA confirmed that climate mitigation and local sustainable development are equally important in KFP.

Viewing the co-benefit claims made by GRAS and SEA, it is clear that the two actors assign positive development outcomes for local communities from KFP are refer to a 'win-win' scenario. These claims are in line with the general rhetoric's of carbon offsetting, and CDM projects in particular, as discussed in Chapter 2. The next section uses a livelihoods framework to study the livelihood impacts brought to the villages surrounding the plantation and will discuss the alternation of natural, financial, human and physical capital.

5.2 Livelihood Impacts

5.2.1 Natural Capital

The most pressing issue for the households close to the plantation is the altered use rights of land and resources. Land as an asset is an essential part of 'natural capital' (Ellis, 2000:32). To explain how the altered access to land and resources within the reserve has impacted households, I will share findings by first shedding light on the implementation process of the project. The stories of the respondents bear witness to conflict over assets and this has impacted their livelihoods.

The implementation process

At first, most respondents state that they did not accept the establishment of the project as the community members were told to leave the land to make room for the plantation. A respondent explains the response of the community:

“The plantation being there, for [us] as a community, [we] have not accepted it to be there. But since the government is a large body... [we can] not really say that ‘[we] will refuse’ and refuse. Because the government has the upper hand, to do anything it wants. [We] were forcefully... taken to leave the plantation” (Int.7).

Community members were told in advance to stop their activities within the reserve and leave the land. However, they were not willing to do so since the land was used for their main cultivation. Respondents stated that in some cases, the company staff started slashing down their crops before they got time to harvest. Respondents described how soldiers were brought to facilitate the implementation of the project since communities did not voluntarily leave the land. Respondents described the situation like this:

“The company explained it as this place was already gazetted, it was a government land, not a community land. It was high time the community should leave the land. They [brought] the soldiers not to kill anybody but to really make the community members understand that this is really not [our] land.” (Int. 30).

“The soldiers just came and stood at the borders of the plantation. They scared people and said, “Do you also have complaints here?” and the people said they did not have any complaints” (Int. 5).

After seeing the soldiers, most people did not make any resistance. However, the people who still resisted the new conditions of use rights in the reserve were forcefully removed and often beaten by soldiers. In this intervention, many people were hurt and injured and one person is said to have died from the injuries caused by soldiers. Respondents stated that community members were arrested, and often exposed to physical violence. A respondent explained why her son was arrested by the police and taken to prison:

“Because the son never wanted those cassava to be [uprooted by soldiers]. He was requesting maybe they first allow them to eat the cassava.” (Int. 34).

Others were arrested as they attempted to mobilize the communities against the plantation. One of them told me that:

“Most of them were people who were telling the communities that they should not just let them take our land like that. When you are mobilizing the community like that, they come and arrest you”. (Int. 28).

The issue of use rights to land, the violence and the arrests became issues that the communities raised in court. A respondent described the claims:

“The company, when they were coming, community members were suffering, [we] were beaten, [we] were mistreated – the company has to compensate [us]. And [we] have to get [our] land back” (Int. 9).

A respondent stated that around 370 people from the surrounding communities have been involved in a court case concerning the KFP for more than 10 years. He said that the communities wanted to bring the company to court, but in court the company claimed that this was issue of the NFA since they leased the land to the company. According to this

respondent, there's currently an ongoing court case between community members in villages surrounding the plantation and the NFA. When interviewing officials from the NFA they said that they were not aware of any ongoing court case of this sort (Int. 40).

Respondents claim that the project has brought tensions between the villagers as well. One respondent described the situation like this:

“The plantation has really brought conflict in the communities because most people do not have enough land and they are now struggling for land within the community... Sometimes you can find two people fighting over land and they are brothers” (Int. 6).

Respondents generally stated that there's increased tension within the communities and there's a fear of violence due to the shortage of land for cultivation of food crops and income-generating activities.

Box 5.2. The story of a woman and her buried child

An old woman that I met shared her experiences of the establishment of KFP. During her lifetime she had buried two children who died at a young age. As commonly done in the area, she buried her children within her homestead. When the plantation was to be established, the company told her that they had to remove one of the corpses and place it somewhere else, as the plantation would cover the part of her homestead where one of her children was buried. She told them: *“No, if you are to remove the corpse of my child, at least you kill me first. You kill me!”* She continued her story: *“...they plowed there, they slashed there and the trees were planted on it.”* I asked her:

“Is the child still there?”

“Yeah, on the other side of the road, where the plantation has covered.”

“So the child is [now buried in] the plantation?”

“Yeah”

(Int. 31)

My interviews show that altered use rights of land and resources within the forest reserve is the major factor that has shaped the vulnerability context of the villages surrounding the plantation. The reserve has been described as being *‘a place for survival’* (Int. 10) and the findings show that use rights of land and resources within the reserve is intimately linked to local livelihoods. To illustrate this relationship, the following section discusses how altered access to land and resources has brought implications for cultivation, grazing of cattle, settlement, water sources, collection of forest products, income generating activities as well as distribution of seedlings as a natural capital.

Land for cultivation

The land within the forest reserve was used as the main space for cultivation for the majority of the respondents as it was closely located to the villages. The households used to cultivate both food crops and cash crops in the reserve. Typical crops were cassava, peas, maize, sunflower, cotton, groundnuts, sesame and sorghum. The land in the forest reserve is said to have been abundant and very fertile. Respondents stated that they could get a sufficient produce from the cultivation within the reserve, for home consumption and selling at the market. A respondent described it like this:

“ [I] used to cultivate there and get farm products. That’s how [I] could build the house. And take the children to the school. And to the hospital... with the money from farm products.” (Int. 26).

The income generated was often invested in cattle, construction of houses, and to pay for medical expenses and school fees. Since the plantation was established villagers are not allowed to cultivate within the reserve. Households are now restricted to cultivating outside of the plantation. Most respondents say that they are now cultivating around their homestead and that this change has led to a reduced amount of land available for cultivation. One woman said that she now use about one quarter of the land that she used to cultivate before. Due to this, the ability to grow food has decreased. The decreased fertility caused by the constant use of the same plot of land, have reduced the quantity and quality of farm products.

Land for grazing of cattle

The change of land use has also altered the ability to graze cattle. Prior to the establishment of KFP, the households used to rear cattle within the forest reserve. They would take their animals there to give them water and pasture while going to the fields to cultivate. The abundant land and pasture enabled the households to keep many cattle. The animals were used as savings that could be invested in land or construction of houses as well as pay for school fees, medical expenses, dowry (bride price), and for other costs. One respondent describes the situation:

“Those days when we were grazing animals there, in case of any problems, [I] could sell an animal and solve this problem. If children are going to school, [I] could also sell the animal and take the children to school” (Int. 10).

Cattle as an asset do not always fit easily into only one category of a livelihood framework. In the case of KFP, cattle are seen as both natural capital and financial capital, as it depends on natural capital to be maintained yet generates a vital income to the household.

Since the establishment of the plantation, LFC are the ones who control the grazing of animals within the reserve. Initially, as the trees were yet not matured, community members were not allowed to graze their animals in the plantation. Currently, respondents state that the company allows grazing of animals periodically, mostly during rainy season. Respondents stated that guards have fined them when their animals accidentally have walked into the

plantation. Most households now graze their few cattle around the household. As the animals destroy the crops, this has impacted negatively on the cultivation around the homestead.

In the plantation, the LFC applies herbicides on a regular basis to clear the ground from weeds and smaller bushes. Some community members have noted that their animals died from eating sprayed vegetation. Community members have not been compensated after their animals have died since the company says that they take their animals there ‘on their own risk’. In general there’s only a small amount of pasture available for cattle to graze on within the plantation and due to this, the cattle are not healthy.

Initially, community members were not allowed to graze their animals in the wetland in the middle of the plantation; however, currently this is allowed. Respondents stated that the area available for grazing in the wetland is small and that it requires long distances to walk on a daily basis. Due to this, many community members do not graze their animals there.

These factors have led to a reduced number of cattle kept in households. Commonly, households have sold off a large number of cattle. One respondent described the reduced number of cattle in the household like this:

“It has really brought a lot of negative impacts. Because [we] used to sell the animals, and get some money from it. Now there’s no animals to sell, so [we] are just poor” (Int. 20).

Land available for settlement

The SEA and GRAS denies the fact that there were any settlements within the forest reserve prior to the establishment of the project (1:16/12/2016, PDD, 2012:6). One of the main observations from my fieldwork was that community members used to live within the forest reserve. One respondent started her story by pointing towards a mango tree and said that the mango trees and other fruit trees show that people were settled within the forest reserve, as fruit trees (especially mango trees) are commonly planted in the homestead. She had been evicted from her home within the forest reserve, but said that the fruit trees had been left to provide fruits for the workers at the plantation.

Photo 5.2: Mango tree growing among pine trees in what is currently the plantation of KFP.



Photo: Author, Karin Edstedt

There are different opinions about how many households were residing in the reserve before it become a plantation, but respondents have said between 25 and 40 households and that ‘people were many’. After being evicted, these people found it difficult to find a new place to live. Respondents said that the eviction has constrained the development of the household as their lives have been disrupted, and that this affected access to other assets, such as land for cultivation. A respondent described his situation after being evicted from his home:

“ [We are] starving, right now. There’s no money, no food, because the land has been taken. The people are just here. The little land that I’m now using, how can I feed anyone here? This is the little land that I’m now farming (very small plot). No cassava yet. I got to go and hire land somewhere. There’s no way out!” (Int. 35).

Water sources

Many respondents claimed that the natural water sources within and around the plantation had dried up after the establishment of the plantation. Respondents commonly explained it by referring to the Eucalyptus trees planted and that these are known to have very high water requirements. One respondent said:

“When they came, and brought [the] eucalyptus type of trees... it is a type of trees [that] people [everywhere] complain that they drain water. The type of tree has drained water there” (Int. 5).

The altered access to natural water resources has created an increased pressure on the community wells as the water in the area has become scarce; people need to move long distances to collect water. During the fieldwork I observed a truck with staff from LFC drive into a community to collect water from the community well. The woman I interviewed when making the observation said that the staff collects water there because the company-well in the plantation had run dry. Some respondents confirm that GRAS have constructed and/or maintained water sources such as springs and boreholes in the communities. This has been appreciated and perceived as beneficial to the surrounding households. However, other respondents also claimed that promises of boreholes made by GRAS had not been fulfilled.

Collection of forest products

The project has brought restrictions to the collection of a wide range of forest products within the reserve. Prior to the establishment of the plantation, community members used to go to the reserve to collect firewood. The branches from indigenous trees were available throughout the year and were a durable fuel source. The indigenous trees are now cut down in the plantation. Community members are allowed to periodically pick the pruned branches from the trees in the plantation, as the branches are pruned during certain times. These pine and eucalyptus branches are generally smaller and thinner than the ones from the indigenous trees, and therefore burn faster. This has increased the time spent to collect firewood in a household. A respondent describes it in the following way:

“Those days [I] could go two-three times a week. And now [I go] every day” (Int. 18).

Since the quality of firewood has changed, this has resulted in an increased need of firewood in the households. However, less firewood is available due to the restricted time-periods. Generally, respondents say that due to the reduced amount and decreased quality of firewood, preparing food has become more time-consuming.

Plants collected for medicinal purposes are no longer growing in the reserve, due to the elimination of indigenous trees and spraying of herbicides. These plants used to prevent and cure diseases. A woman described it like this:

“Most of the diseases are there because [I do not] go and pick the herbs. [We] are suffering from malaria... Because [we] used to go and get herbal medicine from there and take it. Now [we] go to the witch doctors and the witch doctors are chewing [our] money” (Int. 9).

Households are now more exposed to diseases like malaria that could previously be prevented by brewing leaves from a certain plant. This has also made treatment more costly, as households now seek care from witchdoctors, local clinics or hospitals. Now, transport costs or walking long distances are required to get treatment.

Households used to derive other resources from the reserve as well, such as leaves and stems from palm trees used for mat-making and construction. Sand and grasses were used to construct clay houses. One respondent said that they used to hunt small animals, antelopes and monkeys and others, for food but that the animals are no longer there to be hunted.

Income-generating activities

Charcoal burning and brick burning were income generating activities that are now restricted within the reserve. Beekeeping was also conducted within the forest, but harvesting honey in beehives is no longer allowed and the herbicides sprayed on the ground have made the bees disappear from the area. The restriction of these income-generating activities has reduced the ability for households to earn a monetary income.

Seedlings

Community members have received pine tree seedlings from GRAS. Respondents have been given seedlings freely if they have the interest. Respondents said that the seedlings can give an income and be used as construction material.

As the seedlings can only be planted on land available to the household, some respondents said that they couldn't receive seedlings because they did not have land to grow them on. Respondents said that the trees have had a very low survival rate as they are often given during the dry season, as the climatic conditions are harsh. Also, as cattle are not allowed to graze in the plantation they sometimes destroy the young trees around the homestead. Respondents argue that the seedlings are not giving them a reliable income since it takes years for the trees to be harvested. And when harvested, it gives the household a one-time payment compared to the continuous income from cultivating food crops. When discussing seedlings as a form of co-benefit a respondent stated:

“The seedlings can be given only 40 of them. 40 seedlings per household cannot compensate for the land!” (Int. 7).

In general, natural capital has been altered to a great extent by the implementation of the project. Land available for cultivation, grazing of animals and settlements have been denied or reduced. The collection of products from the reserve and income-generating activities have largely been restricted. Seedlings given by GRAS have increased the natural capital of the households.

5.2.2 Financial Capital

The project has also impacted the financial capital held by the households. Since the establishment of KFP, community members have been able to gain employment in the plantation. Respondents have stated that the employment opportunities are many and that the employees at the plantation are the ones that have mostly benefitted from the establishment of KFP. The work is mostly conducted during the rainy season. Wages vary as employees are paid monthly according to the work they have conducted in the plantation. One respondent

said that he used to earn 250 000 UGX (68 USD)³ each month. With the income earned, community members have said that they have been able to save money to pay for household expenses. However, respondents also stated that the income they could previously generate from cultivating and selling farm products were higher than the salary at the plantation. Respondents also noted that if you are to work in the plantation, there's no time to work in your own land and grow food crops and crops to sell at the market. Since there is most work during the rainy season, the majority of the work contracts are seasonal. One person commented on the seasonality aspect:

“The jobs are not reliable, because they are seasonal jobs... Those jobs can not really [support] the family.” (Int. 22)

Overall, the project has brought a general decline in agricultural production, a decreased number of cattle held by each household, limited access to collect products from the forest and engage in income generating activities; this has reduced the financial capital available to households. Households have less income now since the assets of natural capital where they used to generate an income from has reduced or are no longer available. The ones who have been employed within the plantation earn a monthly income and the employees have mostly appreciated this. However, respondents have raised concerns about the seasonality of the employments and the income compared to cultivating crops.

5.2.3 Human Capital

Two children's wards have been constructed by GRAS in two different health centers in villages close to the plantation. The company has provided wards with beds, but no other supplies. Respondents have generally been positive about the construction and see it as one of the main benefits derived from KFP. A health worker at one of the health centers told me that the lack of medicine constrains the center from admitting children. In total, the children's ward that I visited could only admit 1-4 children per month due to a lack of medicine (Int. 32). The health worker also stated that this type of health center (called “Health Center 2” (there are various levels of health centers in Uganda)) is not provided with medicine to treat for example malaria by the district health unit. Despite the construction of the children's wards, they could be of very little benefit due to lack of resources.

5.2.4 Physical Capital

Two respondents I met have taken part of training on how to construct energy-saving stoves from local construction materials. The respondents confirmed that GRAS has provided training for 16 community members in total. The women said that the training had benefitted them as they can save energy while cooking and build stoves to sell. The respondents do not

³ Oanda. (2017). Currency Converter. Retrieved May 9, 2017, from <https://www.oanda.com/currency/converter/>

mention the increased access or the benefits from the construction of community roads, as mentioned by GRAS (Int. 25: 2/3/2017).

5.2.5 Livelihood Strategies

In the case of the KFP, the findings show that the households have adopted several strategies to cope with the altered access to natural capital, especially the asset of land. Respondents state that they are engaged in other income-generating activities, such as distilling alcohol, fishing and working in other people's land since they can no longer generate a sufficient income from their own land. Others have rented land for cultivation and some have resettled due to the lack of land near their home. One respondent stated that she became a witch doctor to diversify her income. Many respondents state that they had to sell land or cattle to afford school fees or food. Due to the lack of resources, households have also resorted to saving resources by consuming less. The livelihood outcomes due to the altered access to assets described in this chapter will be presented in the next chapter together with a discussion of the wider implications of the project.

6 DISCUSSION

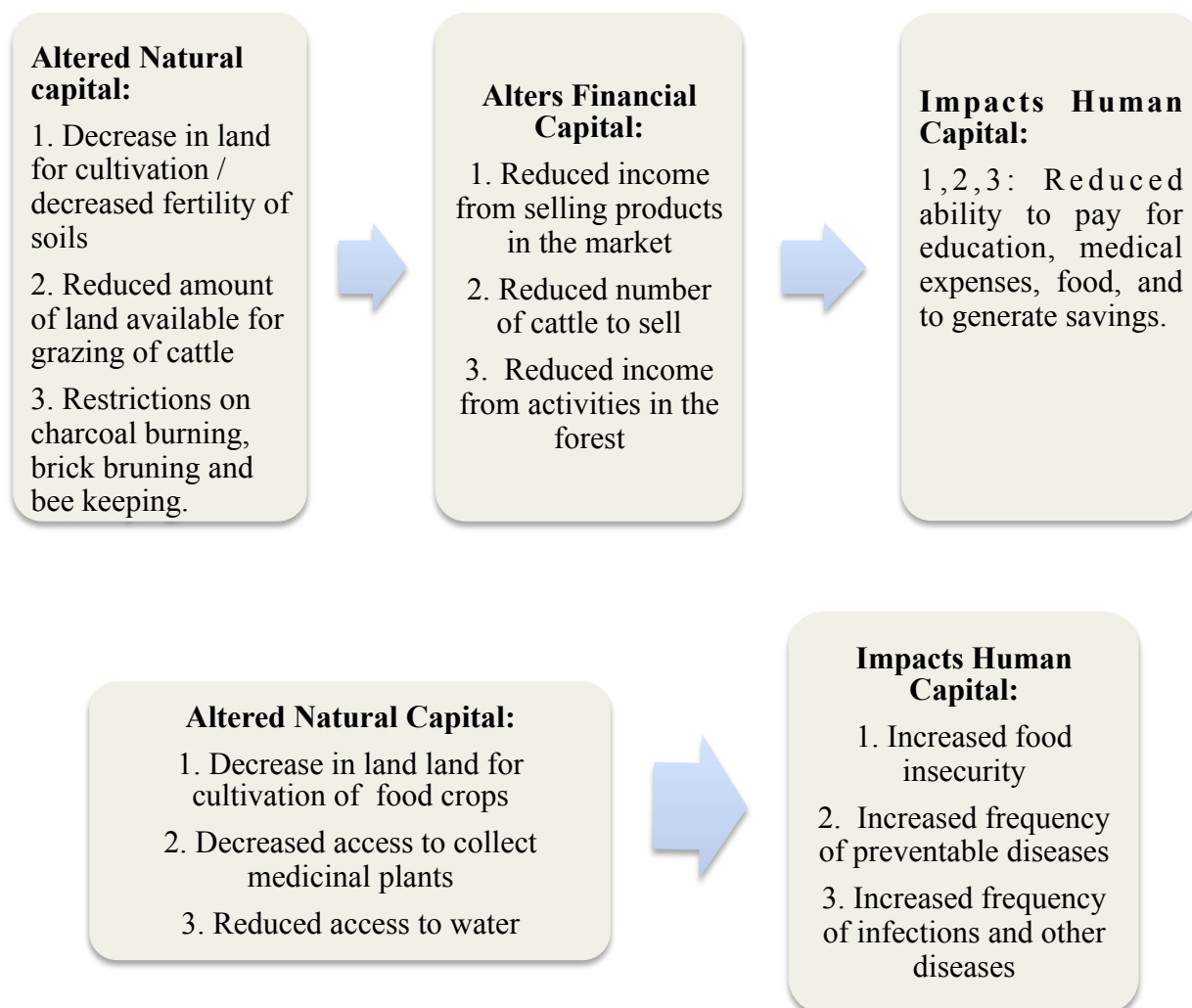
“Offsetting is paying poor people to diet for us” (Kevin Andersson, 10/4/2017).

This chapter will guide the reader through a discussion of the wider impacts of KFP. It begins by presenting livelihood outcomes shaped by the project followed by a discussion of dispossession and conflict in relation to the claims of socio-economic benefits. The chapter ends by linking the findings from KFP to global impacts of carbon trading schemes.

Livelihood Outcomes

KFP has altered (access to) assets and activities available to households in villages surrounding the plantation. The project can be seen as an external shock that has profoundly affected livelihood outcomes, mostly by altering the natural capital held by the community members.

Figure 5.2. Livelihood Outcomes (Author’s analysis/analyzed data).



As Figure 5.2 shows, the decrease of assets of natural capital has had an impact on financial capital held by households. The reduced land available for grazing cattle has led to selling off cattle and the reduced amount and quality of land for cultivation and income generating activities has led to a reduced income in households. The reduced financial capital has in turn impacted human capital, as the households face a reduced capacity to provide for its members in terms of education, health and food security. The alternation of some assets of natural capital, like medicinal plants and water availability, directly impacts human capital in households as it is strongly linked to health and wellbeing. The reduced food security severely impacts human capital, and households face acute food shortages.

Assets provided as co-benefits of the project have modestly increased the capital holding of households. Most respondents state that assets like seedlings or employment opportunities have benefitted a few members in the community. Further, the ability to receive these benefits depends on available natural capital in terms of land to plant seedlings or human capital to gain employment held by the household. This is an interesting dynamic since the poorest households in the area are probably more vulnerable to the loss of land and livestock, yet they are the ones who are being excluded from the project benefits since they do not have the initial capital that enables them to receive certain benefits. Respondents that have received seedlings state that this will contribute positively to their livelihood; however, they argue that they would be able to generate a more reliable and continuous income from cultivating food crops.

One could argue that the provision of seasonal employment for 350-400 people (Int. 25), is not adequate to sustain the livelihoods of the 6000 people who are affected by the establishment of KFP. Further, GRAS states that the project has brought economic development to the households (Int. 25), yet, to support this claim, they would need to show that these employment opportunities can contribute more to people's livelihoods than other livelihood strategies prior to the project. This is something that I have not seen evaluated by GRAS or reflected in the realities of the respondents. Also, as expressed by the respondents, the work at the plantation constrains the cultivation in the homestead, as the wage labour is time consuming. As employment is offered mainly during the rainy season, this conflicts with the cultivation at home as the rainy season is also the time where most work in the fields needs to place.

Energy-saving stoves have been beneficial to the households, however, compared to the number of people who live around KFP, the trainings have not reached more than a very modest number of people since the KFP was implemented. One could question if this effort can count as more than a small contribution towards local livelihoods. The water sources and the medical wards provided have moderately increased the human capital of respondents.

In general, the project has created negative livelihood outcomes for households as they experience a reduced income and reduced food security. Here are examples of how respondents described their livelihood outcomes:

“... there’s a lot of famine at the moment... Because all that [I] could benefit from the land there has been restricted. It has brought famine [to my family]. And there’s no solution for [me]. [I have] to be there and bear it, because the land has already been taken.” (Int. 4).

“[We] have very little land here where [we] are cultivating. This has really brought poverty to the house, because [we] have to send children to school, also feed children, [and] have to take good care of the children. But there’s no land. And [we] depend on [our] cultivation” (Int. 30).

According to a livelihoods framework, households that are depending on resource-based activities to sustain their livelihoods become increasingly vulnerable when natural capital is altered. Further, as financial capital and human capital are also altered; these can no longer substitute for the alternation of natural capital. This increase in vulnerability due to changing assets is clearly reflected in the case of KFP.

Dispossession

Prior to the establishment of KFP, the households in the surrounding villages had the capacity to sustain themselves with resources from the forest reserve. As the use rights of the land have been altered for the purpose of carbon sequestration, the KFP can be seen as an instance of green grabbing (Fairhead et al., 2012). Based on the analysis, I would like to argue that these households have been dispossessed of the assets that used to sustain their livelihoods. This has been harmful to local communities since the vast majority are subsistence farmers, living in the poorest region of Uganda, and they lack viable and sufficient alternative livelihood strategies.

As carbon is viewed as a new resource being extracted from the African continent (Leach and Scoones, 2015:22) the effects of the KFP project echoes colonial land use practices and outcomes (Leach and Scoones, 2015:2). When discussing carbon credits, one respondent stated:

“Those [Europeans] want to have good air... so they come [here] and capture the fresh air and they take it to European countries.” (Int. 2).

Instead of providing win-win benefits, the appropriation of land for carbon sequestration can be seen to have the same effects as the colonial extraction of resources, occurring at the cost of local communities. Historical extraction of resources occurred in a similar nature as resources were extracted to still a demand in the West and this deprived local people and economies (Gordon and Gordon, 2007:112-114). This reflects the overall argument by Rodney (1972), stating that Europe underdeveloped Africa through dispossession of resources, since these interventions did not originate from the intention to assist African countries.

Winners and losers of KFP

Since the CDM is a market-based mechanism where projects are to a large extent implemented by corporations from industrialized countries (Boyd and Goodman, 2011), yet interacting with local livelihoods (Leach and Scoones, 2015:1-56), the projects creates winners and losers across scales (Leach and Scoones, 2015:1-42). As discussed in the Chapter 3, this is problematic from a climate justice perspective as a win-win scenario has clearly not been experienced in the case of KFP.

In KFP, the transfer of use rights of land from the local communities to GRAS can be seen as a transfer from the hands of the 'poor' to the 'powerful' as land is being appropriated in a process by accumulation by dispossession (Fairhead et al., 2012). As the CDM encourages private investment, and in line with 'green economy' invites companies to capitalize of carbon sequestration, plantations have become means to generate profit. This has created asymmetric relationships between actors and host countries (Bond et al., 2012:104-107). The LFC leased the land of KFP for 312 USD (Prouty, 2009) and officials from the NFA (Int. 40) they stated that the company pays 8 900 UGX (2, 42 USD⁴) per hectare to the NFA per year. When multiplying the rent with the 2669 hectares of land, the company pays 6458 USD per year to the NFA. If the contract signed with the SEA for carbon credits would be ongoing, GRAS would revenue 4 million USD (Lyons and Westoby, 2014) compared with paying about 130 000 USD for renting the land over that period. Without having the exact numbers of the project activities (or knowing the income generated for selling timber from KFP), these numbers gives an idea of the profit made from KFP. Climate justice advocates explain these market-based solutions to climate mitigation favour the wealthy implementers of the project and further marginalize the ones who are vulnerable (Schlosberg and Collins, 2014). Scholars (Leach and Scoones, 2015, Fairhead et al., 2012) argue that this unequal distribution of resources seen in processes of green grabbing inevitably leads to conflicts (Leach and Scoones, 2015:6).

Conflict

Leach and Scoones (2015:37) argue that when livelihoods derived from land are criminalized and measures are taken to enforce regulations this creates tension between actors. Further, they argue that carbon forestry projects are bound to cause conflict because '*[appropriating] value from carbon that is already used by others is bound to be resisted*' (Leach and Scoones, 2015:40). In the case of KFP, the different co-benefits provided did not directly address the loss of land and they did not reflect the needs of the local communities in order to sustain livelihoods and even less to achieve poverty alleviation. This disconnection between

⁴ Oanda. (2017). Currency Converter. Retrieved May 9, 2017, from <https://www.oanda.com/currency/converter/>

livelihood impacts and co-benefits implemented in carbon forestry projects is another source of conflict (Leach and Scoones, 2015:38). Respondents witnessed the involvement of soldiers in the implementation process of the project, even though officials from GRAS (Int. 25) and NFA (Int. 40) deny the fact that soldiers were involved in the process. The case has resulted in a court case where the communities are pressing charges against the NFA.

Conflicts continued after the implementation phase of KFP. One respondent explained the outcome like this:

“The plantation has really brought conflict in the communities because most people do not have enough land and they are now struggling for land within the community” (Int. 6).

Pressure on land is a general problem in Uganda (Mwesigye et al., 2016), however, the project has caused an increased frequency of land disputes within and amongst communities as land was further reduced. Due to this, it can be questioned whether the use of land for activities such as industrial forestry is ethical, especially when it is bringing comparatively little local benefits.

The dry conditions experienced in the area of KFP can be seen as a combination of the planting of eucalyptus trees, previously known to have a draining effect on local water sources and soils in Uganda (Watkins, 2009) and the regional drought in the horn of Africa in 2016, affecting Uganda and Dokolo District in the end of 2016 and the first part of 2017 (WFP, 2016). As climate change creates more droughts and water stress in the region where the project is situated, it is a highly problematic from a climate justice perspective to grow trees that are known to have a negative impact on groundwater levels in an area where a wetland has been an essential water source for local communities. Officials from GRAS denied that the trees had an effect on the groundwater levels and stated that this was a myth that the local communities believed in (Int. 25). Overall, water scarcity could increase conflict within communities and between actors in the area.

The “Third burden”

Uganda, together with the rest of the African countries, has historically contributed the least to global warming. Yet, due to its geographical location it will suffer the most from anthropogenic climate change (Magrath, 2010). Changes in weather conditions have been observed and experienced in Uganda and future projections of climate change would increase the vulnerability of subsistence farmers drastically as rainfall patterns will change and temperatures rise (Cooper and Wheeler, 2017).

In addition to this, climate mitigation efforts conducted in the Global South often place a “third burden” upon local communities. Scholars argue that countries in the Global South have contributed the least to GHG and who may suffer the most from the consequences of climate change, should not also pay a high price when participating in climate change mitigating activities (Prowse & Peskett, 2008., Charman, 2008., Bond, 2011). According to the Bali principle 15 (See: Chapter 3, section 3:3) solutions to climate change should not

externalize costs of mitigation to other environments and communities (ICJN, 2002). The rationale behind the CDM is to facilitate emission reductions in a cost-efficient way (Boyd et al., 2009). However, when outsourcing projects to be implemented in the Global South, one could argue that there are other costs that local communities in host countries pay for. For example, when a CDM project like KFP is aiming to mitigate GHG, it does so by appropriating land in Uganda and local communities are being dispossessed. These losses are felt locally but not in the country that offsets its emissions. This outcome can be seen as what is called ‘carbon colonialism’ (described in Chapter 2, section 2.1.3) and becomes problematic as it outsources the responsibility of climate mitigation and is harmful to local communities. From a climate justice perspective, I would argue that the notion of a ‘third burden’ is reflected in the reality of local communities around KFP as the costs of climate mitigation have been externalized.

Climate change, and market-based solutions to it, raises global implications for justice. In Uganda, I received the question from respondents “*What does Sweden do with these carbon credits?*” According to the rationale of climate justice, the Swedish government purchases carbon credits to meet its reduction targets under the KP, and by doing so the Swedish state can maintain its economic growth as it avoids reducing emissions where it would be more costly. From a climate justice perspective, this relationship becomes both problematic and unethical, as carbon trading becomes a legally confirmed way to ‘sustain’ Western lifestyles and economic development (Boyd and Goodman, 2011). Climate justice advocates argue that carbon trading increases global inequalities (The Durban Declaration On Climate Justice, 2004).

7 CONCLUSION

My findings from this study show that the establishment of KFP has profoundly affected households living close to the plantation. The study shows that the altered and denied access to natural capital (assets such as land for cultivation, grazing of cattle and settlements, forest product and income generating activities) has led to reduced financial capital within households. This has impacted negatively on human capital held by the households. The changes have brought serious implications for food security and poverty rates in the households.

Table 7. Summary of capitals altered by the establishment of KFP

	Increase:	Decrease:
Natural Capital:	Access to water through construction boreholes and wells. Seedlings received.	Access to water in dried out wells. Restrictions on land used for cultivation, grazing of animals, settlements, collection of forest products, and income generating activities.
Financial Capital:	35-400 seasonal employment opportunities. 40-45 permanent jobs.	Reduced stock of cattle available to sell. Reduced amount of products from cultivation and other activities to sell at market.
Physical Capital:	16 people trained on how construct energy saving cooking stoves.	Houses within the plantation lost when households were evicted from the forest reserve.
Human Capital:	Children's wards in two health centers have benefitted patients to some extent.	Violence in the implementation process. Reduced capacity for households to pay for education and medical expenses. Increased infections and preventable diseases more frequent. Reduced food security.

Table 7. Summarizes the alternation of different assets in the case of KFP as it places the increased capital status in comparison to the decreased. For natural capital, the increase in natural capital by the received seedlings and access to water does not compensate for the decreased natural capital within the households. In terms of financial capital, the seasonal employment opportunities given cannot weigh up for the reduced capacity of the households to generate an income. When it comes to physical capital, there has been a slight increase in asset holding in households since the establishment of KFP. Human capital, influenced by the

alternation of natural, financial and physical capital, has decrease as the households are now facing poverty and food insecurity, which impacts negatively on education and health. Overall, the co-benefits have made a limited contribution to the increase of capitals in households, and some benefits have not reached a majority of the households at all.

From viewing the figure, I conclude that co-benefits from the project have not been able to compensate for the losses of capital experienced by households, since they have reached a limited amount of households and have had a modest effect on increasing capitals. Overall, the study concludes that the KFP has not been able to bring poverty alleviation through facilitation of socio-economic development to villages surrounding the project. On the contrary, due to the altered assets and access to assets, the project has generally brought negative livelihood outcomes for community members.

Dispossession and conflict are wider impacts on local communities that the project has contributed to. By seeing KFP as a 'green grab', one can conclude that resources have been unequally distributed and that the project has created clear winners and losers, whereby project actors have gained and the local communities (particularly the most vulnerable) have lost. The disconnection between the goals of the project and the experienced outcomes, together with the unequally distributed costs and benefits, has resulted in conflict and ongoing tensions. There is a need for future carbon forestry projects to seriously consider the distribution of costs and benefits, as well as the potential for conflicts, if they sincerely strive to achieve a win-win outcome for local communities.

This research provides an example of how land has been appropriated in the process of generating carbon credits, while bringing few local benefits and creating negative livelihood outcomes. As the main driver behind the intervention is to solve a growing problem that is mainly caused by others, the project becomes ethically unjustifiable. My fieldwork shows that despite a long critique of the CDM and its projects, these issues are still not addressed. As this seems to be common across CDM projects, it raises questions about the general rationale on which the CDM is built on. How could substantial climate mitigation be achieved without externalizing costs? Further research could address local conflicts in connection to carbon forestry and how they could be avoided through enhanced local community participation.

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Appendix 1: List of interviews conducted:

1. 25/1/2017, man, Local Chief
2. 25/1/2017, man, Local Chief
3. 26/1/2017, woman
4. 26/1/2017, woman
5. 27/1/2017, woman
6. 30/1/2017, woman
7. 30/1/2017, woman
8. 30/1/2017, woman
9. 31/1/2017, woman
10. 31/1/2017, woman
11. 1/2/2017, man, Local Chief
12. 1/2/2017, man
13. 1/2/2017, woman
14. 2/2/2017, man
15. 2/2/2017, woman
16. 3/2/2017, man
17. 3/2/2017, woman
18. 3/2/2017, woman
19. 28/2/2017, woman
20. 28/2/2017, man
21. 28/2/2017, woman
22. 1/3/2017, man
23. 1/3/2017, woman
24. 1/3/2017, woman
25. 2/3/2017, Officials from Green Resources, Lira
26. 2/3/2017, woman
27. 2/3/2017, woman
28. 3/3/2017, man, Local Chief
29. 3/3/2017, man, Local Chief
30. 7/3/2017, man
31. 7/3/2017, woman
32. 8/3/2017, Staff at Health Center
33. 8/3/2017, woman,
34. 8/3/2017, woman,
35. 8/3/2017, Man
36. 9/3/2017: Woman
37. 9/3/2017: Woman
38. 10/3/2017: Man
39. 10/3/2017: Officials from National Forest Authority, Lira
40. 13/3/2017: NFA Officials from National Forest Authority, Lira

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Observation:

1. 16/12/2016, Seminar with a following round table discussion with researchers from the Swedish Agricultural University, officials from the Swedish Energy Agency and other guests present.

Appendix 2: Interview Guide:

1. How many members do you have in your household?
2. What are the sources of livelihood/monetary income in your household deriving from?
3. What is your overall understanding/view of the KFP plantation?
4. What did you expect of the KFP plantation?
5. A). How would you describe the implementation process of the project?
B). How would you describe that the implementation process of the forest impacted on your household?

Loss of assets/access to assets since the establishment of the project:

6. How would you describe that the KFP plantation has limited your assets status or access to assets?
B). What assets or access to assets has been altered according to you?
C). How would you describe that this alternation has impacted your household?
7. A). How would you describe that your households access to land for cultivation has been alternated due to the establishment of the KFP?
8. B). How would you describe that your household is coping with this change? How would you describe access to land now differently to prior to the establishment of the KFP?
C). Who in the community losses from the altered access to land for cultivation according to you?
9. A). How would you describe that your households access to land for grazing cattle has been altered due to the establishment of the KFP?
B). How would you describe that this has impacted your household?
C). How would you describe that your household is coping with this change?
D). Who in the community losses from the altered access land for grazing cattle according to you?
10. A). How would you describe that your households access to collect firewood has been altered due to the establishment of the KFP?
B). How would you describe that this has impacted your household?
C). How would you describe that your household is coping with this change?
D). Who in the community losses from the altered access to collection of firewood according to you?
11. How would you describe that your households access to collect herbs/medicinal plants from the forest area has been altered due to the establishment of the KFP?
B). How would you describe that this has impacted your household?
C). How would you describe that your household is coping with this change?
D). Who in the community losses from the altered access to collection of firewood according to you?
12. A). How would you describe that the overall potential loss of assets or access to assets (due to the establishment of the KFP) has impacted the daily life of your household?

- B). Why?
- C). Why not?
- D). How would you describe that your household is coping with the overall loss of assets or access to assets due to the establishment of the KFP?

Gain of assets/access to assets since the establishment of the project:

- 13. A). How would you describe that the KFP plantation has increased the asset status or access to assets of your household?
B). Why?
- 14. A). Has someone in your household been employed in the work in the forest?
B.1). If yes, how would you describe that your household has benefitted from this? (monetary income, knowledge transfer, HIV-program).
B.2). How would you describe that this has impacted your household?
C). If no, why have your household not had or taken the opportunity of employment in the forest?
D). Who in the community benefits from the employment opportunities according to you?
- 15. A). How do you perceive the opportunities to receive seedlings from Green resources?
B). How would you describe that your household has benefitted from the seeding program?
B). Who in the community benefits from the seedling program according to you?
- 16. A). How do you perceived the access to water dwells/enhanced sanitation in the area since the establishment of the forest?
B). How would you describe that your household has benefitted from this?
C). Who in the community benefits from the water dwells/ improved sanitation according to you?
- 17. A). How would you describe that the overall potential gain of assets or access to assets (due to the establishment of the KFP) has impacted the daily life of your household?
B). Why?
C). Why not?

General questions:

- 18. A). What were you promised by the project in terms of community development co-benefits?
B). To what extent has these promises been realized?
C). Why did or did not the project live up to is promises of community development?
D). Why not?
- 19. A). Considering the overall level of community development, how would you describe the level of community development after the establishment of the KFP compared to before the establishment of the KFP?
B). Why?

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20. Do you perceive that there have been any conflicts over resources since the establishment of the forest?
B). If so, how?
C). If so, who has benefitted from the resources accumulated?
21. A). Considering the restrictions of access to activities on the land brought by the KFP, do you perceive that the community development programs implemented has compensated for the loss of access to the forest area?
B.) Why?
C). Why not?