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Faculty of Natural Resources and Agricultural Sciences

Carbon forestry and local livelihoods

- A case study on poverty in Uganda

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Abstract

Green Resources is one of the largest companies engaged in carbon forestry on the African continent. The Green Resources carbon forestry plantation in northern Uganda is a particularly interesting case in a Swedish perspective, because the Swedish Energy Agency is committed to buying its carbon emissions reductions within a clean development mechanism (CDM) project under the Kyoto protocol. This thesis examined how wealth is perceived and experienced by the villagers in the area surrounding the Green Resources plantation, and how different wealth groups perceive and have been affected by Green Resources interventions associated with the plantation. The analysis was performed using the sustainable livelihoods approach (SLA), which presents the main factors that affect people's livelihoods and typical relationships between these. A qualitative approach was used, based on face-to-face interviews, focus group interviews, observations, wealth ranking, community mapping and a review of the literature. The thesis also examined whether the capitals concept from SLA can be applied to explain the livelihood effects of the plantation. The forms of capital considered were human, financial, natural, social and physical capital. Within these, there are different assets to which people have varying degrees of access, depending on the wealth group to which they belong.

The findings revealed exclusion of the poorest from development activities in villages neighbouring the Green Resources plantation. A key reason found for this was that Green Resources operate without taking into consideration the different wealth groups among the villagers, and without a strategy for how it could reach out to the poorest regarding its commitment to poverty alleviation.

Contents

Introduction

Planted forests making up large-scale plantations are playing an important role in the climate debate. The ability of a forest to store carbon has led to activities that reduce deforestation being a high priority of the international community in its efforts to reduce the climate impact of greenhouse gases. One way for countries to meet their obligations to reducing their climate impact is through the Kyoto Protocol. One of the flexible tools available through the Kyoto agreement is the clean development mechanism (CDM), which makes it possible for developed countries to implement their emissions reductions where this is most cost effective, namely in developing countries. The idea behind the CDM projects is that, in addition to carbon reduction, they should contribute to sustainable development.

This study, which was carried out in the region of Kachung in Uganda, described and analyses how local inhabitants in that region are being affected by a forest plantation owned by the forest company Green Resources. This company is Africa's largest forestation company and a leader in East African wood production. It is a private Norwegian firm with 80 shareholders and was established in 1995. In a presentation in its Company Report, the company explains its strategy thus:

> *Green Resources' strategy is based on the sustainable development of the areas in which it operates. The company believes that forestation is one of the most efficient ways of improving social and economic conditions for people in rural areas and aims to be the preferred partner for local communities in these areas; it also wants to be the favoured African employer within its industry.* (Company Report 2015. P, 2)

Social development and environmental protection should not have to stand in opposition to each other and lead to conflict. In fact, environmental and development programmes should be integrated with each other to produce synergies. Therefore, the commitment of Green Resources to improving social and economic conditions for people in areas surrounding its Kachung plantation are investigated from a poverty perspective in this thesis.

Many projects that may seem reasonable on the basis of a stated ambition to reduce greenhouse gas emissions or act as a sink for atmospheric carbon dioxide can cause other undesirable effects. This may involve other forms of environmental impact or impacts that impair social, economic or political conditions for the local population in the project area. Therefore, the work presented in this thesis had a clear focus on the differing impacts of this forest plantation across poverty levels in two different communities. To achieve a balanced picture of the situation interviews were held with people working for the Green Resources company, as well as with people living in the villages around where the company had established the forest.

Research purpose and questions

The overall topic of interest examined in this thesis was whether it is possible to reduce poverty through carbon forestry, in other words to find out whether a company with a strong financial interest can contribute to sustainable development for people living in a poor rural area. Therefore, an investigation was conducted into how different people's livelihoods have been influenced by the Green Resources plantation in Uganda. The analysis was based on a wealth ranking exercise in which people categorised themselves into wealth groups. Differences in livelihood impacts across the wealth groups were then examined using the 'capitals' concept from the sustainable livelihoods approach (SLA), which assesses the main factors that affect people's livelihoods and typical relationships between these (Krantz, 2011). The capitals are natural, human, social, physical and economic and combined, they represent the assets in people's livelihoods (ibid). The concepts and methods of SLA are suitable for examining the impact of Green Resources on rural economic and social development in the study area.

The research questions examined were as follows:

- *How is wealth perceived and experienced by the villagers themselves?*
- *Which wealth groups are identified by the villagers them and how do they describe these?*
- *What kinds of economic and social impact does the GR plantation have on local livelihoods, and how are the different wealth groups affected?*
- *Can the capitals concept from the sustainable livelihood approach (SLA) be applied to explain the livelihood effects of the plantation?*

Theoretical approach

The work described in this thesis focuse on how people belonging to different wealth groups have been affected by the Green Resources plantation in Kachung. The concept of local perception are examined by applying the method of analysing poverty presented below (SLA). One important term within poverty is livelihoods. The term 'sustainable livelihoods' is used here because it offers a more coherent and integrated approach to poverty.

Sustainable livelihoods approach (SLA)

A large proportion of the Ugandan population lives in rural poverty, which is why understanding local livelihoods is important. Information on local livelihoods indicates how people live and act in the rural area. In global terms, poverty is mainly a rural phenomenon (Scoones, 2015). People living in rural communities mostly depend directly on local natural resources (Gutierrez-Montes et al. 2009), and therefore the poor´s perspective become important in reducing poverty. One characteristics of SLA is

that it defines poverty as the lack of cash and instead focusing on what people depending on instead in order to natural resources, it goes beyond an economic view and highlighting the necessity for an economy with a human face (ibid). The study site in this thesis is a rural area where locals formerly carried out farming, but where there is now a plantation on part of the land that they previously used for growing crops and grazing animals. Arguments that been used for the establishing of the plantation by The Swedish Energy Agency is that it would be an upgrading both for the environment and the rural livelihoods, because the land being degraded by local people (Hajdu, Fischer et al. 2016). The SLA approach is ideal when coming to analysing the rural context because of it´s given relevance of the environmental and productive aspects (Gutierrez-Montes et al. 2009). With the SLA approach this paper will try to find out if Green Resources fulfil their obligations against the rural people in the Kachung area. The forestry company described the situation in Kachung as an area of deforestation due to local land use practice (Hajdu, Fischer et al. 2016), as one of the reasons to establishing the planation. Moreover, poverty alleviation is something that they point out as something important according to Green Resources Impact Report (2015 H2) and which is used as one of the reasons for the establishing of the plantation. The situation for the people in Kachung can be looked through the SLA to get the whole picture of what is truly needed for sustain and develop peoples livelihood. Small-scale farming is an important source of livelihood for the majority of people living in rural areas, but it is not the only component of rural livelihoods. The situation is more complex and differentiated than this, and therefore the sustainable livelihoods analytical approach goes beyond farming and includes all the assets from which people construct their livelihoods (Scoones, 2015). It also emphasises the diversity of ways in which people make a living, a process that employs human, natural, financial, physical and social capital (*ibid*.). People depend on their livelihoods and the complex range of assets, therefore SLA provides a holistic view that aims to reflect of the poor people and their assets which they do not own (Foster & Norton 2001). The approach is one way to use in poverty reduction. To reach that goals in a long-term change a people-centred approach is needed to get the understanding of the full diversity of strategies that people in rural areas shape their livelihoods, and to find ways to strengthen their options (ibid). It is about what matters to people (ibid) and what is compatible with their current livelihoods strategies and ability to adapt, moreover it put them at the centre of development (ibid). The term Sustainable livelihoods have been defined as follows*:*

> *A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term.* (Chambers & Conway, 1992, p. 6)

A livelihoods perspective is central in discussions of rural development and starts with how different people in different places live their lives (Scoones, 2009). It goes beyond agriculture and farming to a range of off-farm activities and transcends the limits of income to determine poverty (ibid). Livelihoods are enormously complex and have multiple dimensions. To comprehend the multifaceted and

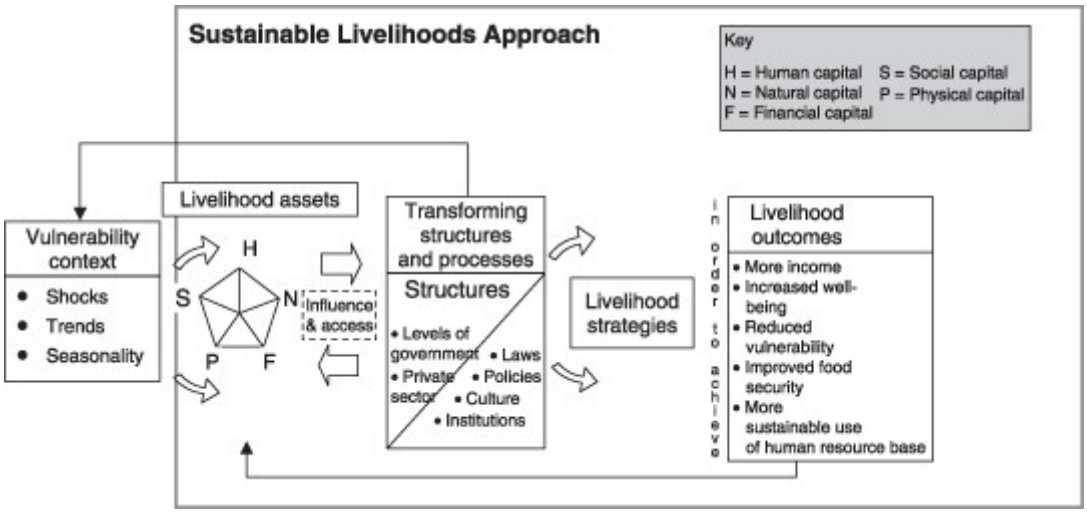

Figure 1. The sustainable livelihoods framework (adapted from Carney, 1998).

differentiated processes through which livelihoods are constructed, analysis must cover the institutional processes and organisational structures as a whole connected with the different aspects of livelihoods resources and strategies. This way of looking at the world, *i.e*. the sustainable livelihood approach, is a framework that helps in the recognition of patterns (Mazibuko, 2012). The approach recognises, for example, that people in rural areas rely on a range of resources that includes human, natural, financial, physical and social capital. Moreover, people in rural areas have many different skills and are involved in many activities to earn their living. The sustainable livelihoods approach aims to fully involve all villagers, in order to let their knowledge, perceptions and interests be heard. When including all those parameters, the SLA gain a realistic and holistic understanding of peoples livelihoods and what can be done in order to poverty reduction, so that the outcomes can be more beneficial on an individual level (Foster & Norton 2001). The approach was suitable for the present study, since the aim was to learn more about the situation of poor rural people in the vicinity of the Green Resources carbon forest plantation in Kachung, in northern Uganda. In this context, it was important to consider rural livelihoods in terms of a diverse array of strategies and local knowledge spread across and within households (DFID). The SLA framework is holistic, bringing together assets and activities and demonstrating the connections between these (Figure 1). Thus, the application of this approach allowed the impacts of the establishment of the Green Resources plantation to be more easily measured, because it enabled identification of the key components of local livelihoods. This in turn provided an analytical framework that could be used to expose the complexity of these livelihoods.

As mentioned, the key components of sustainable livelihoods are assets and capital endowments in the form of human capital, financial assets, social capital, and physical and natural capital (Scoones, 2015). Analysis of these forms of capital was used to uncover the connections within the complex and dynamic processes on a deeper level in the present investigation of sustainable livelihoods. With the help of information on the different forms of capital, it was possible to make an inventory of inputs in the form of assets and outcomes in the form of livelihood strategies based on the constraints imposed by the inputs in each individual case. The outcomes in SLA cover poverty levels, employment levels, well-being and sustainability (Scoones, 2009) and together give an overall picture of a person's livelihood.

According to the SLA reasoning, people's livelihoods are sustainable if they are able to uphold or improve their standard of living in relation to well-being and income or other human needs, reduce their vulnerability to external shocks and trends, and guarantee that their activities are coping with the natural resources available, in the present case access to land and firewood (ibid). Moreover, SLA analysis shows the diversity of activities people carry out to make a living. This is particularly crucial when talking about the poor, who are often dependent on many different types of economic activity for their livelihoods (DFID 1999a). SLA analysis provides a holistic view of the resources that are important for poor people. By focusing on the variety of factors operating at different levels, SLA also provides an understanding of the underlying reasons for poverty.

In this thesis, a distinction was made between the five different types of capital assets in order to determine the importance to rural livelihoods of having a variety of resources.

The five forms of capital have different characteristics and were used in the present analysis to examine how local people's livelihoods have been changed or affected by the Green Resources plantation. Identifying the kinds of resources that are required for various livelihood strategies was a key component in this analysis.

Natural capital

This form of capital is the natural resource stocks and environmental services from which resources and services valuable for livelihoods are derived (Scoones, 1998). Natural capital comprises a wide range of services that make human life possible and are essential for livelihoods (DFID 1999a). The present analysis identified four sources of natural capital in the study area around the Green Resources plantation. These were i) land for cultivation of crops, ii) natural forest for collecting firewood, iii) forest clearings for grazing animals; iv) provision of tree seedlings by the Green Resources company and v) rainfall for irrigation of crops. These natural resources are central for people's livelihoods in Kachung and were highlighted by all villagers interviewed as being crucial for their standard of living.

Human capital

Human capital, which includes health, education, training and labour, comprises skills that are important for different livelihood strategies (Narayan *et al*., 1999). Labour is a core component of most survival strategies (*ibid*.) but its importance is linked to financial capital, since the outcome from labour is a monetary income. Thus, in the present analysis, human capital refers to the skills and knowledge that an education provides to people. It is determined by having access to education on a higher level, which in turn is connected with labour because sending children to school in Uganda costs money. Therefore, education is anchored in human capital, determined by which groups in the society can afford to pay for education on a higher education.

In terms of human capital, good health is seen as an important asset for a sustainable livelihood because poor households depend on physical labour for income, which can involve working in the garden of others or having employment (Narayan *et al*., 1999). Illness can have a devastating effect on households in rural areas. All the savings that a household possesses can go to paying for medical treatment or medicines in the event of illness, if the household can afford to pay at all, and crucial source of labour is lost from the household. Thus health and higher education are parts of human capital and appear in the generic framework as a livelihood asset. Overcoming ill-health and low education is one important livelihood objective.

Social capital

This form of capital refers to the social resources, such as networks, social claims and social relations, that are needed when people pursue different livelihood strategies requiring coordinated activities (Scoones, 1998).

Interaction with people that have high social capital, such as wealth and power, confers high social capital, whereas interaction solely with people who are economically poor and powerless represents low social capital (*ibid*.). The networks an individual has with other people are critical for their livelihood, *e.g*. who they are able to talk with, where they get their information from and the social circles in which they communicate, and these determine their social capital (Inglis, 2012).

Physical capital

Physical capital includes all physical assets, such as land, soil, sun and water, as well as basic infrastructure, such as transport and constructions. It also encompasses tools and equipment, as well as livestock, which enable people to pursue their livelihoods (Ansell *et al*., 2016). Lack of particular types of physical assets is considered to be a core dimension of poverty, which is why physical capital is included in the SLA approach. Without acceptable access to assets such as water and energy, human

health is weakened, while poor infrastructure can prevent education because of travel distances and other necessary services such as health services and income generation (DFID 1999a). Inadequate producer properties constrain people's productive activity and therefore the human capital at their disposal (in the study area the lack of physical capitals was palpable). Physical capital can quite easily be measured, in that the material possessions of people are clearly apparent. The most tangible assets that could be identified in Kachung were the number of livestock and form of building in which people lived, as discussed later in this thesis.

Financial capital

Finance is the capital base that is essential for the pursuit of any livelihood strategy and includes cash, debts, savings and others economic assets (Scoones, 2015). In this thesis the focus was on the earnings of the villagers, particularly the income from paid employment. Access to financial capital can, for

Figure 2. Woman making clay pots, which her husband sells in the market.

instance, pay for school fees, and it can also enable crucial investment in agricultural inputs such as fertilisers or seedlings, or in some other business important for improving the livelihood. Financial capital can also boost social capital through individuals lending money to acquaintances (Ansell *et al*., 2016). Access to financial capital is affected by financial services and whether people have any

opportunities to get employment. In Kachung, the financial self-sufficiency was very low and there were few possibilities to earn money. The sources of income identified in Kachung were selling the surplus from crop harvest and selling pots made from local clay in the market (Figure 2). A few with an academic background worked as teachers. One man worked as a bicycle repairer elsewhere and could only spend time with his family during weekends. Other people were able to gain a slightly better standard of living through income from the Green Resources plantation, where people were working as bush clearers, in the plant nursery, in the kitchen or as security men. The plantation workers are analysed in greater depth later in this thesis.

Weaknesses of the SLA approach

The SLA approach provides a holistic view of the resources that are important for poor people. However, critics have pointed out some weaknesses with the approach:

1. *One concern raised is about the real people behind the forms of capital, since it is claimed that the approach lacks consideration about the culture within communities* (Morse, 2013). *This is a weakness if culture acts as a constraint to understanding opportunities and possible involvements. The danger is then of the approach becoming a rather mechanical and quantitative cataloguing exercise* (ibid.). *For instance, there is no consideration of people's leisure, which can have an important impact on resources. Thus SLA fails to take human existence into account and to acknowledge that people have a culture and try to enjoy their lives. This can also lead to a romanticise that idealises the poor* (De Satgé, et al, 2002). *The strategy of the poor can logical and appropriate in the circumstances, which means that the researcher might listen uncritically and take the results of activities at face value* (ibid).
2. *Another uncertainty is how to analyse and measure the forms of capital within SLA (Morse, 2013). In theory the approach supposed to be useful because of the participatory part, but in practice they can create many different expectations* (De Satgé, et al, 2002). *There is context-specificity about the capitals, but no instructions on how these are to be assessed, whether only some need be measured or whether it is important for all to be assessed in depth. For instance, the land issue can be very complex. It is obviously the most important physical asset for farming households, but land ownership can be spatially scattered at varying distances from the place of residence* (Morse, 2013). *There is also a difference between access to land and ownership of land that must be taken into account. For example, access to land can be a capital in one year, but not in the next. The approach supposed to be a broad and open-ended analysis, which needs a highly flexible planning that barely exists* (Krantz 2001). *Therefore, the best is to find an already identified development initiatives that fit into the livelihoods strategy.*

3. *A third criticism is the reliance of SLA upon the answers provided by the respondents and whether they are speaking the whole truth* (Morse & McNamara 2013). *Some questions can be too straightforward and thus a scenario in which people withhold information when they feel that the questions are too intrusive would not be surprising (ibid). The approach can also be taking of people´s time without recompense* (De Satgé, et al, 2002). *For example, the objective of the researcher can be misinterpreted and informants can suspect other motives behind the questions. If many questions are asked about land ownership, the interviewees may come to believe that the researcher is interested in taking their land, rather than an objective analyst. The procedure in convince the opposite can be a manner of time for both researcher and informants.*
4. *Another criticism directed at the approach is how it can be translated into interventions* (Morse, 2013). *The analysis within SLA can be very detailed, but it is unclear how it can help people, for example in policy. This is a rather general problem with participatory methods* (ibid.). *The lack of alternative livelihood strategies is a problem and actors involved applying the SLA are usually not the same actors as those working to use the information to bring about change* (ibid.). *Moreover it neglects questions about power and agency, likewise the effects of the global economy* (Allison and Horemans 2006). *Power and power relations getting insufficient to analyse in the approach and the structural perspective might get hard to get* (ibid).
5. *Another weakness is that the SLA documentation does not clearly represent the relationships between the different forms of capital. It is pointed out that the capitals are neither comparable nor easily measurable, and also that there are forms of capital missing* (Scoones, 2015). *In some cases, it may also be difficult to determine the most important assets to examine in a household, since assets go beyond labour, land and capital and can also include social and political resources. Moreover, it is not only the differential distribution of the assets that is important, but also how they are combined and sequenced, and what power relations are implied* (ibid.). *It has also been suggested that several capitals need to be added, for example inclusion of political capital that might be useful for strengthen the approach and make it wider* (Ashley and Carney 1999).

What is poverty?

A common definition of poverty has to do with lack of basic resources or with unsatisfied needs, which reflects a rudimentary understanding of the concept. This results in the poor being defined as lacking in things essential to life. However, the definition of what is necessary to survive varies from culture to culture. Eversole and McNeish (2005, p. 11) define poverty as follows:

> *Being poor is simply a conceptual category, a category one may place oneself in, or be placed in by others: one´s neighbors, one´s government, or people on the other side of the world.*

An important part of understanding livelihoods is to investigate who is poor and who is better off, and why (Scoones, 2015). Poverty is not something that happens in isolation and the relationships between rich and poor within a society and over time are central for understanding livelihood outcomes (*ibid*.). Poverty exists in many industrialised countries, but are more characteristic of large regions of the developing world and their rural areas. The roots of poverty are a complex web of local situations, combined with national and international circumstances. They are the product of economic processes that take place at different levels, as well as a number of specific social and economic conditions that make up the individual's particular preconditions (James, 2013). The perspectives of history and political economics are thus important, as is examination of the procedures of diversity that is the consequence of inequality.

Poverty deprives people of the freedom to determine and shape their own lives. It also deprives them of freedom of choice in matters of fundamental importance to them. Lack of power and choice and lack of material resources are at the core of poverty (James, 2013). A large proportion of the world's poor live in countries with very weak institutions. These institutions have insufficient capacity to satisfactorily execute their normative and governing roles, guarantee the fundamental rights of citizens and promote economic and social development in that particular country. The legitimacy and integrity of these institutions is also undermined by corruption and the abuse of power. To get a more complete understanding of poverty, the social factors and perspectives from poor people themselves should be taken into consideration. The World Bank has developed a participatory poverty assessment approach in order to identify the main poverty problems (Patel & Schafft, 1999).

Participatory poverty assessment (PPA)

Participatory poverty assessment (PPA) is a process to directly understand poverty from the perspective of poor people (Patel & Schafft, 1999). The process also includes civil society, decision makers at all levels of government and the local elite, thereby involving a wide range of different interests and perspectives. Participatory poverty assessment provides a comprehensive picture of poverty in its local, social, institutional and political contexts. The approach raises issues and dimensions of poverty that are important in the villages, but which are not necessarily known to outsiders. The assessment maps local people's perceptions about wellbeing and ill being, and in this thesis, are analysed within the framework of the different SLA capitals (natural, human, financial, social and physical capital) later on in this thesis. Thus PPA is a way to break from looking solely at monetary income and instead includes other dimensions of people's livelihoods to obtain a more complete picture of deprivation. Furthermore,

revealing poverty in its local social, institutional and political context, is useful for getting a fuller understanding of the situation of the rural poor. The PPA research methodology involves informants actively in the research process, through the use of open-ended and participatory methods (Patel & Schafft, 1999). The purpose of its application in the present study also partly to engage people in the villages and to empower participants and raise their voice.

The methods used during the fieldwork for the present study, which are explained in more detail in the next chapter of this thesis, were partly those applied in PPA. Open-ended interviews with the possibility to change track during the interview are commonly used in that approach, as are discussion groups and visual methods such as observations. This allows the emergence of various dimensions of poverty that are important to the community, but not always known to the researcher. The approach also takes into account men and women as dissimilar social groups that have separate knowledges and interests. It looks at communities as power asymmetries (Patel & Schafft, 1999). In the present case, it was also applied to examine differences between the elite and the poor in rural villages in the study area, through its potential to negotiate and illuminate power dynamics.

PPA was selected as an approach in this thesis and a means to consult the villagers themselves, all wealth groups included, on the issue of the kinds of economic and social impact the Green Resources plantation has had on local livelihoods. It functioned as a tool for including different people's views in the analysis of poverty and in relation to the commitment by Green Resources to maintaining a strong focus on social development and adhering to high standards of corporate social responsibility (Impact Report, 2015). Furthermore, the approach was useful when questioning villagers about poverty is and the kinds of actions that are best to employ for tackling deprivation, while at the same time broadening coalitions supporting poverty reduction actions (Norton *et al*., 2000). Some of the key questions addressed in this thesis were: How do the villagers define and understand poverty? Which different types of poverty categories can be identified? What is the role of the Green Resources plantation and the company in the lives of poor people? and How are the different forms of capital within SLA influenced by villagers' interactions with Green Resources?

Data Collection

Since the aim of the study was to investigate local people's perception of the Green Resources plantation, fieldwork in Uganda was needed. This fieldwork was conducted over seven weeks in February-March 2016 together with another student (Lovisa Neikter) of rural development from the Swedish University of Agricultural Sciences. Due to the research strategy and methods chosen for this study, data collection mainly comprised qualitative studies. A mixture of community mapping, wealth ranking, interviews and focus group interviews was used in collecting the field data. The other student

and I held separate interviews with similar questions and shared all our material, but her thesis focused on gender in different wealth groups. Together, the two studies complement each other and provide a deeper understanding of the situation in Kachung. In addition, a literature review was conducted using the internet, reports, books, articles and other documents. The methods mentioned were chosen because they suited the objective and purpose of the study, in addition to meeting the standards for construct validity.

Cultural differences & ethical considerations

The proximity perspective is what makes anthropology exciting. Through anthropological methods, which are qualitative, inductive and participatory, it is possible to reach beyond the statistics and numbers and delve more deeply into local behaviour patterns and perspectives. Working among people in the field instead of studying them from a distance also comes with some challenges, however. For example, social and cultural contexts must be respected (Kaijser & Öhlander, 2011). Ethical aspects are important in all studies, but perhaps especially in qualitative investigations because there are so few informants and they provide so much information about themselves. Care must be taken to ensure that the informants cannot be identified and that they are not likely to suffer any damage from the study, a consideration that can sometimes mean that not everything that has been said can be published (*ibid*.). The researcher should be honest and open about their investigation, inform prospective subjects that all participation is voluntary and ask informants to give their permission for the information they supply to be recorded.

In the study area my colleague and I were cultural outsiders, which was noticeable in many different ways, including the fact that we needed interpreters. An interpreter must transfer, with language as a medium, the thoughts, ideas and emotions that are represented in a culture. When working with an interpreter, it is important to be aware that there are dimensions of language that are central, which means that the interpretation can never be neutral, no matter how professional the interpreter is.

Another challenge was that people in the villages occasionally believed that we had the power to affect things that they were dissatisfied with concerning the Green Resources presence in the area. Some wanted us to help them obtain tree seedlings from Green Resources and some just asked us for advice on how to improve their farming style. People thought or hoped that we had a more significant role than we actually had – there was not much we as students could do to help them improve their livelihood.

In my fieldwork, I took into consideration all the ethical aspects that come with the collection of material. To clarify the context in which the informants were participating, I told them about my aims, who I was and why I wanted them to participate in my study. In analysis, interpretation and presentation of the results, or through the use of quotes, my aim was never to distort or embellish in order to suit

personal purposes or external expectations on my work, which is line with what is recommended by Kaijser & Öhlander (2011).

Interviews as a method

Individual interviews were my main choice of method, because interviews best investigate people's opinions of what their everyday lives are like (Silverman, 2014). When conducting interviews, it is important to be aware that the aims of interviewer and informant can diverge. For example, the informant might want to affect the results of the research, while the interviewer may have a stronger focus on the research process itself.

A semi-structured interview method is based on a template in which there are specific questions, but these can be modified and developed for particular users and their background, environment and situation (Silverman, 2015). As a consequence of this, the interviews conducted in the present work were not identical, but were dependent on the user and the situation. The purpose of the interviews was to find out how people organised their livelihoods and everyday life (Fischer 2013).

Focus group interviews

Focus groups are an interview form whereby a small group of people talk freely about a predetermined topic. The advantage with focus group interviews is that the conversation can widen the perspective on the topic when the participants can voice their opinions, while the others listen and fill in with their own experiences. This interaction between the participants provides great depth in the answers to questions that are illuminated from a variety of perspectives, even with few participants (Kaijser & Öhlander, 2011).

However, it was discovered during the interviews that villagers were not accustomed to this kind of conversation and did not seem to find it very easy to talk spontaneously about the topics we introduced. Instead, they always waited for us to ask them questions and answered briefly. There was never any fluent discussion, and therefore the present analysis was mainly based on the material obtained in the individual interviews.

Observations

Observation is a method that can bring knowledge of issues that are so obvious to informants that they are not even mentioned in the interviews. In observational situations, observers note what is taken for granted in the situation and register hidden features with words, without stopping and discussing their importance (Kaijser & Öhlander, 2011).

During fieldwork for this thesis, observations were recorded when walking around in the village, during both individual and focus groups interviews. Observations were also made when we participated in church services, were invited to a women's celebration and joined a meeting of a savings group. The aim was to see how people were living their everyday lives and what they did, and to document that. The next step was to analyse and interpret the collected material. The observation material proved very useful for understanding the whole context of the villagers' culture and ordinary life and also revealed which people were socialising with each other within different constellations, providing a broader picture of the villages where my colleague and I spent eight weeks.

The selection procedure

We had decided from the beginning to choose two villages for our fieldwork. The aim in the present case was to examine whether there were any differences among the villagers in their perceptions of Green Resources.

Before the selection of villages, we had to pay a visit and introduce ourselves to the deputy chief administration officer at the county office in Dokolo district. He wanted to read our certificate from university written by our supervisor, about who we were and our intentions in the region. He also wrote a certificate, signed with his name, which gave us permission to move freely between the villages and to present it if someone were to question who we were. It was at this point that we realised that the procedure would be more protracted than expected. In total, the selection procedure took a week, as we needed to introduce ourselves to each sub-county chief and each parish chief. We also went to the Green Resources field offices and presented ourselves there. After finishing introductions to the authorities, the next step was an introduction to possible villages for our fieldwork. We moved around from village to village, introduced ourselves and talked with the villagers. We wanted to get an idea of the different villages to see which would be most suitable for our aims. When we had finally made our choice of villages, it only remained to become more familiar with the people and allow them to get to know us.

Arwakere and Ojem

We decided to choose the villages of Arwakere and Ojem for our work, for several reasons. First, they contained fewer households than the other villages in the study area. Second, we were looking for villages with people that had a negative attitude and people with a positive attitude towards the plantation and Green Resources, and we found this in both Arwakere and Ojem. Third, we wanted the villages to be far away from each other and in different directions from the Green Resources field office, which was located in the middle of the plantation. The distance between the villages was desirable to get a broad picture where people were likely not to have affected each other's opinions.

At the same time of the study, Ojem consisted of 111 households and 569 villagers and this village also had people who had worked or wanted to work for Green Resources. The village is located close to the highway, which offer many opportunities to make business for the villagers by sell their crops to passers-by. The perception and knowledge about Green Resources planation was limited in this village because of the distance to the plantation. Several people had not heard about the company and was clueless in their opinions.

Arwakere consisted of 74 households and 560 villagers. The village is located 26 km from the nearest city, Lira, and has some distance to the highway, which limits possibilities for business.

Around 30 people were working for Green Resources when we were there. People in this village had a strong perception against Green Resources plantation because they were highly affected, through both seedlings, work opportunities and limited access to land.

The names in the following text are fabricated, to protect the anonymity of the respondents. Each village has a chairman who acts as the smallest unit of governance at the village level, also called the LC1.

Wealth ranking and community mapping

The method of community mapping was a tool that we used in the process of introduce ourselves in the two villages and it formed part of the preparatory work in creating the poverty ranking (Jacobson 2013). We also wanted to engage the community members in the procedure so that they could get an insight into what we were doing and to capture local perceptions of what it meant to be poor (ibid). We wanted to achieve a mapping process carried out by the community. The aim was to obtain a map of the village with all households and other important or central places, such as the trading centre, school, churches and boreholes. This was intended to lead to the poverty ranking, so that we would be able to see the category to which each household belonged (ibid). We also wanted a discussion with the community members about what wealth meant for them, how they identified wealth, what was important for their livelihood and wellbeing and, most importantly, how they categorised different wealth groups and the factors they believed contributed to people belonging to different groups (ibid).

The chairman of each village made an announcement during a church service about our request to hold a community mapping session with volunteers. On a Sunday in January, community members gathered in the trading centre in the village of Arwakere. We had set aside a full day for this session, which turned out to be rather complicated. Due to the sensitive issue of land in the region, there was one person who strongly questioned why we wanted a map of their village. He thought we wanted to take land from them, and he succeeded in convincing some of the other people present of this. It took some time to explain and make them understand that we just were students doing a field study. It is problematic

when the majority of those in rural areas use land for crop production for subsistence and there is competition for the same land from other users, in this case Green Resources and its operation to plant pines and eucalyptus in the area. The villagers' reaction was understandable and therefore we decided not to continue with the wealth ranking there and then.

Once all misunderstandings were sorted out, the community mapping in Arwakere was able to continue. We provided the volunteers with paper and pencils. They selected a scribe who was responsible for drawing the map, while the others were involved in the process through discussing the location of different village features. It should be noted that it was only the men who were engaged in the mapping; the women sat beside and just observed. It took some time to get going and we did not want to rush the process. Once the mapping was underway, we just observed and only interrupted when we needed to clarify something or help when the participants got stuck.

We did the wealth ranking in Arwakere on the following day alone with the chairman. The process of wealth ranking in this case was not as we had intended, because we wanted to do it together with the community members, but was the best we could do under the circumstances. First, we let the chief define the different categories of wealth groups, in order to determine which kinds of wealth groups existed and what the rich had that the poor did not. We then asked him to put dots on each household according to which wealth group they belonged to (one dot for poor, two dots for medium and three dots for rich). Figure 3 shows the results of the community mapping and wealth ranking for Arwakere village.

The community mapping in Ojem in the following week proceeded more fluently. Based on our experiences in Arwakere, we took more time to explain who we were, what our goals were and how our work could be beneficial for the villagers. There were no problems in continuing with the wealth ranking after finishing the community mapping in this case. People were able to talk freely about wealth and the meaning of the concept. Moreover, they found it unproblematic to put dots on the map showing the wealth groups to which different households belonged.

The maps obtained of both Arwakere and Ojem gave us important information about the various wealth groups, which we used as a guide during the rest of our fieldwork. However, it was mostly just a few men who participated in the mapping and wealth ranking activities, something that could have influenced the results. In each village three categories of wealth were agreed upon between the participants: poor, middle and rich. Comparing the wealth ranking results against each personal interview also exposed a strong correlation between the ranking obtained and other qualitative data (Jacobson 2013). The wealth categories were described in comparable in both villages.

Figure 3. The result of community mapping in a village

Compilation of data

We conducted 36 interviews with the locals in the villages of Arwakere and Ojem. The names cited below have been fabricated to ensure anonymity. The interviewees were categorised into three different groups; poor, medium and rich. An attempt was made to obtain a balanced distribution of people from the different wealth groups, but this proved difficult because the poor group dominated in both villages. The informants from each category in Arwakere and Ojem are summarised in Table 1:

Individual interviews in Arwakere	**Individual interviews in Ojem**
• *Eleven people from the poor group* • *Six people from the medium group* • *Two people from the rich group*	• *Eight people from the poor group* • *Six people from the medium group* • *Three people from the rich group*

Table 1 Numbers of villagers in the different wealth categories (poor, medium, rich) who participated in individual interviews in the villages of Arwakere and Ojem

The material also included the responses obtained in the focus group interviews. We conducted six interviews divided into various categories suited to our purposes, as shown in Table 2:

Focus group – Arwakere	**Focus group – Ojem**
• *Women working for Green Resources* • *Men working for Green Resources* • *Women in the 'rich' wealth category*	• *Women in the 'poor' wealth category* • *Women in the 'medium' wealth category* • *Men in the 'poor' wealth category*

Table 2Categories of informants included in the focus group interview in the villages of Arwakere and Ojem

Moreover, the material contains individual interviews with the chairmen of each village and a two-hour long interview with the people employed in the Green Resources office. Finally, participatory observation was done in both villages by, for example, walking in the villages, which invites you to stop and talk with people. Attendanceat a women's party and at a church service also comprised participatory observations.

Analysing the empirical material

I constantly took notes and wrote down my experiences from each day in a diary, which I consulted during the analysis of the material. All interviews were successively transcribed, which was possible because they had been recorded. My qualitative analysis allowed some conclusions to be drawn (Kaijser & Öhlander, 2011). I used my everyday knowledge in combination with a theoretical and empirical approach in the interpretative analysis. Reading literature, reports, dissertations and other important material was also a process to combine the empirical setting with the theoretical framework for the thesis.

Background

Uganda's population was estimated to be about 38 million in 2014 and of those, 84% live in rural areas. The number of rural poor in Uganda is reported to be approximately 7 million (IFAD, 2012).

Access to land is one of the most pressing issues in Uganda today (Lyons et al, 2014). Since a large number of people live in rural areas, they are dependent on their own food production. Most agricultural production in Uganda comes from millions of rural households. According to the Food and Agricultural Organisation (2016), 72% of the Ugandan population are economically active in agriculture. Smallholder farmers are among Uganda's poorest people and, while the country has made massive progress in reducing poverty, this is mostly observable in urban areas. The vast majority of the

population that lives in rural areas is still living in poverty. Of those, 27% are estimated to live below the national rural poverty line (IFAD, 2012).

The poorest areas of the country are in northern Uganda, and it is here that Kachung is located and where the fieldwork for this thesis was conducted. The region is dry and sub-humid, and the unpredictability of soil fertility and rainfall means that agricultural production presents a great challenge. The level of self-sufficiency in production often falls short of minimum household requirements, which generates food insecurity. Climate change, which brings about increased floods and droughts, has a serious impact on agricultural production and on the rural livelihood, which involves securing the basic necessities of food, water, shelter and clothing (Scoones, 2009). The term 'livelihood' is explained more fully in the next chapter of this thesis.

Statement of the problem

At a meeting in Kyoto in 1997, a number of countries succeeded in reaching agreement on controlling emissions of greenhouse gases. In the so-called Kyoto Protocol, industrialised countries promised that from 2008-2012, they would reduce their emissions by more than 5% on average compared with 1990 levels. At the climate conference in Doha in 2012, it was agreed to extend the Kyoto agreement to 2020. Sweden's early commitment under the Kyoto protocol was to cut greenhouse gas emissions, excluding emissions from land use, land use change and forestry, so that between 2008 and 2012 average emissions would not exceed 104% of emissions of a certain base year. The base year was 1990 for all emissions except fluorinated greenhouse gases, which had 1995 as the base year. (Kyoto Protocol Reference Manual, 2008).

A report entitled Kachung Forest Project: Afforestation on Degraded Land, which comprises the project design document (PDD) for the area submitted to the United Nations (PDD, 2012), reiterates that the Kyoto Protocol includes three so-called flexible mechanisms that can work together to implement projects that reduce greenhouse gas emissions. All three have in common that a country can benefit from emissions reductions in other countries. One of the three mechanisms, the Clean Development Mechanism (CDM), means that industrialised countries may implement projects in countries with no internal commitments under the Kyoto Protocol, which generally means developing countries (PDD, 2012).

The aim of these mechanisms is to stimulate sustainable development and emissions reductions in developing countries, while at the same time providing industrialised countries with some flexibility in how they meet their emissions reduction targets (PDD, 2012). Activities under these mechanisms are now going on around the world, including in Uganda. One CDM project activity is located in a specific area of the Kachung Central Forest Reserve (CFR) in the administrative district and county of Dokolo

in northern Uganda. The reserve is formally owned by the Ugandan government and the National Forestry Authority (NFA) is responsible for its management (Lyons et al, 2014). As part of its management strategy, the NFA is now leasing land in the Kachung CFR to private foreign investors. Among these investors is the Norwegian company Green Resources, which has a 50-year contract for land in Kachung. The contract consists of land development through tree planting and the licence can be renewed, offering the potential for even longer-term project activities (PDD, 2012). Green Resources was granted 2,669 ha of land in 1999 and trees are now planted on 2,099 ha of this area, while the remaining 570 ha are reserved for conservation purposes (ibid).

Degradation and deforestation is also interwoven in the CDM-projects and for a establishing of plantation it must be proved that the land was previously deforested (Fischer & Hajdu 2016). The reason for the Kachung project, according to the PDD submitted to the United Nations (PDD, 2012), is to establish and manage forest plantations to meet the growing demand for wood products. The idea is to sequester carbon dioxide through forest planting, which will generate:

- *High emissions reductions in greenhouse gases that can be measured.*
- *Environmental conservation benefits such as soil conservation, protection of water sources and enhancement of biodiversity.*
- *Socio-economic development of local communities and development of local infrastructure.*

To fulfil these commitments, Green Resources has planted a forest of pines and eucalyptus in the leased area and calls this the Kachung Project (PDD, 2012). Kachung has been earmarked as a forest reserve since 1950, but because of periods of political instability it has not always been used for this purpose. There are no settlements within the reserve, but the plantation is surrounded by 19 villages in three parishes: Aputi, Adok and Amuda. The area was used for agriculture, cattle grazing and firewood collection before the plantation was established by Green Resources. The local people were previously encouraged by the government to utilise the land in the reserve for self-sufficiency, even though this was illegal on paper. In the mid-1990s, Uganda decided to enforce the reserve regulations again and this meant that local people no longer had the same access to the forest. Agriculture and grazing inside the CFR have now been displaced because of the establishment of the plantation. Green Resources started its commercial plantation of pine and eucalyptus in Kachung in 2006, and the plantation was certified as a CDM project in 2011 (ibid).

Green Resources has committed to invest in a number of local development activities in Kachung for the purposes of corporate social responsibility. The most important activity that Green Resources is carrying out to meet this commitment is the distribution of pine seedlings to the community members, in order to enable them to establish small commercial woodlots on their land (PDD, 2012). Other

activities include reparation of boreholes in the villages and contracting a local non-governmental organisation (NGO) to teach locals how to build and use energy-saving mud stoves.

The idea of using development programme to improve the local livelihoods as a part of market-based carbon offset for enhancing the public management of protected areas in Uganda is not a new occurrence (Cavanagh & Benjaminsen 2014). There are similar forest-based carbon offset schemes Africa with different outcomes (ibid). The triple win – projects, where it supposed to be a carbon sequestration, improvement of local livelihoods and reduced degradation can come with different side effects. In eastern Uganda at the Mount Elgon National Park local people has been evicted from their land without any compensation of the consequences of a CDM-project (ibid). The Ugandan government claim that these evictions were perfectly legal (ibid) so it´s an issue about opinions against each other. Global forces correlated to markets and policies are highlighted as a reason to rapid land use change, in contrary to population pressure and poverty as a supposed general assertion (Fischer & Hajdu 2016). Forestry plantations intend to benefit local livelihoods but in fact the "solutions" more seems to cause problems (ibid). This rapid land use change is the consequences about something that can be named "green grabbing" After John Vidal´s brutal term (Vidal 2008). It is a phenomenon about appropriation of the nature that means transfer of ownership from the poor to people with power, the control over land and resources has been moved (Fairhead et al. 2012). Green grabbing is taking the debate of land grabbing further and taking up what where credentials are called upon to justify appropriations of land for food or fuel (ibid).

Empirical material

In the present study, however, the definition of poverty used was based instead on the villagers' own perceptions of poverty and was thus more appropriate for the study area. This section explains how the locals defined different wealth groups, based on the wealth ranking exercise and on material obtained in the individual interviews. These two methods complemented each other, with the individual interviews reinforcing statements made in the wealth ranking. The challenging aspect of wealth ranking with many people is that not all people present can raise their voice. This was the reason behind the probing questions about wealth and poverty asked in the individual interviews. In the study area most people are poor, but it was still possible to distinguish different levels of poverty. The villagers divided those different levels into the wealth categories of poor, medium and rich, which were easy to use in the subsequent analysis once the terms had been well defined. The main differences were seen between the poor and the rich, while those in the medium group had a vaguer definition. Naturally there were some different opinions on what defined people from different wealth groups, but after reviewing the material it was possible to get a comprehensive picture of the overall view among the informants.

Defining a poor person

In defining a poor person, a consistent pattern was apparent for all interviews and included the issue of lack of land access/ownership, living in a grass-thatched house and not having enough food or livestock. The houses of poor people were made of local materials and sun-dried bricks. The floor was stamped earth and the roof was made of grass. The houses are not permanent and fall apart after a couple of years, so they must constantly be maintained. However, they are cheap to build and are cool in the sun (Figure 4). The issue of land is a problem for many people in Uganda, but poor people are hardest hit. Many of them must complement their nutrient intake by buying food when they have access to money. Therefore, how often people have the possibility to eat is also an indicator of wealth. All informants were asked how many times per day they can eat and how often they ate meat, since meat is an expensive commodity. A poor man, Michel in Ojem, said this concerning the family's food habits:

> *We eat once a day. We eat boiled cassava with salt. Yes, we eat meat, but very rarely. Only at festivals, such as Christmas or New Year.*

Figure 4 Mud hut with grass-thatched roof.

Michel's household consisted of 14 members, including his wife, mother, uncle, niece and nine children. The family were living in five mud-huts with grass-thatched roofs. The interview with Michel was held in the shade of a mango tree to protect us from the burning sun. What they got from the farm was their one and only income. They could only send their children to school depending on how good the harvest was. They did not even own the land they were cultivating, but rented it from the sub-county. According to my findings, land was one of the most important indicators of the wealth group to which a household belonged. Another woman in the same poor category, Doris, reported that she and her husband also rent land in another village:

> *My husband goes and work there, it is very far away, 40 km, and he must go and stay there for a week when he is working. He gets there by bicycle.*

People who live in a rural area and lack land face a severe struggle to gain a livelihood, since self-sufficiency through agriculture is one of the mainstays of the Ugandan economy (IFAD, 2012). Various forms of environmental change In one way Michel and his family differed from the others in the 'poor' category, because he owned some livestock. He was the only one from this category who owned bulls and goats. Most poor people had a maximum of a few chickens, if they owned any animals at all.

Wellbeing is not only about having a monetary income, but the little money someone can earn is sometimes essential for a sustainable livelihood. The poor people identified in the study villages seemed to work for Green Resources to a greater that people in the other two wealth groups. The most common job they had was bush clearing, which means they slashed weeds between the pines in the Green Resources plantation.

Defining a medium wealth category person

People who placed themselves in the medium wealth category mostly did so because they understood how much better their lives were compared with the reality experienced by people in the 'poor' category. Rachel, a woman in Ojem who placed herself in the medium category, said this about her wealth group:

> *Because during the dry season other people struggle, but we don´t. We have enough to eat and so on. People in the medium class have access to some money, good houses, own some livestock and have enough food.*

Rachel and her husband also owned their own land, which they could cultivate; her husband inherited it from his father. The reference to good houses meant semi-permanent houses that do not fall apart as easily as the grass-thatched houses. The semi-permanent house has a structure with cement floor, brick walls and aluminium roof and lasts for a longer time than a mud hut. Rachel and her family were mainly

farmers, but also earned some money from Rachel's pottery. Together they had six children and owned five cattle, six goats and some chickens. To the villagers, having livestock is comparable to having money in the bank. People use their cattle in case of emergency or raise and sell them to pay school fees for their children. Instead of putting money in a bank, people keep livestock.

Defining a rich person

A livelihood is sustainable when it can handle and recover from unexpected stresses or shocks (Scoones, 2015). It is something which people in the 'rich' category had better chances to achieve because of better living conditions. This group was very small, with only five families in the two villages combined identified as belonging to this group in our wealth rankings (see Table 1). A common characteristic of these people was that they had an income from better jobs. Three of them were working as teachers and one was an ex-soldier with a pension who also owned a store in the trading centre. This people were relatively wealthier and more skilled farmers within the villages (Jacobsson 2013), but they are still very poor, just less poor than other community members. From a Swedish perspective, these people considered as very poor. What strengthened that ability of these household, was that they could pay poorer families to perform laborious tasks (ibid). Another aspect in common for the rich group was the amount of land they owned. It was enough to grow crops for self-sufficiency and to sell the surplus. People with enough land also had the capacity to grow pines for Green Resources. One man in Ojem named Nick was a secondary school teacher and commuted to another sub-county for his work. He could afford to place all his five children in school, and the oldest even had a university education. Nick also owned a large number of livestock and had a large area of land. Besides growing food for his own consumption, he cultivated sunflower seeds and sold them for processing. Nick and his family were living in a permanent house, which had a cement floor, brick walls and aluminium roof. However, the bricks in permanent houses house were baked in a stove, which meant that they had a longer lifespan and were more resistant to heavy weather. It also meant that the houses were more expensive to build. Because of Nick´s larger amount of land he had received seedlings twice, which was also an indicator of his wealth group. The following quote from Nick explains how many seedlings he received:

> *The chairman identified which people who were interested in growing the trees. I received in total 160 seedlings, first time 100 and next time 60.*

The chairman of each village was responsible for the distribution of seedlings. One requirement for receiving seedlings was to have enough land, a requirement which was met by most people from the medium and rich groups. This represented an inequality which made it difficult for poor people to develop. The Impact Report (2015) mentions poverty alleviation, but the distribution of seedlings cannot reach out to the poorest because of their lack of land. Nick was better off according to the standards applied in this study and his livelihood represented some kind of model that the other

households should seek to achieve. A livelihood is sustainable when the family has enough to eat every day, the children can get an education and the household can grow a surplus on the farm to earn more money and owns several livestock.

Differing impacts of the plantation across poverty levels

To show the different impacts of the plantation, the various claims and opinions expressed by the informants are summarised in Table 3. The questionnaire that was used during interviews was designed to elicit information on people's opinions about the plantation. The questions were put in such a way that the respondents could speak freely about benefits and disadvantages that they perceived with the plantation. Based on the opinions and claims made in response to the questions, Table 3 shows the percentage of people from each wealth group making different types of statements. The last column shows how many individuals altogether, in actual number and percentage of the total, expressed that claim or opinion. All claims are discussed in the following section, categorized according to capital asset in (social, natural, human, physical and financial capital) as discussed above.

Opinions and claims about GR´s establishment of the plantation, as perceived by the villagers themselves:

Opinion/Claim	**Poor n = 18**	**Medium n = 13**	**Rich n = 5**	**All n = 36**
	Number of informants agreeing with the opinions (percentage per category)			
1. Previously cultivated in the area before the establishment	5 (28 %)	4 (31 %)	2 (40 %)	11(31 %)
2. Problems with access to firewood since the establishment of the plantation	4 (23%)	1(8 %)	0 (0%)	5 (14 %)
3. Grazing land problem since the establishment of the plantation	4 (22 %)	6 (46 %)	3 (60 %)	13 (36 %)
4. Received seedlings from GR	2 (11%)	4 (31%)	4 (80%)	10 (28 %)
5. Is working or has worked for GR	4 (22 %)	3 (23%)	0 (0%)	7 (19 %)
6. Never heard of GR or No opinion	10 (56 %)	1 (7%)	1 (20 %)	12 (33 %)
7. Perceived increased and more reliable rainfall since the establishment	6 (33 %)	7 (54 %)	3 (60 %)	16 (44 %)
8. Expressed a positive attitude towards GR	7 (39 %)	4 (31 %)	3 (60 %)	14 (39 %)
9. Expressed a negative attitude towards GR	1 (5 %)	2 (15 %)	1 (20 %)	4 (11 %)

Table 3 Numbers (and percentage) of informants in the different wealth categories who agreed with different statements about the Green Resources (GR) plantation in Kachung and previous land uses

Using the sustainable livelihood approach (SLA), the results summarised in Table 3 are analysed in the following section. The SLA framework provides a holistic way of describing the factors that affect

peoples livelihoods (Scoones, 2015) and in the present case helped to reflect and understand poverty as a multifaceted concept.

Each opinion and claim listed in Table 3 was explained as human, financial, social, physical or natural capital, as part of the SLA approach whereby sustainability is considered in terms of available capital (Scoones, 2015). The assets people possess determine their capability to be and act, and the framework helps to determine the level of poverty in different households. Human capital was taken here to encompass labour conditions and level of education. Social capital was considered to involve three different views towards Green Resources (positive, negative or no opinion). Natural capital included cultivation, grazing land problems, receiving seedlings, access to firewood and the perception of increased and more reliable rainfall. Within physical capital, a brief comparison of built capital was made. Finally, financial capital was considered in terms of the people who were working or had worked for GR and their experiences.

Human capital – local conceptualisation

Human capital allows people to do things and is the essential value element of capability or well-being (Scoones, 1998). Human capital includes health, education and labour. Illness removes villagers from the labour force and work on the farm, which can push a whole family into poverty (Narayan *et al.*, 1999). In the absence of formal institutions that can provide an adequate safety net, the illness of one person within the family can affect the economic stability of an entire household (*ibid*.). Becky, a young woman in the village Ojem, reported that she and her husband belonged to the poor wealth group. Her definition of wealth was:

> *When you are young, you are wealthy and when you are old, life becomes tougher.*

Becky equated youth with wealth, and poverty with growing old. Good health was seen by her as a particularly important asset because poor households are dependent on physical labour for income as they lack other assets. Becky assumed that youth represented health and physical strength, while older people suffered more from illnesses. Wealth and poverty, youth and old age were linked together. She found it difficult to understand that the present research was looking at measurable wealth in material forms. Illness can create a devastating and lasting drain on resources within a family, so it is seen as an important capital asset among poor people. The possibilitie to get a monetary income from labour decrease if someone falls ill, whether working on someone else's farm for wages or working in the Green Resources plantation. If the ability to perform labour to produce economic value vanishes, the role of human capital within economic development can be devastating.

Lack of monetary income can in turn lead to parents not having the ability to send their children to higher education. In Uganda, all children can attend free government schools, which are called primary schools and are intended for students up to 12-13 years. According to the website of the organisation S.A.L.V.E International, which is working with education in Uganda, the demand for this free education is enormous. The pressure for places can create classes with over one hundred students, with few facilities and over-worked teachers in charge. The consequence for most of the population, particularly those who want a higher education, is that they have to place the children in private school, which can be very expensive depending on where in Uganda the school is located. Paying school fees is beyond the means of many households, especially if they have many children. This means that several children are left at home, working on the farm or in the household instead. For many families it is a seemingly impossible task to fund an education, even if the children are placed in a government school, as school uniforms and materials such as pencils and books must be paid for. For many families it can seem pointless to send their children to school at all, when the standard of education is inadequate and when they know that access to higher education is impossible. Instead, they can use the children as an asset in the work at home.

The capability or well-being within human capital is dependent on people staying healthy or having enough resources/monetary income to fund education. Otherwise access to higher education is denied those people lacking good health, resources and money. Access to school might have provided these people with forms of human capital such as knowledge and skills. The skills could in turn lead to jobs paying better wages than labouring. The work available in the Green Resources planation is basic labour with no education requirements. The employment is intended to provide gains to the local community and the monetary income is expected to give rise to more economic activities, thus improving the overall standard of living (PDD, 2012). Access to money can therefore lead to education and health services. Examination of the relationship between workers and their health and education can play a significant role in SLA precisely because this approach seeks to create the conditions that provide livelihoods.

When the PDD for the Kachung plantation refereed to aims for poverty reduction and livelihood improvement, these were anticipated to take place largely through the development of human capital. The question is whether Green Resources has been successful in alleviating the social and economic impact of the plantation. In addition to offering employment, the company is working with a HIV programme to improve health and with construction of a dispensary (PDD, 2012). Other benefit programmes that Green Resources is running to improve health relate to water and sanitation, in the form e.g. protection of springs and drilling of shallow wells. All these programmes have been introduced for a good purpose, but unfortunately many of the villagers in the area do not seem to have the opportunity to take part in the programmes. According to the material obtained in the present study, they have either never heard of the programmes or they do not have the possibility to attend because of

problems with transport. Poor people do not own any vehicles and many of the programme mentioned are held in the Green Resources field office. Drilling of wells was an ongoing project that had not yet reached all villages and no-one was able to say how long it would take until all villages were included. People employed at the Green Resources plantation included 264 casual workers performing tasks that fluctuated depending on the season, e.g. labouring in the plant nursery or clearing bush. In addition to these casual workers, the plantation employed 12 professional staff and 53 employees. The total estimated population in the 14 villages surrounding Kachung Forest Project (KFP) was approximately 6,000. Thus only 5% were working within the plantation and had a monetary income. At the same time, a large percentage of people had lost access to cultivable land for self-sufficiency, due to the establishment of a plantation consisting of pines and eucalyptus. So there was increased human capital for a few people, but far away from everybody.

Financial capital – local conceptualisation

Financial capital is the capital base of households, such as cash, savings and other economic assets, including basic infrastructure and production equipment and technologies which are essential for the pursuit of any livelihood strategy (Scoones, 1998). As mentioned earlier, Green Resources has given work to approximately 329 people in the whole Kachung Forest Project. This section examines the people working for Green Resources and the wealth group to which they belong. Green Resources is working through the CDM mechanism of the Kyoto Protocol, which aims to facilitate socio-economic development of local communities through provision of employment opportunities (PDD, 2012).

As indicated in Table 3, a total of 19% of the individual interviewees were working or had worked for Green Resources. In addition to these interviewees, the collected material included two focus group interviews that are not represented in the table because it was difficult to give the individual perspective and to state exactly how many participated, since the numbers fluctuated. One focus group interview with men was performed and one with only women. The participants in the focus groups interviews placed themselves in the category of poor and there were around 8-10 people in each group. Most of them were working on a daily basis as bush clearers, which was the most common work in the Green Resources plantation. The work involved removing weeds in between the pines and eucalyptus in the plantation.

The outcome from the interviews was that different challenges were faced, in particular the low wage paid relative to the work that was done. The following quote from a person in the focus group interview describes a working day:

> *If we are clearing one line we get 800 shillings [less than one dollar], and we are supposed to clear everything in that line, even trees. It is a lot of work, sometimes we can't finish*

one line in one day because of big trees. Sometimes it is one day's work or more, depending on how bushy the lines are.

One line is approximately 100 m long, according to more than one informant. The tools they used were very simple, such as axes and machetes, which made doing the work more difficult than if they had access to a chainsaw. In some cases, the employees brought their families to finish a line faster, so as to get quicker payment. Even the family's children were sometimes required in clearing the line in order to contribute to supporting the household. The age of these children was not stated, only that they worked on Sundays when the group leader was off, because of awareness among the interviewees about the disapproval of child labour. However, the employees might not have been forced to bring their families to help in the work if the wage has been paid on a daily rate rather than a piece meal basis or if the lines allocated had been shorter.

Frequent challenges mentioned were problems with delayed payment or non-payment. This was a recurring problem among almost all interviewees working in the Green Resources plantation as bush clearers. Hard work in that case often did not lead to any income or was an uncertain source of income for the employees. This was an issue that had been noticed by the human resources staff employed by Green Resources:

In the beginning we had this system with group leaders that paid out the salaries, but we noticed problems with it, like corruption, which is why we implemented the contract system to ensure that the workers would get their money.

Even though Green Resources seemed to be aware of the problem, it was still a persistent challenge for the plantation workers. Poor people that were already struggling seemed to be the hardest hit. Beside struggling with problems of payment, they also had small farm plots with low yields that barely provided the household with enough food to survive. Few poor people owned cattle, which could otherwise be used as a bank in cases of emergency. When the wages were not paid their position was even more precarious. The staff of Green Resources, who were aware of the problem with the wages, reported that it might take some time to implement new rules. However, considering the situation for poor people, it should be a high priority for the company to work to foster an atmosphere of mutual trust, mutual benefits, harmony and respect amongst employees and customers, an ambition stated in its own publications (Impact Report, 2015).

When salaries are set very low, this contributes to exploiting the most vulnerable. The jobs on offer will only be accepted by people that need the jobs the most, people who do not have any other choice. Even if poor working conditions and non-payment of wages are imminent risks, people are willing to take that risk and are also very concerned about retaining the jobs they get. It was clear that the interviewees

working for Green Resources were not satisfied with their working conditions, but at the same time they were very keen to keep their jobs because Green Resources provides employment in an area where there are very few alternative work opportunities. According to the Impact Report (2015), Green Resources is aware that some of its operations can have negative social impacts and the company aims to mitigate all negative impacts and ensure that it has a net positive impact on local communities. According to the member of staff responsible for the employees, there are 350 contracted workers and during seasonal work they sometimes employ more people. There are many people competing for these jobs and when the labour market is so uncertain people are very careful to keep their jobs and the employer does not need to make too much effort to retain employees, as the following quote from an employee in Arwakere shows:

> *We are afraid to be laid off, fired if we complain, we need the job too much. And right now it's the nearest job we can find. We don't want to move too far away from home. Because we need to work in our own gardens too.*

Financial capital can be used for the direct achievement of livelihoods, so this form of capital can be considered one of the most important assets of households. This asset can be converted into other types of capital, such as human capital in form of education, when parents can pay the school fees for higher education because of their earnings. It also tends to be the least accessible form of capital for poor people. Since poor people often lack financial capital, the other capitals become more crucial for them. The idea of giving people jobs where none existed previously in order to provide local villagers with a financial income is basically good. But cash inflows alone can also be counterproductive and weaken a sustainable way of make reforms within the society if the governance lack of institutions (Shirley 2005). However, the situation about well-being and human rights in relation to the Green Resources company's responsibilities towards the villagers should be clarified. For some people in the Kachung area, the jobs in the planation were essential for their livelihoods.

At the same time, there was another group of people that never could imagine working in the plantation. Robert was a man who belonged in the medium category of wealth and his opinion of working as a bush clearer was that the work was too laborious and low-paid, as reflected in the following quote:

> *I don't work for Green Resources, I prefer to work on my own farmland and the wages are too low, it´s not worth it. My own farmland is enough to sustain us.*

Robert did not need to work for Green Resources because he had enough land to make his living, confirming that, as previously mentioned, the issue of land is crucial for the quality of livelihoods for the people in Arwakere and Ojem. The chairman in the same village as Robert confirmed his statement that mostly poor people worked in the planation:

> *In this community people in the medium wealth class don't accept to go and work for Green Resources because they can only get semi-permanent contracts. I would say that the people working for Green Resources are poor. Most of them at least. Except the guy working in the nursery for example, he could belong to the medium wealth class because of a plot of land with pines that he owns.*

The working conditions in the Green Resources plantation seemed to be too harsh for people that did not need the extra income. In most cases the villagers in the other wealth classes had other regular inflows of money, from other jobs or a surplus from their farmland. Even if people in general in the study area were struggling to earn adequate incomes, some of them still felt that they could make the choice not to work in the plantation because of the bad working conditions. These people chose to struggle without the support provided by Green Resources.

Natural capital – local conceptualisation

Natural capital assets in the present case were for land for cultivation of crops, forest for collecting firewood, clearings for grazing animals, seedlings from Green Resources and better rainfall for irrigation.

Seedlings were seen as an economic asset, because they can generate an economic income in the future. As Table 3 indicates, out of a total of 36 informants, 5% in the poor category, 17% in the medium and 11% in the rich category received seedlings. Handing out seedlings is a step in Green Resources' community development programme according to the company's Environmental and Social Impact Report (2015). The company has supported a number of initiatives, among which distribution of pine seedlings to the local communities is a key activity (Impact Report, 2015). The project has been ongoing since 2010 and to date almost 200,000 seedlings have been provided to local communities surrounding the plantation. This is a long-term strategy for the villagers, as the pines must grow for 20-40 years before they can be cut down and sold as timber. The villagers who have received seedlings can in the future earn money from selling their timber, while at the same time contribute the greenhouse gas emissions reductions for which the Swedish Energy Agency is buying carbon credits. According to the report:

> *The villages were divided in such a way so as to enable community members to receive reasonable amounts of seedlings per individual to provide a better likelihood of producing a reasonable harvest.* (Impact Report, 2015, p. 25)

This present study sought to identify villagers who had received seedlings and the wealth group they belonged to. The procedure for the distribution of seedlings works in such a way that, according to the

chairman in the village Arwakere, they are asked to provide Green Resources with a list of 30-40 names of people who have land and can plant trees. The chairman also reported that Green Resources does not give out seedlings every year and that it selects some villages for distribution. This corresponds with information in the Green Resources Environmental and Social Impact Report (2015) to the effect that the villages that did not receive seedlings in 2015 will be given first priority in 2016. The chairman of Ojem expanded on the procedure for the distribution of seedlings as follows:

> *The company always talks to the local council; the chief provides the company with a list with names of people that may be able to receive seedlings and then Green Resources selects people from the list. People can transport the seedlings on their bikes. If your name is repeated on the list Green Resources deletes it so the same person can't receive seedlings twice. People who are interested can get seedlings. To receive seedlings is a financial asset and you need to have enough land to get them.*

The distribution of seedlings is thus rather biased. On the one hand seedlings are available for everyone, but this in-depth investigation in the villages revealed that it was not possible for everyone to grow the pines on their land. The critical issue was how much land a villager owned. A person without land except the little plot they had for producing food for their own consumption was not able to grow pines

Figure 5 Pine seedlings, which represent financial capital in the study area.

that would be ready 20 years later, when they urgently need food today. People with surplus land who were already rich thus had the opportunity to become richer through growing pines, while the poor who had less land were not granted this opportunity. This issue about seedlings reveals the inequality in the current system.

Nick, a rich villager cited earlier, did receive seedlings and said this about them:

> *You can see the improvement in the weather. And the seedlings are an investment for me. I will get timber and sell them. They must grow in 15-20 years first.*

For Nick, the activities mentioned in the Social Impact Report (2015) by Green Resources were a success, because he had enough land to grow the seedlings. Michel did not own any land at all, so for him it was impossible to grow pines. Thus while the idea behind handing out the seedlings is good, it cannot improve the livelihood of people who might most need it. The amount of land owned can thus be a deciding factor for people's livelihoods and financial assets.

As regards previous land used in the plantation area, 31% of the individual interviewees reported that in the past they cultivated crops in the plantation. Another community member in Arwakere express following experiences:

> *I have some negative experiences from Green Resources, because I used to cultivate in the planation. Many people are poor in the village and many people used to cultivate where the planation now is.*

Moreover, 14% of individual interviewees reported having more problems with access to firewood after the establishment of the Green Resources plantation. However, a company employee stated:

> *We do allow people to collect firewood from the plantation. The number of trees has decreased in the last year in the whole of Uganda so the issue about firewood is a challenge. We encourage the villagers to collect as much as possible. When the collective happens to have a tractor it is commercial, but when the villagers do it, it is domestic. We allow them to take the prunings and thinnings even though this is not allowed under Ugandan law. We allow them anyway, but because they know it´s illegal they tend to run when they see us. (Member of staff at Green Resources)*

In all, 28% of the informants reported problems with grazing their animals in the area.

> *What is bad is that I can´t graze animals within the plantation any more. The animals are starving; the life is hard for them. We can only graze in the garden nowadays.*

However, 44% reported more abundant and more reliable rainfall since the establishment of the Green Resources plantation:

I believe that Green Resources can help people to improve their lives, especially because of the better rain that comes with the forest.

Social capital – local conceptualisation

Social capital comprises the social resources, such as networks, social claims and social relations, upon which people draw when pursuing different livelihood strategies requiring coordinated actions (Scoones, 1998). On an individual level, this includes shared visions, trust, social obligations and social recognition (Chengke & Junshu, 2013). In the present analysis, I opted to place people´s different attitudes towards the Green Resources company within this section, to demonstrate how people perceive their surroundings as a whole. Social capital is about the context of relations and the cultural settings in the villages. The topic of analysis in the present case concerned the perceptions about Green Resources and why these exist.

As Table 3 indicates, there were three different types of views towards Green Resources: Some interviewees had never heard about or had no opinion about Green Resources, some interviewees had a positive attitude to the company and some people had a negative attitude. This variation in views emerged because people in the study villages had different livelihoods and therefore different prerequisites.

In this category, social capital, 56% of the informants did not express any opinion about the company. As mentioned earlier, the villagers Doris and Michel were among the poor but both their households had received seedlings, which was quite unusual. What was interesting was that their views reflected differing opinions of Green Resources according to gender. In general, women's and men's positions were valued differently in the study villages. Men were considered the head of the household, with knowledge concerning business and income values. Women were considered to be responsible for children and for cooking food. In particular, the level of knowledge that women and men had varied, in particular knowledge of Green Resources, since it was connected with business. Since men were seen as the heads of households, privileges and benefits came with the role. Whenever they wanted to, they could move around and collect information in the village, for example about meetings that Green Resources had announced. Men were not responsible for the cooking and care of children, and were thus not tied to the household to the same extent as the women. When asked about her opinion of the Green Resources company, Doris replied:

I don´t know much about Green Resources, except that we have received seedlings. My husband attended one meeting, but he didn't share anything with me about what was said at the meeting.

Doris was not involved by her husband in the conversation about Green Resources, which could be explained by the fact that she was a woman and was not privy to what was considered men's business. However, the interview with Michel revealed that he had no clear idea of what Green Resources was either, as exemplified by the following quote:

> *No way that they can help us to improve. I have never heard about Green Resources. The plantation is owned by rich people in Lira I think.*

This might be explained by lack of social capital and its consequences. In terms of social capital, the poorest group of people experienced social exclusion, *i.e*. those who were already poorly endowed with social assets were marginalised. Information is commonly spread by word of mouth in the villages and thus knowing people with beneficial information for one's livelihood could be a deciding factor for their social capital. Michel's social capital can be considered low (Inglis, 2012), since he did not know the people passing on information about Green Resources. This may be linked to the fact that he had little time left for networking, because he was constantly struggling on his own land to support his family. There was thus a relationship between social capital and the way that knowledge was generated and communicated in the study villages. High levels of social capital could lead to better natural capital, because the information on handing out seedlings was spread among people with access to the network providing the information. Receiving seedlings led to natural capital and having a connection with the right people enabled people to get their names on the list to receive seedlings.

The relationship between social capital and the way that knowledge was transmitted in these villages and illustrated in the next quote from Nick, when talking about his relationship with the village chairman (who he refers to as a council leader) and Green Resources:

> *It feels that I can have contact with Green Resources through the council leader. I like the company; it is a good company*

Nick belonged to the rich group and he had experienced positive benefits from Green Resources, because he received seedlings twice. As the quote above shows, Nick had a positive attitude towards Green Resources and, perhaps more importantly, a good relationship with the village chairman. As mentioned earlier, the different wealth groups have differing access to resources, such as land and livestock, and the resources owned by an individual can simply be interpreted as the quality of their social network, which is the key source of social capital (Chengke & Junshu, 2013). Those resources affected the network structure, for example resources owned by people in a particular wealth category were more similar than resources in the other wealth categories. The positive attitude towards Green Resources took many forms. People who had employment with the company had an optimistic view

because the employment generated a monetary income. The following two quotes confirm this kind of positive attitude:

> *Life was very hard, there was no other way to get money, but now I can get salary from the plantation. (David, Arwakere)*

> *But the positive from Green Resources outweighs the negative things, because of the more reliable rainfall and the employment. (Jan, Arwakere)*

The livelihoods of David and Jan had taken a positive turn since the establishment of the Green Resources plantation. The earnings from the work in the plantation provided a buffer that helped them cope with shocks and unexpected occurrences, such as hospital visits. It also compensated for their lack of other types of capital. Knowing the 'right' people that can recommend them to a prospective employer is a kind of capital that can help villagers develop. Knowing people that can help improve their livelihood can take people out of poverty. Social networks provide benefits such as access to employment and seedlings. These networks can have different forms. For example the people in the study villages belonged to different farming groups and savings groups, where they helped each other with cultivation and money. The village of Ojem, there was a women's group for empowering widows. Family and kinship was another important social network which enabled people to meet each other's everyday needs. The accessibility of other resources from those networks helped protect the poorest from crises such as disasters or health emergencies.

An important insight gained about social capital and livelihoods in this study was the differences in networks depending on the informant's background. On studying people's connections and sources of information, it was found that these differed depending on the villager's livelihood strategy and gender. The poorest were again the most vulnerable, and these included many women. Given Green Resources' extensive influence in the area, a surprisingly large proportion of the people interviewed (33%) had never heard of the company or did not have an opinion about it. However, these informants were mostly poor. For example, more than 50% of the interviewees in the 'poor' wealth category had received little or no information about Green Resources, despite the fact that they lived side by side with the plantation and in some cases even grew pine seedlings provided by the company. This raises several questions about how social capital can be built by the poor and what Green Resources can do to reach out to the poorest. There are no definitive answers to these questions, but one possibility may be for the company to work in strengthening the social institutions in the villages, e.g. the savings, farming and women's groups. This work could involve identifying support groups, seeing who is included and involving more people. These groups could work as communication channels and information could be spread through them. In addition, since the poor people in the study villages seldom had access to vehicles for transport, an alternative way for Green Resources to reach out to the poor could be to find them where they are,

instead of asking them to come to meetings. This could be done through the social institutions mentioned above. However, the question is how much responsibility Green Resources should take and how much responsibility each individual should have – and ultimately who has the relevant decision making capacity.

Physical capital – local conceptualisation

Physical capital is built capital, *i.e*. the building blocks of livelihoods (Narayan, 1999). In general, physical capital mostly includes the basic infrastructure and manufactured goods needed to support livelihoods, which includes land and material possessions (*ibid*.).

There was a striking absence of infrastructure in the Kachung area. The simple reason was that people in general were very poor. One way to distinguish different levels of wealth among the households was to view their housing as an asset. The three types of construction used for houses were clear markers of wealth groups. As mentioned above, the poorest had grass-thatched mud houses, the medium wealth category had semi-permanent and the richest had permanent brick and cement houses.

Another asset within physical capital is access to land, which was also a significant marker of wealth in the study villages. Households with limited or no access to land were considered poor, while the more land a household had, the more associated with wealth it was.

Without adequate physical capital, people's livelihoods are constrained and more time and effort are spent on meeting basic needs. Better facilities and better infrastructure would make it easier for the villagers to get access to improved tools for their farming, and thus to achieve higher yield. Action to improve infrastructure should be included within a larger plan for effectiveness and coherence.

Summary and connection between the capitals

There is a close connection between the five different forms of capital, as they interact across space and time and some households may experience fluctuations (Morse & McNamar, 2013). This is the reason for viewing the capitals as dynamic structures and processes, and not considering each capital in isolation. The sustainable livelihoods method (SLA) provides an analytical structure to facilitate an understanding of how the capitals relate to each other and factors that boost or limit livelihood strategies. It is easier for people to adapt to shocks and stresses if their livelihood strategies involve more choice and flexibility. One capital can lead to another, and access to many assets can influence the choice of livelihood strategy. When the connections between different forms of capital are made visible, the outcomes from the livelihood strategies are more measurable. By focusing on the manner in which people design their livelihood strategies to achieve certain outcomes, SLA reveals how even the poorest are active in shaping their livelihoods.

Insights that have emerged from participatory assessments of poverty are that assessments of well-being are multidimensional and that people have complex livelihood strategies (Ruggeri Laderchi 2001). People´s perception of livelihoods are described within the five capitals. The identification of these capitals and the content is of interest because it becomes possible to distinguish patterns of poverty. The method has helped improve understanding of poverty for this study and it can further help to promote future solutions and build capacity for poverty investigation and policy strategy. The dimensions of the capitals were highly valued in this study and took into account local perceptions of poverty and livelihood, and how they are linked together.

As already mentioned in this thesis, financial capital can be considered one of the most important assets as it can be converted to physical or natural capital, and as physical and natural capital can be sold to obtain financial capital (Morse & McNamar, 2013). Since higher education costs money in Uganda, human capital can also be bought through paying school fees. The absence of financial capital makes other capitals more important. High social capital can lead to employment for those within the right social network, or it can even mean not having to work for Green Resources and just applying for seedlings if there is enough land within the household and good awareness about the seedling distribution system. High social capital also provides stronger human capital, in that a person is often born into a family with already high social capital, which in turn leads to the parents being able to afford to pay for their children's education and medical treatment if necessary. If the human capital is good, *i.e*. if a person is strong and healthy, they can improve their financial capital by taking a job at the Green Resources plantation. These are just some examples showing how the capitals together build a structure and create a process that Green Resources is involved with and influences in different ways. The livelihood outcomes can be crucial for another form of capital, such as higher income leading to better human capital, because a better education can be obtained when it is possible to pay for better schools. Everything is connected and together builds people's livelihoods.

Discussion and conclusions

The aim of this thesis was to explore how wealth was understood by the villagers themselves in the study region and the kinds of economic and social impacts the Green Resources plantation had on local livelihoods. Application of the sustainable livelihoods approach in the analysis improved understanding of the problems with poverty alleviation and how some groups are disadvantaged in the present system. The capitals within the sustainable livelihoods approach proved useful as a checklist of issues to be measured when designing projects for the poor. The information from each capital was a good tool to identify target groups and their livelihood assets. It also revealed how villagers use other capital, and not only money, to obtain a sustainable livelihood. However, agriculture, family labour, physical strength, education and professional skills and other assets can easily be undermined. The SLA approach revealed the diversity of activities that people in the study villages are performing to make their living. The poorest people often have to depend on different types of economic activity for their livelihoods (Scoones 2015), so this approach is particularly important in the case of the poor. The strength with SLA is the holistic view it takes on resources that are important to the poor, which means that it takes into account not only physical and financial resources, but also social and human capital. This enables a better understanding of the fundamental causes of poverty by focusing on the variety of factors that exclude or include poor people's access to resources, and thus their livelihoods. In the present case, some of the factors arising from the impacts of the Green Resources plantation had affected people in the study villages differently. Identifying the groups experiencing exclusion or inclusion is an important part of SLA and makes it possible to see how even the poorest of the poor shape their livelihoods. This approach begins with people and how they managed strategies and resources (Turton 2000). This is important in helping to understand what the poor need for a sustainable livelihood. Moreover, SLA combines people's livelihood strategies, their asset status and how they use available natural resources, so the approach is useful for considering underlying problems and the scope for sustainable development at the local level (Allison & Horemans 2006).

Thus, SLA is a method to use when aiming for poverty reduction and helps improve understanding of the challenges confronting local people and identifies ways to address them (Allison & Horemans 2006). However, other questions asked in this thesis were who the poor are and how they themselves perceive poverty. By letting the villagers, themselves define the relevant criteria for wealth categories, the outcome was unique for the particular village. The reason by doing so is simply to find out whose reality that counts (Chambers 1995). If first putting the reality of the poor and making it count, it's possible to achieve a social development and poverty reduction (ibid). Livelihood strategies varies widely within different wealth groups, there is no given characteristic that obviously distinguishes rich, middle and poor (Turton 2000). Perhaps another way of representing different wealth levels is more accurate, as Conway (1999) suggest; in terms of ownership of assets Moreover, by avoiding exclusion

of some villagers, the individual wealth ranking was very useful. How people view wealth may vary and some of the participants during the common wealth ranking session in the villages might not have felt that they could make their voice heard. However, the people involved in this study agreed about some joint parameters for three different wealth groups, which they self-appointed. The outcome was interesting and showed various aspects of wealth other than monetary income, for example how much land someone had, how many cattle and how their house was constructed. It also showed that wealth varied greatly within the same village, since within the wealth parameters set it became clear that some people were better off and had a more decent life, while some were living in complete poverty and had to rely on others to a great extent for survival. Without underplay the constraints that keep the poor in poverty and to not see the poor as richer than they seem (De Satgé, et al, 2002). In programmes for poverty alleviation, the hardest hit should be the first to receive help, which is currently not the case in Green Resources' work for socio-economic development in the study area.

Using the PA as a complement to the SLA has been a good option to get the big picture of poverty. In order to achieve strategic changes are PPA a good tool in reaching the poor and see their realities. When planning a process for poverty reduction, these study summaries the findings on local perceptions of poverty and livelihood, as something to take into account in an early stage of the process. This because of reaching the poorest people, they who are in most need for support.

The idea behind the CDM in the Kyoto Protocol was that international cooperation would lower the costs of reducing emissions and therefore that more countries would be able to live up to their commitments on emissions reductions (Fischer et al. 2016). The CDM projects may seem reasonable on the basis of a global ambition to reduce greenhouse gas emissions or to act as sinks for atmospheric carbon dioxide, but they can cause other undesirable effects. For example, CDM projects themselves may involve other forms of environmental impact, or may impair the social, economic or political conditions of the local population in the project area. The use of tree plantations as carbon sinks to compensate for carbon dioxide emissions in the Global North has the result that large areas of the Global South must be set aside to meet the needs of the Global North. The issue about this appropriation of nature called Green grabbing (Fairhead et al. 2012) starts wider discussions of "land grabbing" and how the livelihoods in rural contexts change across the world. Many hopes that carbon market will be a solution to the climate change (Lyons & Westoby 2013), but as matter of facts it seems to not be the key. A reform of carbon markets and plantation forestry can be something to start with, that should include concerns about local people's livelihoods and how they get affected (ibid). The agenda should be reformed in focus on equity and justice emerge, but such a vision is difficult to get through (Fairhead et al. 2012). New mobilizations, alliances and coalitions must probably emerge.

Rural people in Uganda contribute little to carbon emissions, but those in the Kachung area are still highly involved in offset of carbon emissions. A number of local people have not received any benefits from the Green Resources plantation, and the most severely negatively affected were the poorest. Many of the poorest people did not even know what the company is and what it does. The land licence for the plantation refers to 2669 ha and it affects 1621 households in 14 villages in the surroundings (PDD 2012). Each household can be quite large, as it is not unusual for families to have 4-10 children. Some local people work for wages on the plantation (264 casual workers) and some have received seedlings (348 people are registered for tree planting) according to Green Resources Impact Report (2015 H2). For these villagers, the establishment of the plantation has been very beneficial. But the employment opportunities it provides are very limited and the Report "Darker Side Green" (Lyons & Westoby 2013), confirms this thesis findings. Findings about Green Resources poor employment conditions and delayed salary payments (ibid). However, despite the socio-economic assessment by Green Resources, which sought to cover both ecological and social aspects of the project, the impacts in the Kachung area include social disruption, disadvantageous livelihood impacts and environmental problems (ibid). The plantation has affected local food security, as people's access to land for cropping has decreased. Other impacts on sustainable livelihoods and environmental sustainability have had profound effects on already marginalised people, since their living area has been reduced (ibid). The commitment to development of socio-economic activities by Green Resources has so far only involved few people around the villages.

The stated intention with the Green Resources plantation was to provide an economic stimulus for the area and nation, but only a few people have seen the benefits. The employment opportunities on the plantation have given increased income and have improved the standard of living for some people in the area, but there are still many left behind. People who are hardest hit, and seldom receive any benefits, are the poorest of the poor.

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