The Tragedy of Private Forestry

Understanding Deforestation of Private Natural Forests in Kibaale District, Uganda

A thesis submitted for the degree of MSc by Jakob Christensen & Stefan Steen Jensen

Sylvan meant savage in those primal woods
Piero di Cosimo so loved to draw,
Where nudes, bears, lions, sows with women's heads,
Mounted and murdered and ate each other raw,
Nor thought the lightning-kindled bush to tame
But, flabbergasted, fled the useful flame.

Reduced to patches owned by hunting squires
Of villages with ovens and a stocks,
They whispered still of most unsocial fires,
Though Crown and Mitre warned their silly flocks
The pasture's humdrum rhythms to approve
And to abhor the license of the grove.

Guilty intention still looks for a hotel
That wants no details and surrenders none;
A wood is that, and throws in charm as well,
And many a semi-innocent, undone,
Has blamed its nightingales who round the deed
Sang with such sweetness of a happy greed.

Now here, now there, some loosened element,
A fruit in vigor or a dying leaf,
Utters its private idiom for descent,
And late man, listening through his latter grief,
Hears, close or far, the oldest of his joys,
Exactly as it was, the water noise.

A well-kempt forest begs Our Lady's grace;
Someone is not disgusted, or at least
Is laying bets upon the human race
Retaining enough decency to last;
The trees encountered on a country stroll
Reveal a lot about a country's soul.

A small grove massacred to the last ash,
An oak with heart-rot, give away the show:
This great society is going to smash;
They cannot fool us with how fast they go,
How much they cost each other and the gods.
A culture is no better than its woods.

Extract from 'A Culture Is No Better Than Its Woods' by W.H. Auden (1958)

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Abstract

This thesis addresses one of the most pressing issues in contemporary natural resource management: the drivers behind deforestation of privately held natural forests. Uganda is one of the hotspots for deforestation. Despite having a well-crafted policy and institutional framework for curbing deforestation, the country's private forests, which make up around 70% of the combined forest cover, are predicted to be extinct in 20 years.

The empirical data for this thesis was primarily collected at household-level in Kibaale District in Western Uganda. Interviews with representatives from different levels of government together with experts and different stakeholders furthermore make up the empirical foundation of the thesis. We apply a complex multifactor theoretical framework for analyzing the data. The framework breaks down the drivers of deforestation into three interconnected factors; the historical drivers, the proximate drivers, and the underlying drivers.

The first part of the analysis applies a historical analytical approach to study the shifts in and discourses of land-use practices from the colonial period until the present. It is argued that land-use practices changed drastically with colonialization. This happened on the basis of a discourse of exploitation where agriculture is commercialized and profit ultimately is valued over conservation at the detriment of private forests. Consequently, in today's Uganda, cash-cropping often takes prominence over forest conservation at the expense of the private forests.

The second part of the analysis identifies how the loss of forest cover is directly impacted by a high demand for arable land prompted by soaring poverty and rampant population growth. Conversely, often-mentioned explanations of deforestation (e.g. wood extraction and infrastructure expansion) only play a cameo role.

The third and last part explains that the proximate drivers are not so much causes of deforestation as mechanisms by which the true underlying causes are transformed into actions that degrade the environment. It is argued that the underlying driver of deforestation is an inability of relevant institutions to implement the country's otherwise well-crafted policy framework for conservation of private natural forests. The policies are not being implemented due to a low priority of the forestry sector in the International Financial Institutions and the central government, and the forestry institutions are therefore under-resourced and unable to fulfill their mandates. Consequently, alternative livelihood options, to substitute harmful agricultural practices with sustainable livelihood options, are not being offered. The institutions are therefore not able to turn the negative trends at the proximate level. The negative consequences are accelerated by an unwillingness to deal with the soaring population growth and a continuing promotion of cash cropping.

On a final note, the thesis forwards two general recommendations concerning the necessary actions that need to be taken to ensure the survival and sustainability of this vital resource.

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Acronyms

ACODE	Advocates Coalition for Development and Environment
CFR	Central Forest Reserves
DFO	District Forest Officer
DFS	District Forest Services
ENR	Environment and Natural Resource
FAO	Food and Agriculture Organization
FSSD	Forestry Sector Support Department
GoU	Government of Uganda
HIPC	Heavily Indebted Poor Countries
IFI	International Financial Institutions
IMF	International Monetary Fund
KCSON	Kibaale District Civil Society Organizations' Network
MWE	Ministry of Water and Environment
NDP	National Development Plan
NFA	National Forestry Authority
NRM	Natural Resource Management
PA	Protected Area
PFO	Private Forest Owner

Foreword

The empirical data for this thesis was collected during a six month internship with CARE Uganda's regional office in Fort Portal in the Western part of the country from April to September 2011. The aim of the internship was to document the drivers of private forest degradation and provide recommendations for improving the management of Uganda's private natural forests. During the internship we developed and published a policy brief. The policy brief is to be used by CARE in Uganda to raise awareness about the private natural forests and the required interventions in Uganda's local and central governments.

Due to inflation and subsequent fluctuations in Uganda's currency, the Shilling (USH), we have found it inadequate to convert figures in the thesis to US$. All figures are therefore given in USH. On December 15th 2011, US$1 equaled USH2386.

1 Introduction

In 1774 British scientist Joseph Priestly made a remarkable discovery. In his laboratory he found a mouse not too *"inconvenienced"* by being trapped inside a bell-jar with a mint plant (Priestley 1774:41). In the footsteps of Priestly followed a plethora of scientists who mapped the important ecological functions that plants – and in particular trees – serve in making the planet habitable (Astil 2010). The importance of forests in providing ecosystem services by regulating global and local climatic conditions, and acting as carbon sinks was thus established (FAO 2011:61). Concurrent with this recognition, the last decades have seen rampant deforestation[1] in many parts of the world, which now threaten the integrity and sustainability of this vital natural resource. Between 2000-2010, the worldwide forest cover diminished by 5.2 million hectares annually (FAO 2011:3).

Whereas many countries in the Northern Hemisphere have managed to break the negative trend of deforestation, numerous countries in the South are experiencing continuing loss of forest cover. The remaining forests have therefore drawn increasing attention in the international community in recent years. Besides being an integrated part of the discussions at the recent Climate Change Conferences (Daviet and Stolle 2010), the UN has designated 2011 as the 'International Year of Forests' in a bid to celebrate the forests and raise awareness about conservation and sustainability (UN 2006).

Africa is one of the hotspots for deforestation. Despite positive trends in Northern Africa, where considerable effort has been put into reforestation, the general picture is a continent losing its forests at an alarming and uncontrollable rate (FAO 2011). In East Africa the consequences of this development were evident in the recent crisis in the Horn of Africa where *"decades of deforestation … has turned productive lands into desert"* (Center for International Forestry Research 2011), which has been a cause of recurring drought and famine in the region (United Nations Economic Commission for Africa 2008:3; Stastna 2011). The region ranks among the poorest in the world (UNDP 2011) and the effects of deforestation have immediate impact, because of the decreasing ability of the forests to provide a cushion to the poor at times where agricultural produce and monetary income are unavailable. Uganda currently experiences the highest levels of deforestation in East Africa (FAO 2011:5) and there is increasing concerns that desertification may turn Uganda's lush nature into a barren desert.

No such concerns existed in 1898, where the forests covered about 45% of Uganda (Hamilton 1984). Around this time British colonialist Winston Churchill visited Uganda and was stunned by the country's natural beauty which caused him to call it the pearl of Africa (1907:197). In his view, Uganda was close to paradise:

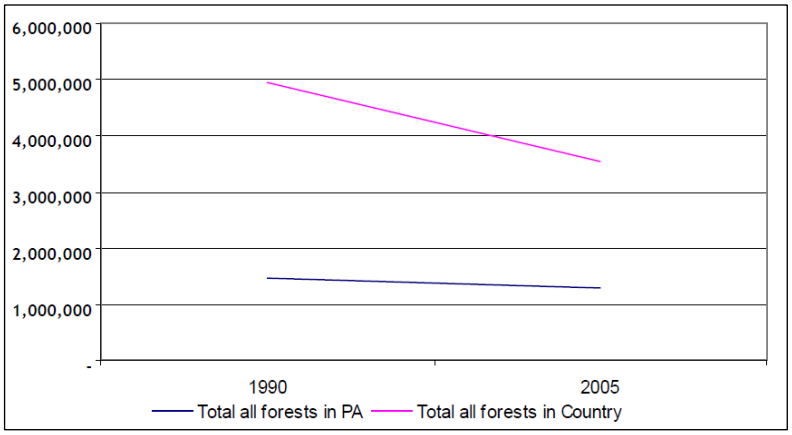
> "... Uganda is from end to end one beautiful garden, where the staple food of the people grows almost without labour, and where almost everything else can be grown better and easier than anywhere else ... Does it not sound a paradise on earth?" (1907:88-89)

[1] Deforestation is, in this thesis, understood broadly to describe the transition of natural forests into different usages or to degraded and deforested areas (Geist and Lambin 2001:17). A conversion of a natural forest into plantation also constitutes deforestation in our understanding because it involves the clearing of indigenous tree species at the detriment of biodiversity (Jagger and Pender 2000:2-3; Bachram 2004:8).

A century of excessive deforestation has, however, robbed Uganda of much its natural beauty and vast forest cover. In 1990, the forests covered 24% of Uganda, whereas the latest data shows a coverage of only 18% (NEMA 2009:171). This amounts to an alarming deforestation rate of 2,6% annually (FAO 2011:110). The soaring deforestation has been taking place in spite of a recommendation from the Government of Uganda stating that in order to have a stable ecological system, 30% of Uganda should be forested (2010:91).

It is especially privately held natural forests that are vanishing, whereas forests in protected areas are relatively well conserved, as it is illustrated in Figure 1. Uganda's private forests make up around 70% (2.5 million ha) of the country's total forest cover, but estimates based upon the most recent biomass study suggest that within 20 years, forests outside of protected areas will be almost extinct (Jagger 2009:168). Private natural forests play an essential role in the lives of the Ugandan people. The vast majority of Ugandans rely on woody biomass for domestic energy consumption, and the forests are for many the only sources of products such as timber, poles, medicinal herbs, and other non-timber products. The loss of natural forests is furthermore regrettable because they function as a habitat for wildlife, they store more carbon dioxide than plantations, they help prevent floods and soil erosion, and they help sustain the recycling of water and bring rainfall (Leuschner 2005:103; Knohl, Schulze et al. 2009:150-151).

Figure 1: Forest Loss (hectares)

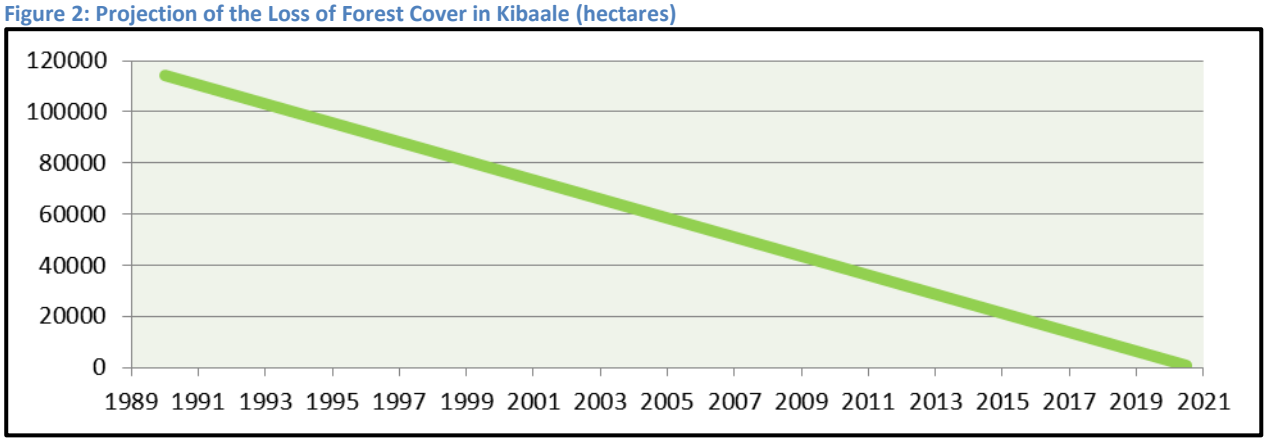


Source: NEMA (2009:171)

Although some of Uganda's districts have lost 100% of their forests, Kibaale district has the highest loss of forest cover in terms of hectares amounting to 55,834.60 (Auditor General Uganda 2010:16). The district lost approximately half its forest cover from 1990-2005 and at the current level of deforestation the forests will be extinct in about 10 years[2] as illustrated in Figure 2. The current and potential impacts of Uganda's deforestation are immense and include increased floods, changing and unpredictable seasons, fluctuation in water flow, soil erosion, shortage of medicinal herbs together with building and crafts materials, loss of biodiversity, decline in water quantity and quality and reduced ground water recharge. This will have tragic consequences for the magnificent natural beauty of Kibaale and the rural subsistence farmers who rely on the land as their only livelihood option.

[2] The projection does not distinct between forest reserves, which are relatively well protected, and private forests. The destruction of private forests may thus be even more extensive.

Figure 2: Projection of the Loss of Forest Cover in Kibaale (hectares)



Source: Based on loss of forest cover from 1990 - 2005 (Auditor General Uganda 2010:16)

A vast majority of Uganda's biodiversity is found in the Albertine Rift Valley, which some of Kibaale's forests are a part of. The Valley is globally acknowledged as a major center of diversity and endemic species and ranks first out of the 119 distinct terrestrial eco-regions of continental Africa in terms of endemic species of birds, mammals, reptiles, and amphibians and second in terms of globally threatened species. The private forest areas in the Albertine Rift Valley therefore have important conservation values; not just on their species content, but because they provide linkages, or corridors, between other larger forests, allowing connectivity which is important for species dispersal and gene flow between larger forests. The massive deforestation in Kibaale does, however, threaten the existence of this corridor. Should the corridor collapse, it could have dramatic consequences for the unique flora and fauna of the Albertine Rift Valley (WWF 2006:3; Richard 2011).

Kibaale's deforestation occurs against a backdrop of national reforms and what by many scholars is acknowledged as a well-crafted policy framework (Akello 2007; Turyahabwe and Banana 2008; Mugalula 2010; Kahangirwe 2011). This framework has seen new institutions instigated and relatively strong legislation to prevent illegal logging and provide the rural population with training in forest conservation and management (GoU 2001; 2002; 2003). Despite these efforts, recent estimates found that the deforestation rate had increased from 6,000 to 6,700 hectares per month in recent years, and the deforestation rate does therefore not seem to have peaked yet (Ogwal 2011). One of the major challenges Kibaale is facing is an explosive population growth in the poor rural areas. Uganda's population growth rate of 3.4% per annum places it among the countries with the highest population growth in the world (Green 2006a:1). In addition, Kibaale ranks among the districts in Uganda with the highest population growth amounting to 5.9% annually (Wittek and Armstrong 2009:105), which causes Kibaale's population to double approximately every 12 years. Because farming constitutes the only livelihood option for 90% of Kibaale's population (KDLG 2011a:7), farmland is in high demand, and people are being pushed into hitherto untouched forested areas to find new arable land.

This thesis is devoted to uncovering why Kibaale, despite Uganda's well-crafted institutional and policy framework, is experiencing continuing deforestation of its private natural forests and what the underlying drivers are. Meyer and Turner note that uncovering the possible human driving forces of deforestation is *"a formidable task*" (1992:52) and Babigumira, Müller et al. find that

> "there is surprisingly limited convergence on the basic question: "what drives deforestation?"" (2008:63)

Along these lines, we find that many well-established theoretical frameworks concerning deforestation are based on too simplistic information and employ very narrow approaches to explain deforestation, such as attributing it to single factor causations of e.g. population growth. Other frameworks adopt a world-wide applicability, but thereby lose their explanatory powers of specific cases such as ours, because local natural resource management represents empirical contexts far too dynamic and diverse to warrant such comprehensive theories (Rudel and Roper 1996:62; Mather, Needle et al. 1998:1992). To do justice to the extensive empirical data we derived from our far-reaching fieldwork in Kibaale and interviews with local and national-level stakeholders, we therefore endeavor to rethink a matrix of other frameworks and develop a framework with explanatory power in the specific case of Kibaale. The crux of our framework is that the loss of forest cover is directly impacted by rapid population growth, which in turn creates an increasing demand for farmland to the detriment of the private natural forests. It is, however, made clear that these are not so much causes of deforestation as mechanisms by which the true underlying causes are transformed into actions that degrade the environment. The underlying causes in this case being poor implementation of the otherwise well-crafted institutional and policy framework for forestry management. Both the proximate and underlying causes are contingent on the historical experience of changes in power relation and discourses within the policy setting in Uganda. We therefore include a historical perspective to understand the emergence of the proximate and underlying causes.

1.1 Research Question

Based on these reflections, we seek to provide a nuanced answer to the following research question:

> Why do the private natural forests in Kibaale district, despite Uganda's well-crafted institutional and policy framework to prevent this, continue to decline?

2 Methodological Approach

2.1 Introduction

Based on a case study methodology, this thesis applies a qualitative approach in the analysis of the drivers behind deforestation on privately owned land in Kibaale. In addition to this core methodological approach, the analytical strategy is established on principals associated with a constructivist grounded approach. This is in line with the thesis' qualitative approach, which grounded approaches are strongly associated with (Berg 2008:37). A methodology that is predominantly inductive rather than deductive implies that we, in accordance with Mikkelsen's definition (2005:168), begin with concrete empirical data – derived from extensive fieldwork – and work towards abstract ideas and general principals of the different drivers of deforestation.

The thesis' methodological self-understanding of being grounded requires a bit more attention. It is important to emphasize that the ambition of the present thesis is not to develop theory as it is done in Glaser and Strauss' (1967) classical grounded theory. Rather, it is to avoid committing ourselves to making up our minds about what is essential and what is not, before initiating the study (Andersen, Brante et al. 1998:89-90), and in this way apply a grounded principal in an empirically based approach. Our approach also breaks from the positivist notion in the traditional grounded theory approach and is closer to a social constructivist ontological position "*that leaves behind the traditional grounded theorists' subscription to the discovery of truth that emerges from data representative of a "real" reality."* (Mills, Bonner et al. 2006:3). Textbook versions of grounded theory often stress the importance of researchers to avoid preconceived ideas, but as section 4.2 reveals, the study design of this thesis is theoretically informed and prior to the fieldwork some knowledge of the different drivers of deforestation on private land was already gained. Therefore it would be wrong to claim that the thesis is not influenced by hypotheses (and therefore also to some degree holds a deductive approach[3]). Rather, there are some preliminary and broad hypotheses, which is the case in most qualitative research (Berg 2008:37), and throughout the research they are being tested and held up against the empirical data. Therefore, these hypotheses are not fixed, and – should the date so suggest – the original hypotheses can be reformulated or left out, and/or new hypotheses can be formulated. The level of pre-understandings is largely determined by existing data and is therefore related to the authors' epistemological and ontological positions. In this connection it is imperative to reflect over these otherwise unconscious assumptions about the world and the role of science. This is relevant because it explains the conditions under which this thesis was constructed, as these feed into the way the research question is formulated and the way the research is carried out (Bryman and Bell 2007:25).

2.2 Epistemological and Ontological Considerations

Epistemological debates revolve around questions concerning the nature, scope, and sources of knowledge – i.e. what is knowledge (Bryman 2008:13). The methodological standings of positivism and interpretivism can be viewed as representing polar opposites in the epistemological debate. In a nutshell, the positivist position maintains that objective knowledge about both the social and the natural world can be achieved via the employment of a natural science methodology, and it is therefore the best model for all disciplines. In contrast, interpretivism rejects this notion and argues that social sciences are essentially different from

[3] According to Mikkelsen the researcher, in the deductive approach, *"begins with abstract ideas (e.g. hypothesis) and then collects concrete, empirical details to test the ideas."* (2005:168)

natural sciences and therefore the employment of non-positivist research methods is more suitable (Formo 2010:8).

On the other hand, ontology is *"the theory of underlying structures in biophysical or social entities"* (Forsyth 2003:15); that is, what can be said to exist (Zacharias 2004:508). Here, the two opposing positions are objectivism and constructivism. Objectivism is based on the assumption that there exists a knowable reality outside of human perceptions, and that science produces successive theories that progress ever and ever closer to the correct description of reality. In contrast, constructivists hold that individuals construct realities which make sense to them, and therefore social phenomena are constantly being formed and defined by the social actors entangled in them (Davis, McCarty et al. 1993:628).

Our epistemological and ontological positions are based on interpretivism and soft social constructivism respectively. According to Bryman, the appearance of the interconnection between qualitative research, constructivism, and interpretivism is very common (2008:21-23). When studying the subject of deforestation, we hold that the involved actors actively produce knowledge about deforestation, conservation, and conservation practices. With inspiration from Demeritt's who claims that "*[h]uman knowledge of nature comes to us already socially constructed in powerful and productive ways (…) ecology is a discourse, not the living world itself,*" (1994:177) we argue that concepts such as deforestation do not have an existence prior to or independent of the social actors who produce them. Hereby we deny the existence of an objective reality; instead, reality is viewed as a construction created in the mind of the individual and shared among many individuals (Guba and Lincoln 1994:110). This does not mean that the world does not exist objectively, but it is impossible for the individual to understand 'reality' outside of its discursive formation (McHoul and Grace 1995:57-59). In the same vein, we argue that while the concept of deforestation is socially produced, the biophysical world is not. This position is what Robbins refers to as 'soft constructivism' (Robbins 2004:113-116) and makes up the ontological position of this thesis.

2.3 Double Hermeneutics and Pre-Understandings

As previously mentioned, the level of pre-understandings is largely determined by the existing data about forestry in Uganda, but also through observations from previous experiences and information from our partner organization, CARE International in Uganda. These factors all played a role in the choice of what to study and where and how to study it and can be seen to constitute the first hermeneutics in Giddens' (1993) concept of the double hermeneutic as a characteristic of social science. The hermeneutic-phenomenological argument takes its point of departure in a distinction between natural and social sciences; the former studies physical objects while the latter studies self-reflecting humans and holds the object as the subject. Social science researchers must therefore take account of the changes in interpretations of the objects of study (Flyvbjerg 2001:32).

There are two types of self-interpretations at play in Giddens' double hermeneutic. First are the self-interpretations among the people examined – these self-interpretations and their relations to the context of those studied are essential to understand in order to understand why people act as they do. The second aspect concerns our own self-interpretations. Our self-understanding and concepts do not exist in a vacuum, but have to be understood in relation to the context, and the context is therefore in a dual relationship; it is determined by our self-understanding, but our self-understanding is also determined by the context.

Following the double hermeneutic, the matter of what is to be considered as relevant facts within e.g. social science is determined by both the researchers' interpretations and the interpretations of the people whom the researchers study. According to the hermeneutic-phenomenological claim, this means that the study of e.g. deforestation on private land in Kibaale can only be as stable as the self-interpretations of the individuals studied. If these interpretations are not constant, the study of society cannot be stable either (Flyvbjerg 2001:33). Therefore it has been a priority for us to stabilize the study by conducting it within a clearly defined methodological approach and a crystallized research design, which this and the following chapter show.

Flyvbjerg calls for social science that does not seek to emulate natural science (2001:38). Instead, he emphasizes Giddens' first hermeneutic by claiming that social science research is not value free, and the second hermeneutic by claiming that causality may refer to the reason why an actor carries out an action. He does, however, not rule out that structural variables, perhaps unknown to the actor, may also explain the causality. It is the claim of Flyvbjerg that, provided that the wider context is understood (see section 4.3.7), the actors and their actions are best understood in the context of case studies as they constitute concrete examples (2001:37-40). In accordance with this claim, our thesis takes the form of a case study which is further discussed in the following section.

2.4 Perspectives of a Case Study Methodology

2.4.1 The Use of a Single Case Study

When working within the social constructivist tradition of research it is imperative to analyze the specific context in order to gain an understanding of it. To do this, a single case study is applied. The case study centers on proximate, underlying, and historical causes of deforestation in Kibaale. These drivers have received little attention and there seems to be a paucity of knowledge about the different drivers; this call for an explorative and empirically grounded research process. The empirically grounded approach entails a collecting of data from actors in the field and from local and central governments. The study can be termed as explorative because a preliminary framework for the study was developed ahead of time and the fieldwork was carried out prior to defining the research question (McDougall 2008:18).

The use of a case study methodology is connected with two important understandings the reality being examined and the reality of the researcher. Flyvbjerg argues that a case study's wealth of details and its connection to reality are important in two ways; that is, it helps the researcher to develop a nuanced conception of reality, and it contributes to the researcher's learning process as a contextual dependent and specific experience is as central to the researcher as the learning process of any other skill (1991:143). Hence, the use of a case study derives from a wish for developing a nuanced understanding of the reality of the deforestation in Kibaale. By doing this the researcher, in the words of Flyvbjerg, sublimates himself from a 'beginner' to a 'virtuoso expert' (2004:421-422). Human behavior cannot meaningfully be understood as simply rule-governed context-independent acts, which is the approach employed by beginners. Beginners therefore often end up in a stultified learning process because of great distance to the research field and lack of feedback. The virtuoso expert, by employing the context-dependent approach, gains the advantage of continued proximity to the studied reality and feedback from those under study, which make the study dynamic and open to the field. Hereby the context-dependent knowledge is explored and understood.

Choosing a case can be a difficult process, and the different steps that led to the choice of Kibaale deserve a bit more attention. A priori, it was given that we would conduct our research in Western Uganda, as this is where the CARE office, we were affiliated with, is located. The case of Uganda is, however, also one of the most pressing cases when it comes to deforestation because of its position as one of the countries in the world with the highest deforestation rates (Tenywa 2007). This, together with the dismal predictions stating that in 20 years the only natural forests remaining in Uganda will be located in reserves (Jagger 2009:168), make Uganda an immensely interesting case.

Furthermore, the paucity of available academic material on deforestation of Uganda's private natural forests made it relevant. A large number of studies concerning Uganda's forests in PAs has been conducted despite the fact that they only make up 30% of the total forest cover, whereas the private forests make up 70% (NEMA 2006/07:78-79). We therefore find it imperative to attract attention to the private natural forests' silent death.

Initially we planned to cover both Kibaale and its neighboring district Mubende, but we realized that almost all of Mubende's private natural forests had already been cleared (Tumunimbise 2011, May 18). After interviewing the DFO in Kibaale and conversations with experts within CARE International in Uganda, we became aware that the drivers behind the deforestation in Kibaale by large were the same as those that caused the deforestation in Mubende and most of the Western part of Uganda. We therefore found it fruitful to hone in on Kibaale in order to do an in-depth investigation of these drivers. Kibaale was not in itself pre-selected but chosen because it had some characteristics that made it relevant. It should be noted that because the drivers of deforestation of privately held natural forests in Kibaale are numerous and interrelated their study must necessarily be selective as the scope of this thesis does not allow us to analyze all drivers exhaustively. We have therefore chosen focus on the drivers that our fieldwork indicated to be most significant in Kibaale. Consequently, drivers such as gender dependent issues, property rights, agro-technological change, and cultural factors have only been covered partially because they have less impact in Kibaale compared to other drivers.

Massive deforestation is unfortunately a worldwide phenomenon and the case of Kibaale is only one amongst many. It is this 'typical' case of deforestation that is the focal point in the study. The fact that the case can be characterized as typical is important for what can be concluded from the findings of the thesis. These findings make up a piece of empirical reality in Kibaale, and because of Kibaale's position as one of the worst cases when it comes to deforestation the experiences of Kibaale may be beneficial to learn from for other districts, the government and other countries experiencing deforestation. According to Flyvbjerg this means that the case is 'critical', because a critical case is defined as a case that has strategic importance in proportion to a general problem (1991:149). This is not to say that the study can be transferred wholesale to other countries and the problems they are facing, but that some themes can be deduced from the case that can be relevant and maybe help them to avoid some of the pitfalls that Uganda has fallen into. The study furthermore holds a high relevance for both donors and NGOs in Uganda who can use the policy brief, that we devised for CARE during our internship, in their advocacy work for more focus on private natural forests from the central and local governments. Even though the policy brief springs from our fieldwork in Kibaale, the findings are not only relevant for Kibaale but most of Uganda's forested districts, as many of the problems identified are situated at the national and international level and their implications are therefore not restricted to Kibaale. This is e.g. the case with the analysis' finding that the financial

constraints in the forestry sector are a consequence of lacking commitment to the forestry sector in the GoU and the IFIs. NGOs and donors can use this knowledge in their advocacy work in the GoU and IFIs for higher budgetary allocations to Uganda's forestry sector.

2.4.2 Critique of the Case Study Methodology

Case studies are often criticized, but Flyvbjerg presents a different perception of the case study and its potential and hereby seeks to nuance and refute some of the typical points of criticism. One of the most pronounced points of criticism is that the case study contains a bias towards verification; that is, a tendency to confirm the researcher's preconceived notions (2011:302). To this Flyvbjerg adds a general qualifier and claims that this is a pitfall all scientific research faces. In addition he adds that the quantitative/structural researcher does not get as close to those being studied as does the case study researcher, and he is therefore less likely to be corrected by the study objects' 'talking back' (2011:310). This interaction with the research field proved advantageous during our work with the interviews as we, during the household interviews, became aware of certain perspectives that we had not considered a priori, e.g. the historical role of traditional beliefs in forestry management. Hereby the case study did not confirm our preconceived notions; on the contrary, it broadened them. This is in accordance with Flyvbjerg's claim that

> "the most advanced form of understanding is achieved when researchers place themselves within the context being studied. Only in this way can researchers understand the viewpoints and the behavior that characterizes social actors." (2011:310)

Another criticism case studies often meet is that one cannot generalize on the basis of an individual case; therefore, the case study cannot contribute to scientific development (Flyvbjerg 2011:304). Here, Flyvbjerg claims that in the study of human and society, predictable theories and universals do not exist. Concrete, context dependent knowledge is therefore more valuable than futile search for predictable and universal theories (1991:144). A general theory about deforestation is of little use to a district like Kibaale where understanding context dependent knowledge is more valuable in order to identify the problems and find solutions. Hence, the theory applied in this paper is used to seek heterogeneous and context dependent knowledge instead of universal and homogenous generalizable knowledge. Analytical generalizability is therefore not what is essential in this case; rather it is to focus on the specific case of deforestation in Kibaale and to some extent Uganda. Whenever possible, conclusions that, despite their context dependent nature, might be useful in similar cases in e.g. other districts and other African countries will be pointed out.

3 Research Design

3.1 Introduction

The following section delineates the data collection methods employed during our fieldwork and represents the beginning of the empirical presentation of the case study. The most widespread biases in qualitative development research are taken into account and it is explained how our rigid adherence to scientific standards enables us to circumvent these biases.

3.2 Fieldwork Overview

> "With interviews, we move beyond analysis of remote data and quick assessments to systematic data collection. We ask people about their community, social relations, environment, and resource management categories and practices." (Russel and Harshbarger 2003:189)

The research for this thesis was conducted during our stay with CARE International in Fort Portal from the beginning of April to the end of September, 2011. The research period was divided into nine phases. The first phase consisted of a literature review of existing literature concerning deforestation in Uganda, which helped us to get an overview of the different factors and players in the field of deforestation in Uganda. In the second phase we, with support from CARE and by interviewing officials from the DFS in Kibaale and its neighboring district Mubende, identified the district where we would conduct our research. In the third phase, with help from Kibaale's DFO, we chose the four sub-counties where we conducted our research. In the fourth phase, we conducted two focus group discussions in Lusenke village to gain a deeper knowledge of the different drivers and pilot our preliminary findings. The fifth phase consisted of two weeks of intense fieldwork where we interviewed LC3 and LC1 chairpersons and carried out household interviews in one village in each sub-county. In the sixth phase we interviewed relevant actors with specific knowledge in both Kibaale and Kampala. In the seventh phase we transcribed the recorded interviews and the collected data was put in order. In the eighth phase we disseminated our findings at the field office in Fort Portal and after this at a stakeholder meeting in Kampala. And in the ninth and final phase, which took place partly in Uganda and partly in Denmark, we analyzed the data we had collected and wrote the thesis.

3.3 Data Sampling and Collection of Primary Data

> "Every interview (besides being an information-gathering occasion) is an interpersonal drama with a developing plot" (Pool cited in Holstein and Gubrium 1995:14)

During our fieldwork three different methods of data collection were employed: focus group discussions, household interviews, and key informant interviews. Table 1 shows the five levels of stakeholders whom we interviewed during the course of our fieldwork. To each of these methods, different techniques of sampling, data collection and analysis were applied. Hereby the research was strengthened and the tendency to reflect personal bias limited which helped to strengthen the reliability of the thesis. Reliability refers to the extent to which the results of a study are consistent, in the sense that if another researcher used the same data and theory, the same results would be reached (Bryman 2004:173). In other words, reliability is a question of explicit and transparent methods of data collection and interpretation. We have sought to strengthen this 'instrumental reliability' by diversifying our methods of data generation and explicating our

methodological and theoretical approach in this and chapter 4. To do this we have documented and given reason for the choices we have made by explaining them. Additionally all interviews were transcribed and are available upon request so that the analysis is transparent. It should, however, be noted that no two researchers are exactly alike, and conclusions reached by different researchers are therefore unlikely to match.

Table 1: Primary Data Collection Methods and Sample Size

Level	Respondent(s)	Central Topic(s)	Data Collection Instrument	Sample Size
1.National level key informants	FSSD, Population Secretariat, and NAADS representatives	Demographics, agriculture, corruption, priorities of the central government, financial issues, licenses, and monitoring	Dynamic semi-structured interviews	10
	WWF representative	WWF's work in Kibaale and the ecological importance of Kibaale's forests	Semi-structured interview	
	Bunyoro Kingdom representatives	Bunyoro Kingdom's role in the deforestation and the political system	Dynamic semi-structured interviews	
	British American Tobacco representative	Deforestation, training of tobacco growers, sustainable tobacco growing, monitoring of tobacco growers, corporation with local authorities, and legal framework for tobacco companies	Semi-structured interview	
	Professor at Makerere University	State of the forests, institutional framework, demographics, migration, corruption licenses and permits, REDD, NAADS, and the drivers of deforestation	Dynamic semi-structured interview	
	Stakeholder meetings with multiple participants	Our findings, international influences, REDD, budgetary priorities, future implications, corruption, and ethnic issues	Unstructured discussions	
2. District level key informants	LC5 chairperson; district forest officers; NAADS coordinator; DFS representatives	District policies towards NRM, immigration and fertility rates, deforestation, the DFS, budget, District Development Plans, and the FSSD and NAADS' practices	Semi-structured interviews/ informal conversations	9
3. Sub-county level key informants	LC3 chairpersons and forest ranger	Perceptions of change in forest cover/quality, conservation efforts, financial issues, corporation with the rest of the institutional framework, permits and licenses, migration, monitoring, forest ownership and use, and consequences of the deforestation	Semi-structured interviews	5
4. Village level key informants	LC1 chairpersons	Tasks regarding the forests, perceptions of change in forest cover, corporation with local and central governments, permits and licenses, migration, awareness of ecological consequences, monitoring, and forest ownership and use	Semi-structured interviews	4
5. Household level	Focus group discussions	Household level demographics, forest ownership and use, tenure security, perceptions of change in forest cover, knowledge about consequences of deforestation, perception of institutions	Unstructured discussions with topic list	2
	Household interviews, 58 men and 44 women		Semi-structured interviews	102

A typical shortcoming in much development studies is the inability to retrieve a representative picture of the research field. This is what Chambers calls 'spatial bias', which covers the notion that researchers, be-

cause of shortages of time and fuel or unwillingness to travel on dirt roads in poor condition, tend to conduct their research close to urban centers and hereby not reach remote areas (1983:13). For example, in districts like Kibaale there is a strong correlation between income and where people live. The poorest are often living in the remotest areas, and a study concentrated close to the urban centers would therefore neglect to include the poorest and hereby loses representativeness. During our fieldwork the spatial bias was avoided partly help from CARE who had drivers and fuel available for us, and partly by our determination to reach the remote areas regardless of the time consuming and uncomfortable transportation. E.g. to reach Kakiseke village we had to drive for five hours through the district on dreadful dirt roads and hereafter travelled for almost one hour partly on motorcycle and partly on foot due to an impassable road. By collecting our data from typical and representative villages (see section 5.6 for description of the villages) we heighten the possibility for similar studies to reach the same conclusions.

As it has already been mentioned, the DFO of Kibaale helped us to point out four relevant sub-counties in Kibaale. To choose the relevant villages in each sub-county we received help from the LC3 chairpersons in each sub-county. The chairpersons tended to recommend us to go to the villages that had been in contact with a WWF programme in Kibaale[4], probably because they wanted to show us the best they had to offer. This bears strong resemblance to Chambers' 'project bias' that explains how researchers are often shown the model villages which undermines the representativeness of the research because these tiny atypical islands of activity do not offer a proper reflection of reality (Chambers 1983:16). We chose one village who had received some support from WWF to understand their impact in the district. We did, however, insist on visiting average villages. In this process our interpreter, Jolly[5], was a great asset because she has lived in Kibaale her whole life, and was working for the Kibaale-based NGO, and partner of CARE, KCSON, and therefore could offer great insight.

The reliability of the findings has further been buttressed through a process of data and methodological triangulation which is rendered possible by the multiple methods of data collection. Triangulation is useful because it helps to corroborate or reject findings by cross-checking them and subsequently provide *"a more substantive picture of reality"* (Berg 2001:4). In order to triangulate the findings we collected data from the different levels portrayed in Table 1 so that we could cross-check the information we gathered. An example of triangulation in our study is that many respondents put emphasis on how a certain ethnic group, the Bakiga, was the main agent of deforestation. Here, it is important not to accept these statements as gospel truth; rather, they could only be confirmed by cross-checking with other sources. The household interviews showed no correlation between forest use patterns and ethnic belongings and we thus rejected ethnic belongings as significant drivers of deforestation. Hence, statements that were not buttressed by other sources would be examined and often rejected.

[4] The WWF-funded programme 'Conservation of Biodiversity in the Albertine Rift Forests of Uganda' is present in some district in the Western part of Uganda and is concerned with conserving the natural forests.

[5] During our household interviews we used two interpreters, Jolly Alinde and Eunice Mpaka. Jolly had been living in Kibaale all her life, and as a part of her studies at Kibaale's university held a traineeship at CARE's partner KCSON. Eunice holds a bachelor degree in communication and IT and has been working as an interpreter for CARE several times.

3.4 Focus Group Discussions

In the early stages of the research we conducted two focus group discussions in Lusenke village. The purpose of the focus group discussions was to pilot the topics we had already composed for the household questionnaire and to generate new ones. This is, according to Humphries, one of the areas where focus group discussions are applicable (2008:94). We found it prudent to segregate the discussions by gender in order to ensure that gender roles did not constrain the women's participation. In the first discussion six of the village's women were present and the other was attended by nine of the village's men. The participants were as much as possible chosen randomly and a relatively broad cross-section of the village was represented at the discussions. The representativeness may have been hampered by the fact that the meeting was on a voluntary basis potentially causing some segments of the village not to participate. The method of data collection was an unstructured discussion where one of our interpreters, who was well informed about the purpose of the study and instructed about her role before the discussion, acted as facilitator of the discussion. Before the meeting we had prepared eight broad topics to be discussed. We also prepared sub-questions for each topic to provide input in case the discussion stopped. These proved useful as the participants sometimes were hesitant to take part in the discussions, but when specific questions were asked they were more prone to participate.

The focus group discussions were a useful tool in the work with our household questionnaire because the interaction between the participants stimulated a discussion about topics, in a manner that is more wide-ranging and more detailed than in an individual interview. Furthermore, by allowing groups of individuals to discuss in plenum, focus group discussions often reveal social structures, rules and taboos which would not have been apparent in another interview setting (Berg 2001:114). The group dynamic e.g. enabled the female villagers to speak of delicate issues such as the use of contraceptives which they would not otherwise have been willing to.

3.5 Household Interviews

Table 2: Distribution of Age and Gender

Age	Number	Percentage
18-25	19	18,60%
26-35	33	32,40%
36-45	20	19,60%
46-55	12	11,80%
55 and above	18	17,60%
	102	100%
Gender	Number	Percentage
Women	44	43,10%
Men	58	56,90%
	102	100%

At village level, 102 in-depth semi-structured interviews were conducted in Kasambya, Kakiseke, Lusenke and Muzizi villages. The sizes of the villages differed substantially but it is our estimate that we retrieved a sample size of at least 20% of the households in each village. It was a priority for us to retrieve our data from a broad cross section of the community and we therefore did our utmost to reach all the different layers of the community including resource rich and poor people, ethnic groups, age groups, and both men and women. The distribution of age and gender is seen in Table 2. It should be noted that women were not equally represented in the sample despite our best efforts due to unavailability, men not allowing their wives to be interviewed, and unwillingness to participate.

Initially we planned to adopt a systematic probability sampling method for the interviews. However, when we reached the first village we quickly realized that the textbook solution of visiting every third household was futile because of the outlay of the villages that stretch over big areas which for outsiders are impossible to over-view. Furthermore, many of the villagers were not to be found at home but in their fields, at the market, or elsewhere. We therefore split up in two groups

with one of us and one of our two interpreters in each. Each group then found a local person (often the LC1 chairperson and an aid appointed by him) and scoured the village with him in search of respondents. These guides played a pivotal role in our ability to sample our research satisfactorily and do it within a reasonable time frame. This sampling method resembles a purposive sampling strategy which Berg (2001:32) explains as a method where the researcher uses his special knowledge to select the respondents representing different segments of the village. Our local guides were eager to show us the better-off household, which resembles Chambers' 'person bias'. This bias states that researchers tend to only have contact with the elite – such as progressive farmers - in rural villages because they normally receive and speak to visitors. Conversely, the poorest villagers are inarticulate, and researchers often oversee them (Chambers 1983:18). We did, however, quickly make it clear that it was significant that we reached all layers of the villages. Once again our local interpreters was helpful in pointing out to us where to go in the villages and who to talk to.

For the household interviews we used a semi-structured household questionnaire (see Appendix A). We found the semi-structured interview ideal as it – contrary to the fixed questions of a survey - enables both the interviewees and the interviewer to broach new topics and for the interviewees to freely express their reality as they perceive it. This close interaction with the respondents helped us to understand and shape the logic associated with their arguments. Additionally, the use of an interpreter during these interviews gave us time to make observational notes, and hereby pay attention to not only what was being said but also what was not said. It was a priority for us, that when we conducted the interviews it would only be the interviewer, the interpreter and the respondent who were present in order to create an atmosphere where the respondent felt safe to speak out. This intimate setup was not always possible because of different circumstances, e.g. husbands who would not allow his wife to be interviewed alone and in general, white persons in a rural village in Uganda attract considerable attention.

The questionnaire consisted of mainly qualitative questions which can be divided into five topics. First, we would ask a few questions of mainly demographic nature to keep record of the representation of gender and age in the sample. We also asked some questions concerning the interviewees' history in the area. Starting off the interview with these questions helped us to create a relaxed atmosphere. Many of the respondents felt insecure and intimidated by being interviewed by a white person, but after being warmed up by these easy opening questions they became more relaxed and the rest of the interview, for the larger part, ran smooth. Afterwards many conveyed that it was not as bad as they had feared. We also found that a little small talk before the actual interview with the respondents about things from their lived world (e.g. the harvest or the weather) helped to ease up the situation. The second part of the questionnaire concerned questions regarding the respondents' land and if they had or used to have forests on it. Third, we asked questions regarding their use of the natural resources. Fourth, we enquired about the management of the forests and the role of the institutions. The fifth and last part of the questionnaire concerned their perception of the changing forest cover, its drivers, consequences, and solutions. By structuring the questionnaire in this manner we started with simple questions and ended up with what in some cases could be considered delicate and slightly uncomfortable and thus required more probing (Russel and Harshbarger 2003:193).

During our fieldwork, we made an ongoing evaluation of the questionnaire. The open-ended nature of the questionnaire, and the new topics this helped to shed light on, helped us to develop our questionnaire and

modify it to include questions we had not thought of. Inter alia, it was brought to our attention that prior to colonization certain spiritual factors had great influence on forest conservation.

The dynamic nature of our questionnaire also helped us to handle a problem we encountered during the first household interviews: when we asked PFOs what they planned to do with their forests, they would often answer that they planned to keep it. After a while we did, however, get the impression that they thought this to be the 'correct' answer because they knew that we were affiliated with CARE who is working with forest conservation. We therefore started probing and would e.g. ask what they would do when their children grew up or if they were not interested in the additional income, converting the forest into farmland would generate. This further enquiry tended du change the answers considerably. This is what Kvale has coined the 'miner approach' which covers over an approach where the researcher uncovers and purifies the meanings more or less buried in the interview (1996:207). The miner approach was, however, only used to purify the latent meanings embedded in the interviews, because an approach to the interviews based heavily on a miner approach would lead to a search for objective facts, which, according to our constructivist ontological approach, is not possible. Therefore, we, to a higher degree, employed a 'traveler approach'. The interviewer, as a traveler, *"wanders along with the local inhabitants, asks questions that lead the subjects to tell their own stories of their lived world, and converses with them..."* (Kvale 1996:3). Because we find that objective reality, capable of being scientifically mapped, not holds sway, we necessarily must move towards negotiation of meaning. This creates an interest in understanding reality as it is understood by the respondent, because it moves us away from formalized knowledge systems and toward an understanding of people's lived world.

3.6 Key Informant Interviews

During our research we conducted 28 key informant interviews (including stakeholder meetings) with informants from four of the levels outlined in Table 1 (level 1-4). A few of the interviews had more than one participant, and a total of 40 different persons were interviewed. The key informants were chosen due to the specific knowledge they possessed.

The method used in the key informant interviews differed depending on which level the actor represented. The most used method was semi-structured, as a form of informal conversation interviews (Mikkelsen 2005:171), with a list of guiding questions (see example in Appendix B). This was in order to make sure that the predetermined topics were covered, but with the possibility of going into different directions. The relevance of the questions was hereby increased as it was possible to let them emerge from the natural conversation and be matched to the specific individual's knowledge and interests. The check-list made sure that if some questions did not emerge naturally they could be asked at the end of the interview. At times open-ended questions had to be more specific because some respondents tended to answer too nonspecific. Therefore, a strategy emerged during the interviews in which an open-ended question was first asked and followed up by more specific questions in case the respondent did not answer the question satisfactorily.

Some interviews were, however, conducted as dynamic semi-structured interviews which means that the interviews were more like conversations than formal interviews. This occurred when the respondents, often from the highest levels in Table 1, possessed expert knowledge and the interview would therefore naturally developed from a semi-structured interview to a conversation.

3.7 Is Neutrality Possible/Desirable?

Neutrality – or rather the lack of it – is a motif that ran through all phases of our fieldwork. In constructing our interview guides and during our fieldwork we were inspired by Smith and Osborn and their claim that interview questions should be as neutral as possible, and should not lead the respondent (2008:63). Therefore, we aimed to make the participant talk with as little encouragement as possible. We must, however, acknowledge Rubin and Rubin's claim that in qualitative research, neutrality is not a valid goal (1995), because we, during the interviews, were fully involved ourselves, and could not ask for openness from respondents, without being open and sincere ourselves. In addition, qualitative interviewing requires a depth of understanding, to grasp the respondents' lived world, that necessitates a certain interaction between the interviewer and the interviewee, which renders it difficult for the interviewer to be value-free and neutral (Rubin and Rubin 1995:30). It is our claim that in our social constructivist framework, this take on the question of neutrality may even be too strict, because the interview is neither a neutral event, nor is it a source of distortion. It should rather be regarded as the productive site of knowledge itself. Holstein and Grubrium note that the *"interviews virtually impose particular ways of understanding reality on subjects' responses. The emerging lesson is that interviewers are deeply and unavoidably implicated in creating meanings that ostensibly reside within respondents,"* (1995:3) while Kvale sees the interviewer and the interviewee as having a reciprocal influence on one another (1996:36).

On this backdrop, we must acknowledge that despite our efforts to ask questions as neutral as possible during our interviews, we, because of our traveler approach to the study field, had to wander along with the interviewees and ask questions and engage in conversation to understand the stories about their life. We do, however, see this as a strength - not a weakness - in our study, because it helped us to extract meanings from the interviews that a clinical neutral approach would not have been capable of. This is along the lines of Bruner's claim that the lived world, as told to by a respondent, is a *"joint product of the teller and the told"* (1990:124).

3.8 Collection of Secondary Data

In addition to the interviews, a further technique for generating data was through document analysis of secondary data. The sampling of the data has been purposive in that we have sought out reports, books, articles, and dissertations of particular relevance to our research. The collection of secondary data has been an ongoing process throughout the study and the method applied has varied according to the desired data. Besides from the data retrieved from the internet and libraries we were provided with reports and budgets after some of our key informant interviews. In addition, we went to the NFA's headquarter in Kampala to copy examples of some of their rare old books covering the history of forestry management in Uganda.

In our work with the secondary data it was a priority for us to be careful with adopting their conclusions uncritically as secondary sources naturally are accompanied by varying perspectives and agendas. Validity will always be an issue when selecting sources, as this process is inherently biased, and we therefore, whenever possible, made use of academic sources and made sure to mirror them against other sources (data triangulation).

3.9 Method of Analysis

An important part of a case study design is to realize how the data should be treated and analyzed (Yin 2002:28). Kvale enumerates five main approaches to the analysis of the meanings of qualitative interviews:

meaning condensation, meaning categorization, meaning structuring through narratives, meaning interpretation, and ad hoc meaning generation (1996:193-204). Analysis methods like these are necessary when working with an extensive amount of material which needs to be structured and categorized.

We will not describe all of these different methods of analysis in depth but only our own approach which is one of using the ad hoc approach in extracting the important parts of the interviews. This is according to Kvale the most frequently used form of interview analysis. In essence this method facilitates a *"free interplay of techniques during the analysis"* (Kvale 1996:203). Thus, the aim is for the researcher to read through the interviews and get an overall impression and then afterwards go back to specific, relevant passages and make use of them to e.g. make quantifications like counting statements indicating different attitudes to a phenomenon or to scrutinize specific statements thoroughly and interpret them (Kvale 1996:201-202). In this way patterns and their frequency can be discovered, and connections and structures significant to the thesis brought out.

As it has already been mentioned we did not want the thesis to be based on fixed hypotheses in order to stay open toward the research field. In this connection the ad hoc method was useful because we, during the process, could read through the interviews and extract topics from them. This was a process that started after the first interview and progressed during the fieldwork and analysis.

Another central issue concerning the interpretation of the date was the presentation. The reader of the thesis is dependent on our selection and contextualization of the interview statements (Kvale 1996:207), because it is only possible to present a fragment of the data in the thesis. To control the interview analysis we chose an approach which Kvale has coined the 'explication of procedures'. The focal point of this approach is to *"present examples of the material used for the interpretations and explicitly outline the different steps of the process"* (1996:209). We therefore used the quotations that we found most important and illustrative of the points being illuminated whereas the different steps that were taken in the work with the data are presented in this chapter.

3.10 Ethical Considerations

Ethical issues in research are in general related to the consequences of the research, obtaining of informed consent of the respondent, the protection of confidentiality, and the effect of the researcher's role in the study (Kvale 1996:259-262).

The consequences of the research relate to the question of whether the research will impact the participants and if it will enhance knowledge around the topic (Kvale 1996:260). We feel that we have managed to live up to this by disseminating our findings in Fort Portal, Kampala, and Copenhagen together with the policy brief we finished for CARE that has been published and forwarded to relevant recipients. The policy brief is furthermore used by CARE and its partners in their advocacy work to deal with deforestation of private natural forests.

It was the impact on the participants, especially in the household interviews, that gave rise to concern. One of the major ethical considerations we had during our research is a problem that permeates most research on development and resource use in developing countries. The interviews present few tangible benefits for the people who participate in the research. In our study we asked poor rural villagers to use their valuable time and energy to provide us with the data we needed and received nothing in return. We initially consid-

ered giving small gifts to the villagers, but after talking this over with our supervisor at CARE we arrived at the conclusion that we did not want to start a precedence of giving gifts and hereby put pressure on future researchers to do the same. Furthermore we were afraid that gifts would have an effect on the answers we received as the respondents could be more prone to pay us lip service in order to receive the gift.

Unfortunately we were not able to provide the villagers with any tangible benefits, but it is our hope that our study, situated within the critical wing of this debate, will contribute to create awareness about the problems that the villagers are facing and somehow make stakeholders capable of helping them. Hereby we hope that we can return the villagers' highly appreciated effort indirectly through the positive changes this study hopefully will give rise to.

In order to obtain as accurate and honest information as possible from the villagers, briefing and debriefing of the respondents were important for us. In the briefing, respondents were told how we would use the information from the interview and that their identity would be protected. We hereby reached a clear understanding of the later use of the interview and possible publication and the interviewees gave us their oral consent. During our research it was our interpreters who undertook this task. In this connection it proved beneficial to have local interpreters as the villagers tended to connect with them easier than with us. Another concern in the briefing was to stress that we were not in any way connected to neither the government nor any other persons with influence in the area. Especially Muziizi village already has a long history of researchers coming to ask questions about their use of the natural resources and their land use, and some of the respondents had experienced, or had heard, that when they had talked openly about their behavior they would afterwards receive visitors from the government who would punish them for illegal conducts. Many were therefore clearly skeptical towards us, but we felt that the insurance of anonymity (see below) and our thorough briefing eased up the situation and that they felt free to open up towards us. It cannot be ruled out that some of the respondents gave us false information. But we feel that the large data sample enabled us to mirror specific respondent's information against the rest of the data and discard false information as was the case with the topic of ethnicity in deforestation as previously mentioned in section 3.3.

In the debriefing, the respondents were asked if they had anything to add or any questions for us; hereby giving them an opportunity to elaborate further on the issues regarding deforestation, or to question us about the implications of our research. This was highly appreciated by the respondents and in some cases provided additional information for the research.

A third ethical concern during the household interviews was the protection of confidentiality. Due to the sensitive nature of some of the questions, the interviews were confidential and therefore no names were taken. This confidentiality proved fruitful, and in one instance in the middle of a household interview we were interrupted by another villager who asked the respondent why he answered our questions, and the respondent then told him that the interview was confidential and could not be traced back to him. This convinced the intruder and later he himself was interviewed.

The issue of confidentiality was somewhat different regarding the key informant interviews. Obviously names were taken during these interviews, but at times when embarking upon delicate questions, information was taken off the record and with the promise of confidentiality. This gave us a great opportunity of

retrieving information that otherwise would be almost impossible to retrieve in a country like Uganda where exposure of e.g. corruption is not taken lightly.

We are of the opinion that the strong empirical foundation of the thesis together with our methodological considerations have ensured a research that has generated relevant and verifiable results. Because of the poor living standard and desperation in the villages, it was at times difficult for us to retain a professional distance to the research and not fully take the part of the poor farmers. We do, however, think that we managed to stay professional in our approach and have managed to present a comprehensive and nuanced picture of reality.

3.11 Research Limitations

One of the biggest limitations in this research was the language barrier at household level and in a few cases at sub-county level. Only few of the villagers spoke English and we were therefore reliant on our interpreters. We have full confidence in our interpreters and the job they did, but we are aware that cultural references, subtle meaning words, and the like have a tendency to get lost in translation. This was amplified in two cases when the interpreter did not speak the same language as the respondent. A second interpreter was then needed. A further issue was sensitive subjects such as corruption and encroachment. Villagers are naturally afraid of being caught in their misconducts and of being punished for telling about others' misconducts. As it has already been mentioned, this caused a skeptical attitude towards us. In this connection the timeframe of the study was an issue. We only spent two days in each village, which is hardly enough to build a relationship of trust and hereby lessening the skepticism. Most likely this skepticism would have reduced had we spent more time in the villages. This issue could potentially have compromised the findings of the study, but we feel that the triangulation of the findings has helped to cleanse the study for the potential misinformation given to us.

4 Theoretical Background for Understanding Deforestation

4.1 Introduction

It is the intention in this chapter to present a framework[6] for analyzing the drivers behind deforestation on private land. Initially, the dominating narratives of what drives deforestation are outlined. This is relevant because, as Agergaard (1988) notes, certain thoughts dominate research. In accordance with Berg, we suggest that these dominant thoughts to a large extent are the result of a striving towards a sense of generalization (2008:10). In particular periods of time, embedded in dominating discourses generated in certain economic and political environments, what is perceived as the most plausible, applicable and disseminated forms of explanation become dominant thought. In order to rethink the theoretical approach to deforestation, any theoretical presentation obviously needs to relate to such dominant thoughts initially (Berg 2008:10).

We do, however, not believe that a comprehensive theory of the drivers behind deforestation, encompassing its multitude of dynamics in relation to surrounding economic and social environments, is possible, nor particularly useful. Not only because analytical perspectives are diverse, as the following exposition of the dominating narratives suggests, but also because local NRM represents empirical contexts far too dynamic and diverse to warrant comprehensive theories. This stand is also pointed out by Bray and Klepeis who state that

> "The growing consensus is that a web of causal factors drives deforestation – the exact combination of which varies from region to region – suggesting that generalisations about deforestation dynamics are difficult to make and that a universal model of tropical deforestation is unlikely." (2005:196)

Therefore, to do justice to the empirical data collected, we try to rethink the approach to deforestation and make it compatible to our specific empirical context. This relates to the thesis' grounded approach, where we find that it serves the topic best to let the reality of the research field determine what has to be explained, and what best explains it.

The main objectives of this chapter are firstly to present and discuss the most dominating narratives about the drivers behind deforestation, and their explanatory value in the context of deforestation in Kibaale. Secondly, drawing on this discussion, to present the theoretical backdrop of the thesis.

4.2 Dominating Narratives of Deforestation

Within the literature of deforestation there are a few dominating narratives of the drivers behind deforestation that enjoy a certain hegemonic status. That is, stories of apparently incontrovertible logic which provide scripts and justifications for development action (Fairhead and Leach 1995:1023). These narratives can grow so powerful that they become 'sticky' and resist even strongly founded empirical data.

[6] To enhance precision in our study, we find it important to distinguish between two levels of conceptualization: frameworks and theories. A framework operates at a very broad level and helps to organize the study by pointing out classes of variables and their interconnectedness, which helps to provide *"a kind of intellectual scaffolding that give a coherent structure to inquiry"* (Koontz 2003:1). The framework is used to identify theories that are relevant to our research question. A framework can contain numerous theories from various disciplines, which is one of the advantages of using it, because it *"allows the integration of several theories of action across domains that would otherwise be examined in isolation from each other"* (Koontz 2003:1).

Two groups of dominating narratives, about the drivers of deforestation in the developing world, are examined in this section; namely single factor and complex multifactor causation models. It is exposed how the former are often based on simplistic information and therefore not offer satisfactory explanations, whereas the latter, in their search for general qualifiers, lose their explanatory powers of specific contexts. We limit ourselves to these two causation models because they are among the most commonly advanced explanations for forest declination.

By stripping away the explained from explanations of deforestation, our analysis pave the way for rethinking the people-forest nexus in Kibaale. This is done by forwarding alternative sets of assumptions that are grounded in the empirical data and stabilized within narratives that better fit the situation in Kibaale. In doing so, we take into account that deforestation is a complex, context-dependent, socio-economic, cultural, and political event. Hereby we forward counter-narratives, which is often cited as the only way of challenging the dominating narratives (Walker 2006).

4.2.1 Single Factor Causation

One could fill shelves with articles, papers, and reports concluding that population growth and poverty are the underlying drivers of deforestation in Uganda and beyond. Tenywa, in his article about Uganda's deforestation, e.g. states that "*[p]opulation pressure and poverty are the underlying causes*" (Tenywa 2007). Instead of accepting these narratives, this section, in line with environmental economists Pearce and Warford (1993), argues that population growth and poverty are not so much a cause of deforestation as a mechanism by which the true underlying causes are transformed into actions that degrade the environment. Deforestation is therefore a negative externality whose causal roots and solutions lie in institutional and policy issues.

4.2.2 The Neo-Malthusian Narrative

Demographic changes are commonly cited as a major contributor to deforestation on the ground that population increase leads to increased consumption and a higher demand for forests products (Prakash 1997:7). These explanations are rooted in a neo-Malthusian line of argument, founded in Malthus' claim that "*the power of population is indefinitely greater than the power in the earth to produce subsistence for man*" (Malthus 1798:4). The environmental security literature most notably presented by Homer-Dixon (1991; 1994) is an often-cited example of contemporary neo-Malthusian explanations. The essence of the neo-Malthusian narrative is captured by the following statement by Cropper and Griffiths: "*there is no question that population growth contributes to environmental degradation*" (1994:250).

There is, however, a growing body of literature that refutes the causal relationship between population growth and declining forests and claim that population increase does not necessarily spell Malthusian doom; e.g. Robbins claims that "*the demographic explanation is a consistently and weak predictor of environmental crises and change.*" (2004:8) Many studies indicate a positive relationship between population growth and deforestation, but in the same vein analysts tread warily when linking these two factors and emphasize that there are many other factors that obscure the linkage; there may be forces that affect both forest cover and population density simultaneously, and thus making it appear like one is the cause of the other when in fact it may not be (Contreras-Hermosilla 2000:18). When reading through the literature on this matter, examples of alternative factors are abundant, and there seems to be little justification for automatically accepting the existence of a causal relationship between population growth and deforestation. This is backed up by Templeton and Scherr's review of over 70 empirical studies that concludes that the

effects of population growth on land and forest quality were indeterminate (1999). It thus seems that the neo-Malthusian scholars, in their focus on population growth, employ a too narrow-minded approach and therefore rule out alternative explanations. To avoid this pitfall, we, in this thesis, claim that it is not as much population growth *per se* that needs to be examined but rather the external factors influencing the population.

4.2.3 The Poverty Trap Narrative

The poverty trap narrative stipulates a spiral relationship between poverty and deforestation. The argument maintains that there is a self-reinforcing mechanism which, mainly due to inherent short term horizons and risk, causes poverty to exist because poverty encourages over-exploitation of the forests which in turn results in further impoverishment (Prakash 1997:2). Nelson (1956) and Liebenstein (1957) are often-cited examples of early-stage economists concerned with the 'underdevelopment trap', as it was then known. Over the years attention has shifted towards the existence of poverty traps with scholars like Graham and Temple (2006) as major contributors.

The belief in the poverty trap's spiral relationship is captured by the influential Brundtland Commission that stated that "*[p]overty is a major cause and effect of global environmental problems*" (Brundtland Commission 1987), and the World Bank's claim that *"[t]he poor are both victims and agents of environmental damage"* (1992:7).

Similar to the critique of the neo-Malthusian narrative, there is a bourgeoning body of literature questioning the causal link between poverty and deforestation. Ekbom and Bojö claim that "*[d]espite these intuitively plausible statements, the debate on the characteristics of poverty-environment interaction has been likened to a puzzle … where we possess several pieces, have identified some crucial links and features, but still lack the entire picture*" (1999:1). Along the same lines many scholars (Mink 1993; Deininger and Minten 1996; Grepperud 1996; Scherr 2000) have documented a downward spiral (in accordance with the poverty trap narrative) in some rural areas. On the other hand, researchers have also found that deforestation e.g. resulted from natural forces and that poor farmers often diversify activities to reduce deforestation while maintaining incomes (Forsyth, Leach et al. 1998). Against this backdrop, Scherr concludes that the heterogeneity of conditions precludes simplistic models of poverty-environment interactions (2000:481,493). Prakash altogether refutes the poverty trap narrative and claims that "*such a self-evident truth flounders when subjected to further systematic investigation.*" (1997:3)

Arguments against the poverty trap narrative are abundant and it seems to be inadequate to simply assume that there is a causal relationship between poverty and deforestation. It should not be ruled out that this link may exist in some cases, but the many contradicting explanations suggest that it is prudent to consider a wide range of factors in order to determine their influence. At any rate, it gives cause to caution about generalization.

4.2.4 The Complex Multifactor Causation Narrative

As the previous sections illustrated, there is a tendency among certain scholars to over-simply the causes of deforestation. The competing narrative is a rejection of single factor explanations (Carr, Stuter et al. 2005:91-92), and instead the tendency is to adopt a multi-disciplinary method, employing ambitious conceptual models. While finding many and varied correlations between deforestation and causative variables,

scholars in the multifactor causation tradition find no distinct pattern; what Geist and Lambin called *'irreducible complexity'* (Geist and Lambin 2001:1).

Various frameworks originate from inter-disciplinary committees *"rarely agreeing with one another on all details, but agreeing among themselves that there were many components … whose role needed to be measured and understood."* (Rindfuss et al. 2008:2). Others, like Kaimowitz and Angelsen (1999); Mather, Needle, and Fairbairn (1998); and Lambin (1997) reviewed prior research and used economic and cross-national statistical methods to generate new complex models for analyzing and predicting deforestation. The main point for these scholars was to find underlying causes for deforestation, compare them globally and make generalizable models with global applicability (Rindfuss et al. 2008:2), with inspiration from the natural sciences, in a quest to produce *"formal models amenable to generalizations and projections"* (Lambin 1997:388). These endeavors of using cross-national statistical analysis, however, often produced complex models without such a result (Rudel and Roper 1996; Mather, Needle et al. 1998; Geist and Lambin 2001). Hence, they offer no in-depth answers to why the forests are disappearing as they lack the context and the specifics of qualitative case studies. This point is stipulated by Rudel and Roper who state that

> "Reports of tropical deforestation indicate that it occurs in diverse circumstances which obscure underlying patterns of causation. Cross-national statistical analyses do not reveal these patterns because they can not investigate how causal factors interact with each other in specific contexts." (1996:160)

We do not discard the complex conceptualization of deforestation, but we reject the search for universal explanations of deforestation. This thesis has been informed by many of these complex conceptual frameworks like Geist and Lambin (2001) and Kaimowitz and Angelsen (1999), but instead of searching for universal and generalizable knowledge we value context-specific knowledge (Flyvbjerg 1991:75) that may not be applicable to other countries due to the specific nature of the case.

4.2.5 Towards a Local-Holistic Narrative

The data presented in this section confirms the general point that the causes of rural deforestation are linked to complex exogenous factors rather than originating in population growth and poverty. The linkages between population growth and poverty on the one side and deforestation on the other, where they occur, depend greatly on the particular strategies poor communities adopt for coping with prevailing conditions. This, in turn, depend of the range of options open to them, the policy frameworks of national and local governments and on historical causes.

Thus, this thesis feeds into a counter-narrative that questions the over-simplified explanations and claims that deforestation, in areas of vast population growth and extreme poverty, is more often caused by the effects of mismanagement of macroeconomic, institutional, and other policies and factors. Given improved management of these factors, poor rural communities can and will have excellent reasons for valuing the forests in both the short and the long-term. It should be noted that under certain conditions, population growth and poverty may cause declining forests, but to say that there is a casual relationship would be to simplify the explanations.

While arguing for refraining from attributing deforestation to over-simplified explanations, we do, on the other hand, also caution against futile searching for universally applicable theories. These attempts to gen-

erate theoretical panaceas render theories that, in the endeavors to encompass the multitude of reasons, lose sight of the specific context-dependent explanations at national and local levels. Hereby they lose their ability to explain specific context-dependent empirical data.

Against this backdrop, we question the hegemonic narratives and their tendency to over-simplified or generalized explanations of deforestation. Instead, we pave the way for reaching a more nuanced and deeper understanding of the underlying causes in a specific context. We find this significant because the hegemonic narratives can have a negative impact on forest conservation, as they will warrant interventions grounded in simplistic or irrelevant understandings and therefore not be able to get to the root of the causes, and will most likely fail to achieve their goals (Cronon 1995).

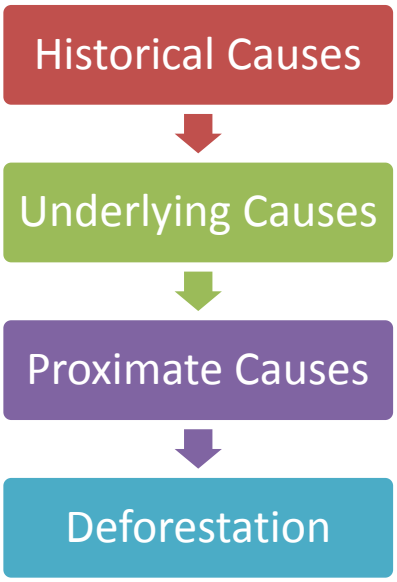
4.3 Framework of the Research

"All models are wrong, but some are useful." (George Box 1979 cited in Shearer 2005:454)

4.3.1 Introduction

As the section above illustrated, participants in the discussion about the drivers behind deforestation, broadly speaking, assert two major and divergent pathways: single factor causation versus generalized complex conceptual models. Instead of refuting one of these pathways altogether, we find it more fruitful to combine the literature from the two. By adopting this approach, we attempt to offer a pragmatic rather than schematic approach to analyzing deforestation. We acknowledge that population growth and poverty have a role to play in deforestation, but we adopt them as cross-cutting factors in a multifactor causation framework which differs from other complex frameworks by being tailored to a specific context.

Figure 3: Preliminary Framework



The point of departure for the theoretical backdrop is taken in Geist and Lambin's (2001) framework and their division of proximate and underlying causes of deforestation. Geist and Lambin's framework is grounded in a frequency analysis of the occurrence of underlying driving forces and direct causes of tropical deforestation and their interlinkages. They derive their data from 152 subnational case studies conducted by themselves and many other scholars. On this background they attempt to generalize results across regions to explain the causative pattern of tropical deforestation and provide a framework with universal applicability (their framework therefore feeds into the complex multifactor causation narrative). Thus, the framework offered limited explanatory powers to our context-dependent empirical data and needed to be altered significantly. Due to the scope of this thesis we only touch briefly upon how our framework differs from Geist and Lambin's, but in essence, the major differences are that we localize our study and put more emphasis on institutional matters and historical explanations. We furthermore acknowledge that our framework does not have universal applicability, but is shaped to fit the form of our case.

We break the complex set of actions, factors, and rationales involved in Kibaale's deforestation down into three aggregate proximate causes (agricultural expansion, wood extraction, and expansion of infrastructure), two crosscutting issues (population growth and poverty), one broad category of underlying driving forces (institutional and policy factors), and the historical backdrop.

This results in the preliminary framework seen in Figure 3[7] showing what Contreras-Hermosilla refers to as *"the causation chain"* (2000:5); i.e., the chain of causes that ultimately leads to deforestation. As the following section emphasizes, the preliminary framework constitutes an over-simplification of the realities at play in the Kibaale district, and therefore needs to be elaborated further.

4.3.2 Broadening the Causation Chain

With influence from Contreras-Hermosilla (2000) we, in this section, caution against seeing deforestation as caused by a single culprit, which the above standing preliminary framework would somewhat imply; rather, multi-causal chains are more likely. An example of a hypothetical causation chain can be seen in Box 1. In this example numerous causes of deforestation are mentioned, but it is difficult to determine what *the* underlying cause of deforestation is. Is it poverty? Is it inequity in the control over resources? Is it colonization? Or is it a mix in various proportions of these factors? This multitude of potential causes has led to some confusion in the discussion of deforestation. Analysts who only travel a short distance back in the causation chain may discover poverty as the underlying cause, whereas those who travel further back along the chain identify the causes as power structures rooted in historical circumstances. They will therefore argue that poverty is merely an effect of such power structures caused by other underlying causes.

Box 1: A Simple Causation Chain

> A family's extensive agricultural activity causes deforestation because the family needs to create means of survival. The family members are poor and have no other alternatives of sustaining their livelihoods. They are poor because the present power structures give them little or no access to alternative means of survival. These power structures originate from historical arrangements such as colonization (Contreras-Hermosilla 2000:6).

One of the aims of this thesis is to make recommendations for how deforestation of the private forests in Uganda can be curbed. In order to produce useful recommendations, it is significant not to fall into the trap of considering this hierarchical structure of causes merely as a banal distinction. Such recommendations, based on a simplistic perception of the causation chain, will have profound implications on policy making. In the example in Box 1, researches who reach the conclusion that poverty is the underlying cause, will issue policy prescriptions such as acceleration of growth and getting prices and government policies right in order to combat poverty. Contrary to this, those who identify unequal power structures as the underlying factor behind deforestation will prescribe changes in economic, political, and social relations that can alter the ways different groups gain control of productive assets. This difference is obviously not without consequences; the different ways of interpreting the causes result in fundamentally divergent strategies.

Regarding the example in Box 1, there is a second source of imprecision, because cause-effect chains seldom are unidirectional or linear; rather, there are several branches that in turn constitute secondary cause-

[7] It should be noted that poverty and population growth are not included in the figure because of their cross-cutting nature which makes them difficult to illustrate.

effect loops that lead to deforestation. Simultaneously, there are also some influential feedback effects that work in the opposite direction. In the example, poverty may not be the only consequence of the distorted power structures because the distortion can also lead to population growth and large families together with lack of technological knowledge and so forth. These spin-off consequences may themselves constitute the origin of a force leading to deforestation, and therefore also need to be considered.

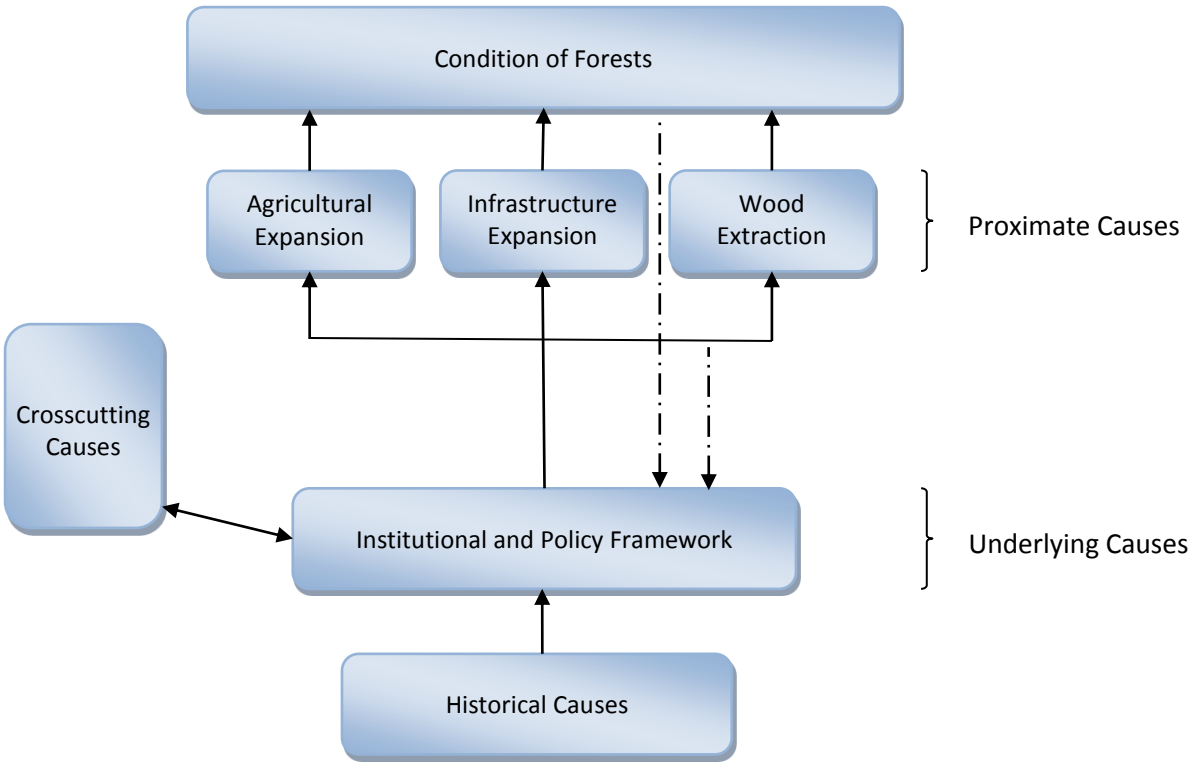
With this in mind, we find it imperative not to conclude that a single culprit causes deforestation. Reality is much more complex, and the causes of deforestation should not be accepted as a simple hierarchal causation chain, as this will likely lead to explanations that at best are incorrect and at worst lead to policy prescriptions that are neither beneficial for Kibaale's forests nor its population. The rest of this section is therefore dedicated to presenting a framework that employs a holistic approach to determining the drivers behind deforestation in Kibaale.

4.3.3 Framework of the Thesis

> "We often preoccupy ourselves with the symptoms, whereas if we went to the root cause of the problems, we would be able to overcome the problems once and for all." (Wangari Maathai cited by Gilson 2005)

Figure 4 illustrates the framework of this thesis. The figure does not pretend to enumerate exhaustively the different factors that may influence deforestation, nor does it plot precisely their interactions and complexity. It serves chiefly to indicate that the causes of deforestation follow a certain chain of causation but also that the causes are not unidirectional and are obscured by cause-effect loops and feedbacks.

Figure 4: Theoretical Framework for the Thesis



4.3.4 Proximate Causes

We consider proximate causes as human land use activities with direct effect on the environment thereby creating proximate change in the forests cover. Contrary to systemic, structural or initial conditions, the proximate causes can be regarded as the more direct and immediate factors of deforestation originating from land-use with direct impact upon forest cover. The proximate causes can result in conversion of private natural forests to other cover types, which fosters further environmental consequences (e.g. drought and soil erosion) that can impact land use and thus create cause-effect loops (Ojima, Galvin et al. 1994; Geist and Lambin 2001:5-6).

The proximate causes operate at the local level, i.e. the private natural forests in Kibaale and the villages in their vicinity, and therefore necessitate a micro-level examination. In line with the literature concerned with tropical deforestation (Lambin 1994; Mainardi 1998; Kaimowitz and Angelsen 1999; Contreras-Hermosilla 2000; Geist and Lambin 2001), we group the proximate causes into three broad groups, agricultural expansion, wood extraction, and infrastructure expansion.

4.3.5 Underlying Causes

The underlying driving forces are fundamental forces that underlie the more obvious causes of deforestation. In general we see the underlying causes as complex social, political, and economic factors that shape the conditions under which human-environmental relations of structural character take place. Because underlying causes are numerous and interrelated their study must necessarily be selective, which is reflected in the analysis.

In our rethinking of the theoretical approach to deforestation of privately owned natural forests, we find that Geist & Lambin's (2001) framework tends to focus on the macro-structural level of analysis and therefore neglects "*to benefit from the wealth of data generated at the micro level—data which provide rich information on the social and economic factors that mediate the relation between population and the environment*" (Arizpe, Stone et al. 1994:3). It is our claim that by incorporating relationships between the local population, and local, and ministerial administration with influence on the forests at a micro-level, it becomes possible to achieve a process-oriented understanding of how broad structural variables affect people's behavior regarding the forests. Such an understanding is, according to Agrawal and Yadama,

> "significant not only theoretically, since it would permit a more precise appreciation of how larger social forces influence the actions of users within a community; it is also indispensable if one is to begin the move towards institutional solutions to problems of resource degradation." (1997)

Throughout recent years, studies of micro-institutional solutions to the problem of deforestation have burgeoned and are now applied across a wide spectrum of disciplines and regions. Despite the wide range of theoretical lenses applied to examine specific villages and communities all around the world, they all arrive at the same conclusion: institutions matter. The manner in which communities create, follow and break formal and informal rules regarding the forests in their vicinity is constrained, modulated, and facilitated by their interactions with the state (Agrawal and Yadama 1997). A point that is underpinned by Gibson, McKean and Ostrom's claim that *"[i]nstitutions at the local level together with the incentives and behaviors they generate lay at the heart of explanations of forest use and condition."* (1998:3) It is therefore imperative to take the local natural resource institutions into account and explore how they impact the proximate causes.

According to Geist and Lambin, the underlying causes of deforestation can operate both directly at the local level, but also indirectly from the national level (2001:8). Reid et al. claim that

> "[u]nderlying causes, originating far from where land is actually changing, often drive local changes in the land" (2006:160)

In examining Kibaale's loss of private natural forests, it is therefore insufficient to focus solely on the micro-level of institutional analysis, and it becomes necessary to take a step back and scrutinize the role of macro-level institutions. Efforts at the local level will be unsustainable if they continually collide with inappropriate policies at the national level. Conversely, if the local level is neglected by the center it may also struggle to perform. Thus, to understand the performance of the local-level institutions, national institutions and policies need to be taken into account because the institutions, at the local level, are more likely to perform if national policies support rather than hinder their work (Reid, Tomich et al. 2006:160).

The national-level institutions and policies do, however, also directly influence both the proximate and the cross-cutting causes, circumventing the local-level institutions, and therefore necessitate examination. This is especially policies regarding forestry but also e.g. policies regarding land use and national population policies, that are made at the national level (Geist and Lambin 2001:37).

The analysis of institutional causes is subdivided into formal policies and implementation. Analyzing formal policies is a question of examining the formal laws, e.g. licenses and logging concessions or policies regarding population growth. The implementation refers to the ability/inability to prevent deforestation due to the failure of government institutions. The implementation is examined by taking into account e.g. the performance of the institutions and management of budgets (Geist and Lambin 2001:11).

4.3.6 Cross-Cutting Factors

The nature of certain factors influencing deforestation in Kibaale precludes them from being examined as proximate or underlying causes because they cannot be traced back to single variables or clusters; rather, they present cross-cutting themes. We limit ourselves to examine the cross-cutting issues of population growth and poverty.

Cross-cutting factors can be defined as issues that influence and are influenced by the underlying institutional factors, but their influence is not restricted to the underlying level, and they are therefore also influential at the proximate level. Their impact at the proximate level is, however, a question of the ability of the institutions to mediate the cross-cutting factors (as described in section 4.2.5). Concerns regarding poverty and population growth are intrinsic in most policies and institutions examined at the underlying level and they are furthermore influential on all of the three groups of proximate causes. On this backdrop it is not suitable to examine poverty and population growth in separate analytical sections but rather to examine them in an ad hoc manner where they are included according to relevance.

4.3.7 Historical Causes - Genealogy as an Analytical Approach

> "To reflect upon history is also, inextricably, to reflect upon power." (Debord 1994:134)

The approximate and underlying causes of deforestation in Kibaale are shaped by the historical experience of changes in power relations and discourses within the policy setting of land use (Ribot and Peluso 2003).

This section outlines the approach for an analysis of the historical production of knowledge within private forestry management in Uganda. This approach allows us, not only to trace the underlying causes of deforestation, but also to understand the historic conditions for the emergence of these drivers.

We base our historical analysis on the ontological tradition of political ecology. A central part of political ecology analysis is to determine the root causes of social-ecological problems (Thrupp 1993:58). The obvious causes of deforestation are therefore not taken on face value; instead, political ecology digs deeper and investigates the historical power relations and exploitation. A specific analytical approach, within the tradition of political ecology, is Foucault's 'genealogy', which is the study of power-knowledge and discourse.

Foucault describes genealogy as a *"form of history which can account for the constitution of knowledges, discourses, domains of objects, etc."* (1980:117). Hence, his genealogical method seeks to *"open up the discursive field through tracing practices, discourses and institutional lines of descent"* (Andersen 2003:30). The genealogy then becomes a question of understanding how discursive formations and strategies are shaped and transformed. In this context, the genealogy can be used as an analytical strategy to understand the relationship between and changes in power and discourse, and understanding what impact they have had on the institutional and policy causes of deforestation (the underlying causes), in a specific context, i.e. Kibaale. Deforestation may be caused by e.g. the institutional framework, but these underlying causes may be produced by a specific historic exercise of power. These linkages are traced by the genealogy, whereby the historical causes of deforestation are revealed:

> "This 'genealogical' approach to ecology attends to documenting the point-of-origin for ideas and practices relative to nature and tracing their effects into the present." (Robbins 1998:72)

Instead of understanding history as an evolution towards a gradually more enlightened era, Foucault argues that history should be understood as something that changes constantly, although not in a specific direction (Gutting 2005:35). The purpose is therefore not to seek out a universal principle for changes in history, which according to him, does not exist, but rather to understand what has changed and why it has changed in the specific context. This means that we, seek to understand the historical power relations to explain why the situation in Kibaale is different than earlier (McHoul and Grace 1995:43-48,75). A genealogical, analytical approach therefore seeks *"discontinuities rather than great continuities in history"* (Peet and Hartwick 2009:205). By using this analytical method, the relationship between changes in discourse and power, in the relationship between the institutions and the people of Kibaale, is investigated.

5 Study Area: Kibaale District

This chapter describes the main characteristics of the study area where the fieldwork was conducted. The main topics to explore are Kibaale's history, geographical location, ecology and climate, demographic and socio-economic traits, and infrastructure and local governmental structure.

5.1 History of Land Rights in Kibaale

Land rights is an unavoidable issue when trying to understand deforestation on privately held land in Kibaale. The issue of land rights has received a lot of attention due to tribal conflicts and violence in recent years (Wilson and Nolan 2001; Schelnberger 2005; Green 2006b; Espeland 2007). Insecurity of tenure is often mentioned as a driver of deforestation, because it may reduce the incentive to manage forests in sustainable ways (e.g. see Kaimowitz and Angelsen 1998:26; Contreras-Hermosilla 2000:17; Geist and Lambin 2001:12). This section recognizes that the question of land rights prevails in ethnic and political disputes in Kibaale, but in the same vein argues that it is not a significant driver of deforestation.

Buganda Kingdom[8] was declared a British Protectorate in 1894 with Kibaale (as a part of Bunyoro Kingdom) following in 1896. Kibaale district was part of the Kingdom of Bunyoro until 1900 when the British government granted the territory to the Buganda Kingdom. The indigenous population of Kibaale - the Banyoro - opposed the Kingdom of Buganda which they perceived as a foreign occupier (Schelnberger 2005:21) and petitioned Britain to reverse its decision. The petition was refused which led to several uprisings (Green 2006a:3-4; Ndoleriire 2011, September 19). In 1964, two years after independence, a referendum returned the district to the Kingdom of Bunyoro, but three years later all kingdoms were abolished and Kibaale instead became part of the Bunyoro district. Bunyoro was split into North Bunyoro and South Bunyoro in 1974 and the latter, which included Kibaale, was renamed Hoima district in 1980. The population in Kibaale did, however, feel neglected due to a non-existent infrastructure and severely inadequate service delivery. On this backdrop, Kibaale became an independent district in 1991 (Schelnberger 2005:21-22).

Much of the political conflicts in Kibaale revolve around the question of land ownership and access to land (Bazaara 1994:23; Odaga 2009; Ssentongo 2011). The conflicts started with the Buganda agreement after the conquering of Bunyoro by Britain with help from Buganda. The British colonialists granted 60% of the land to the Baganda whereas the forests and the uncultivated land were vested in the queen of England as Crown Land (Rugadya 1999:4; Green 2006b:374). The entire indigenous population was thus left as tenants which they remain to this day and instead absentee landlords in Buganda hold the title deed (Wilson and Nolan 2001:58; Rugadya 2009).

Despite being de jure tenants, our study revealed that the respondents, indigenous and migrants alike, regarded their land as relatively safe. Even though most of the land in Kibaale is under mailo[9] tenure, the traditional tenure system, called Bibanja, is still in effect and the land is traded informally without the consent of the absentee landlords (Kamamyire and Fadson 2011, July 15). Of the 102 household interviews, only one respondent said it that tenure insecurity had an influence on the usage of his forest, 10 said the

[8] Buganda Kingdom is a neighboring kingdom to Bunyoro Kingdom (which Kibaale is a part of). They have a long history, prior to colonization, of wars, raids and rivalry (Doyle 2006).

[9] In mailo tenure, the land owner is entitles to have issued a certificate of title and the land is held in perpetuity. This system can be prone conflicts between bonafide tenants and the owner (Angualia 2010).

they did not know, and 91 said it had no influence. A 48-year-old married woman substantiated this by saying that her community was not influenced by the legal status of their land:

"It's our land and we can use it as we want to." (Household Interviews 2011, July 19-20:18)

As such tenure insecurity does not play a large role in deforestation because most respondents were not influenced by it in their use of the land and regarded the land as their own. However, there are still conflicts originating from the historical oppression by the Baganda landlords and the fact that the population in Bunyoro cannot use a title deed as legal tender (Wittek and Armstrong 2009:105; Focus group discussion with men 2011, July 14; Kyamanywa and Mulumba 2011, July 14).

Figure 5: Map of Uganda Showing the Location of Kibaale District

Source: adapted from United Nations (2003)

5.2 Geographical Location

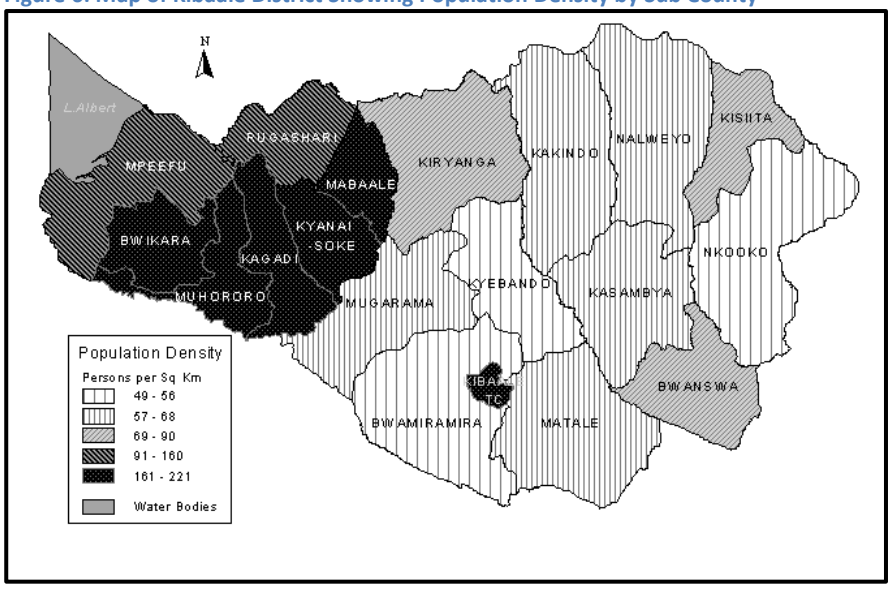
Kibaale is located in the Western part of Uganda and is approximately 4,400 km^2 of which 319 km^2 is covered by water (KDLG 2008:4). Kibaale borders six districts and is near the Democratic Republic of Congo. The location of the district is circled in Figure 5.

Kibaale has a varied landscape with hills and rocks and an altitudinal range of about 600-1200 meters above sea level. The hilly landscape renders construction and maintenance of roads and buildings difficult and expensive, making service delivery very poor, especially in the marginal areas of the Albertine Rift Valley terrain and shore communities (KDLG 2008:4).

5.3 Ecology and Climate

Kibaale's soil is varied and together with the favorable climate of a moderate to high bi-modal rainfall pattern of 1000 - 1500 mm per annum there are opportunities for many types of agricultural production. Among others bananas, tobacco, coffee, maize, and beans are being cultivated, but rice, vanilla and cocoa are also gaining influence. However, the soils, and hence the production, are under threat from loss of fertility *"especially where agricultural production is done in formerly forested areas"* (KDLG 2008:4). Furthermore, changes in the climate have caused droughts and famine in the district. The landscape of Kibaale is covered by forests and plantations, woodlands, wetlands and savannah grassland although some of these have been modified by human activity (KDLG 2008:5). Historically, Kibaale had thick rich forests harboring many primates and birds, but deforestation and environmental changes have had severe effects on the district's forest cover and wildlife.

Figure 6: Map of Kibaale District Showing Population Density by Sub County[10]



Source: Kibaale District Local Government (2008:3)

5.4 Demography

In 2010 it was estimated that Kibaale's population counted 613,200 (Kuteesa 2010). Between 1991 and 2002 Kibaale had an annual population increase of 5.9% and the population increased from 220,300 to 413,000 (Green 2006a:7) which means that the population approximately doubles every twelve years. This

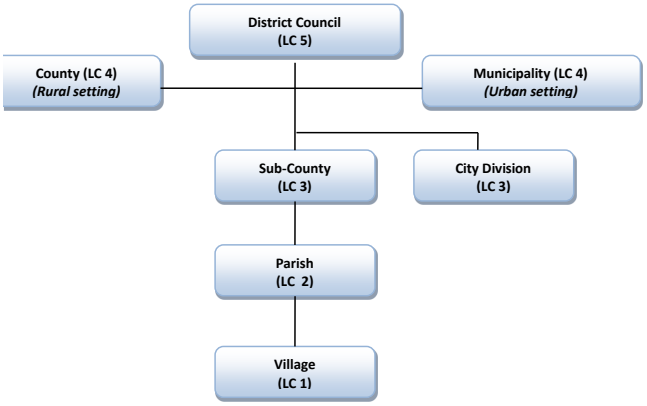
[10] This map does not reflect the current outlay of sub-counties in Kibaale (Kagolo 2009), see Figure 8.

constitutes an extremely high population growth rate ranking among the highest in the world. The population increase is caused by a high fertility rate together with an influx of migrants from other parts of Uganda, looking for greener pastures. It is especially the ethnic Bakiga (the singular form is Mukiga), from Southern Uganda, who historically have migrated, and continue to do so (Espeland 2007). Within Kibaale, the population is concentrated within the Western areas whereas the Eastern part remains relatively sparsely populated as illustrated in Figure 6. There are four urban centers with around 64,900 inhabitants (about 10%) whereas the remaining population lives in rural areas (KDLG 2011a:7).

5.5 Local Government and Infrastructure

In 2011 Kibaale had 31 sub-counties and 124 parishes with a total of 1,230 villages (KDLG 2011a:9). Because Kibaale is a border district, in close proximity to the Democratic Republic of Congo, it is vulnerable to insecurities from the border with the added burden of coping with refugees and communicable diseases. This is exacerbated by the fact that key infrastructure like tarmac roads and piped water is underdeveloped (KDLG 2008:4).

Figure 7: Uganda Local Government Organogram



Source: Adopted from Namirembe and Lwanga (2009:64)

As in the rest of Uganda, Kibaale's local government is organized with two politically controlled units, the LC5 and LC3, and three administrative units, LC4, LC2 and LC1, as seen in Figure 1. The political leader in Kibaale, the LC5 chairperson, has since 2002 been George Namyaka who was recently reelected in the 2011 elections (Electorate Commission 2011:1). The LC5 council is responsible for the political leadership, budget and planning, but the execution is done by the civil servants. The main unit for NRM is the Natural Resource Department headed by the District Environmental Officer. The DFS is part of this and is led by the DFO, Wilson Kyamultonsaire.

5.6 Fieldwork Sites

The villages visited during the fieldwork were situated in four different sub-counties as depicted in Figure 8 with a green dot. There were no records of Kibaale's villages available at the local government and we therefore choose the sub-counties based on their different features of geography, agriculture, local economy, and population. The forests in the Western sub-counties have almost entirely cleared for agriculture (Kyamultonsaire 2011, July 7), and as we wanted to understand the current drivers of deforestation we therefore chose four sub-counties with remaining forests but in different stages of deforestation. We chose Nalweyo sub-county in the North-Eastern part, Kiryanga sub-county in the North, Kyebando sub-county in the center of the district, near Kibaale Town, and Nymarunda Sub-county in the South-West near the border to Kyenjojo District. After interviewing the LC3 chairpersons they helped in selecting a village in their respective sub-county. A brief description of the villages follows here:

- Kakiseke village, in Nalweyo sub-county, is remotely located and has large, but heavily degraded, patches of forest left. The forests are mainly being converted to farmland and burned for charcoal. Charcoal is a relatively new business that accelerated a few years ago when a new road was con-

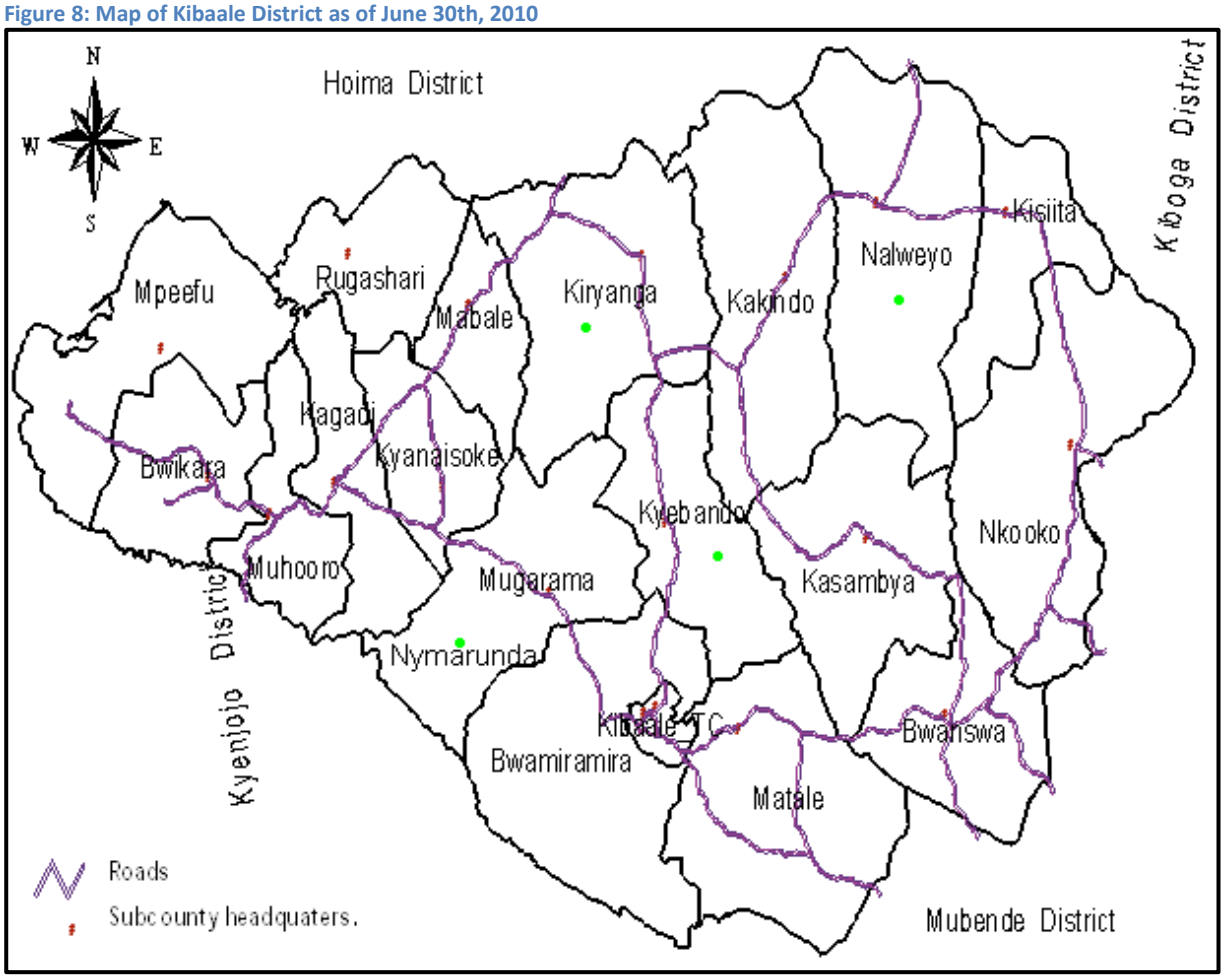
structed, connecting the sub-county to Hoima Town which provided a market for the charcoal. Together with Lusenke village it seemed to be the most developed village in terms of trade and agriculture.

- Kasambya village, in Kiryanga sub-county, has almost been entirely deforested and only a few of the respondents had any forest left. There is a high pressure on the few remaining forests due to an increasing demand for farmland.

- Lusenke village, in Kyebando sub-county, has some forests left and is a part of a WWF programme to conserve the remaining forests. Contrary to the other three villages, Lusenke has a low influx of migrants and the villagers possess relatively large pieces of land. Tobacco is a common crop among the farmers.

- Muzizzi village, in Nymarunda sub-county, still has large patches of virgin private natural forests left, adjacent to Kangombe CFR. The village has grown considerably in recent years due to a newly constructed road. Most of the villagers are migrants attracted by the low prices of land, due to uncertainty of land tenure. There are no precise boundaries of the CFR which means that land owners may be evicted if the land turns out to be a part of the CFR.

Figure 8: Map of Kibaale District as of June 30th, 2010



Source: Adapted from Kibaale District Local Government (2011a:ii)

6 Analysis

6.1 Overview

The analysis of the drivers behind the loss of privately held forests in Kibaale falls into three parts.

The first part explains how the local and central governments' exploitation of the forests is grounded in a discourse of exploitation, contingent on the colonial experience, where the commercialization of agriculture and rapid development take precedence over forest conversation.

The second part examines the proximate drivers of deforestation and argues that Kibaale's soaring population growth causes an increasing number of poor PFOs to exploit natural forests in an unsustainable way in search of profits and means of subsistence; these are the direct causes of deforestation.

The third part initially examines Uganda's policy framework for conservation of private forests and concludes that the framework is relatively well-crafted and stresses that the proximate causes are determined through deeper and much more fundamental forces. The analysis therefore goes on to argue that deforestation in Kibaale is caused by a lacking implementation of the policy framework and institutions that are not fulfilling their mandates. It is explained how scant priorities of the forestry sector by the GoU, under influence of the IFIs, are detrimental to the budgets allocated to the forestry sector. The lacking priority of forestry has immediate consequences in Kibaale, where the institutions mandated to oversee the forests and provide training and alternative livelihoods to the PFOs are unable to fulfill their mandates.

7 A Genealogy of Private Forest Management in Kibaale

> ''In former times we had no forest management but plenty of wood, today we have the science but no wood left.'' (Heinrich Cotta 1817 cited in Wirth, Gleixner et al. 2009:4)

This chapter sets out to conduct a brief genealogy[11] of the politics of land-use practices in Uganda. The point of origin is taken in a dichotomy between cash-cropping and forest conservation. The origin of cash-cropping, forestry management, and regulations is traced to its introduction in Uganda. We explain how land-use practices changed drastically with colonialization. This happened on the basis of a discourse of exploitation where privately owned forests were replaced with cash-crops.

7.1 A Discourse of Exploitation

> "… either you sell that tree there in your kibanja [land] or clear it for rice, so that state of nature being enjoying like Adam and Eve in that Garden of Eden, where all the innocence is gone. Look at the tree, get money out of it but … I think there is this spirit of being rebellious. It goes with loss of innocence, people are saying don't clear the forest, but me I want money, I want to dig, let me go there and clear that. Then we shall see what they will do." (Nyamyaka 2011, August 31)

In this thesis we put emphasis on understanding deforestation of private natural forests as opposed to PAs or communally owned forests. In Uganda - and Kibaale - this distinction was unheard of prior to colonialization in 1894. Kibaale's land was owned by the Kingdom of Bunyoro and the forests were either communally owned or used by the adjacent communities as an open access resource and often managed by the elders (Gombya-Ssembajjwe 1995; Tukahirwa 2002). Traditional beliefs also played a role in protecting and conserving the forests (Ndoleriire 2011, September 19). According to two elderly respondents, who had heard tales from their parents and grandparents, forests used to be places of worship and therefore managed through beliefs in spirits and ancestors who were believed to have dwelt in the forest groves (Household Interviews 2011, July 26-27:57, 61). The restrictions were not written, but instead the communities grew up learning "dos and don'ts" in relation to the use of forest resources (Turyahabwe 2011, August 9). These instructions were thus passed down from one generation to another through oral instructions and cultural traditions (Turyahabwe and Banana 2008:643). The traditional beliefs thereby protected the forests by restricting access, but this *"changed when the missionaries came and people became Christian"* (Household Interviews 2011, July 26-27:61). Uganda had a favorable climate and rich soil which meant that *"[t]here were none of the worries of shifting cultivation, little need to clear and break new ground, none to store harvests, and there was practically no threat of famine."* (Hickman 1970:180) Hence, the land use prior to colonialization allowed the forest ecosystems to regenerate and reestablish equilibrium (Karani 1989:87-88; Turyahabwe and Banana 2008:643).

After declaring Uganda a British protectorate in 1894, the colonialists established a system where the forests were managed by chiefs. The chiefs regulated the forests and the extraction of timber on behalf of the government and thereby acted as agents to legitimize the British rule (Bazaara 2001). In that time cash crops such as coffee, tea, sugar cane, and cotton were introduced to finance administrative costs. Some of these crops had previously been cultivated in small-scale, but the production for export, introduced by the colonial government, made it necessary to clear large areas of forests. However, in 1898 the colonial gov-

[11] A complete genealogy of Uganda's land-use practices be very comprehensive and beyond the scope of this thesis.

ernment, due to massive deforestation, realized that the forests had to be protected (Karani 1989:88). This prompted the establishment of the Scientific and Forestry Department of Uganda in 1898. The department was mainly concerned with agriculture, experimental farms, meteorology and hydrology and also forestry (Turyahabwe and Banana 2008:644). Later, the Forestry Department was established as a separate body in 1917 and renamed the Forest Department[12] in 1927 (Forest Department 1951). The Department was in charge of finding ways of utilizing Uganda's rich forests. Among the activities were timber for railway construction and collecting of wild rubber. These activities served for the Department to eventually become self-sufficient, which was caused by the colonial government's insistence that *"the Forest Department should show a profit …. Which led to the adoption of the policy of exploitation."* (Forest Department 1951:7)

The Forest Department was mainly concerned with large valuable forests which came under government ownership through adopted legislation. In 1900 the Buganda agreement allocated the larger forests for this purpose:

> "the forests which will be reserved for Government control will be, as a rule those forests over which no private claims can be raised justifiably, and will be forests of some continuity, which shall be maintained as woodland in the general interests of the country." (Brasnett 1933:29)

These forests would be protected whereas the remaining forests were lightly regulated. According to the Forest Department, the first Forestry Regulations of May 1900 *"sought to impose restrictions on tree-cutting on private land."* (1951:9) Since the original document has not been located this is the only source and there are no other mentions of these restrictions. However, the phrase 'sought to impose' implies a low priority. This may have originated from the government's insistence to introduce cash crops. That is, if the forests had been protected it would have hindered the swift transformation of Uganda into an agricultural export economy. There were, however, no hindrances in the land tenure systems that were introduced, where the owners had full ownership over the trees on their land. Before colonization, the forests were managed communally whereas the individualized tenure meant that having a forest was dependent on the owner's interest in conserving it (Rugadya 1999). The regulations were much clearer for the PAs where the Forestry Regulations *"prohibited the cutting of forest produce without a permit on any land not in private ownership"* (1951:9).

The limited interest vested in the private forests was underlined by the low number of forestry officers in the Forest Department which amounted to 10 officers in 1935 (Hamilton 1984:48). The colonial Forest Adviser for Kenya and Uganda in 1929, J. W. Nicholson, claimed that this was insufficient and recommended that the Forest Department should have 18 forestry officers, but that was not achieved until 1946. He furthermore stated that *"where the Forestry Department has failed and failed badly, has been in its omission to take proper steps to ensure forest conservation – its prime duty…"* (cited in Forest Department 1951:5) Nicholson's statement concerned the PAs and the private forests were therefore most likely less protected. The private forests had to make way for what Tosh called the *"cash crop revolution"* (1980) which from 1894 saw the introduction of cash crops like tobacco, cotton, and coffee to fund the administration (Jørgensen 1981:48) and *"make Uganda less financially dependent on funds from the imperial treasury"* (Nayenga 1981:175).

[12] It remained the Forest Department until April 2004 when it was split into two units, the NFA who manages the CFRs and the DFS who manages the LFRs and oversee private forests (Turyahabwe and Banana 2008:644).

From the beginning of colonization, Uganda's forests were managed through a 'discourse of exploitation' that tended to favor agricultural production over forests. The colonial government worked together with international corporations, such as British American Tobacco, to reap the potential of Uganda's natural resources by introducing cash crops (Cox 2000:311). Consequently, *"[f]orests were cleared without any consideration to environmental or religious importance ... Cash crops were introduced without detailed studies on the impact of such crops on the environment and the water supply."* (Muiu 2010:1314)

The colonial administration imported large quantities of cash crop seeds from the beginning of the 20th century and distributed them through the system of chiefs, using an incipient tax system to coerce the farmers to grow the imported crops. The tax system introduced taxes for tenants on their huts and in order to finance these taxes the farmers, who had so far lived in a cashless society, were often forced to grow cash crops to pay the taxes (Jørgensen 1981:54-55; Nayenga 1981:176; Muiu 2010:1313). According to Carswell *"[c]olonial administrators at all levels … were eager to raise revenues for the administration, and so agricultural policy focused on cash crops."* (2007:29) Railroad construction and financing the colonial administration were expensive which prompted a high emphasis on raising revenues by mainly focusing on agricultural output.

The colonial administration was influenced by a discourse of exploitation when encountering Uganda's rich fertile land which had great potential for agriculture (Hamilton 1984:47). This took precedence over a counter-discourse which advocated for a balance between agriculture and forestry. The counter-discourse is noticeable in Nicholson's estimate of forestry and agriculture in Uganda from 1929:

> "The Protectorate of Uganda has immense agricultural potentialities the full development of which can only be carried out with the assistance of the handmaid of agriculture – forestry. If the latter's lot be prostitution Uganda will become a sterile solitude." (cited in Hamilton 1984:47)

The knowledge of the counter-discourse was incorporated into the establishments of PAs, which were gazetted in the late 1940s and have remained almost untouched since (Webster and Osmaston 2003). These areas were the main concern for the conservators at the Forest Department whereas natural forests on private land were left without regulation (Turyahabwe 2011, August 9) and exploited by the expansion of agriculture and introduction of cash crops. Up until the Forestry Policy of 2001, private forestry was largely unregulated. The lack of regulations was evident in the Forests Act of 1947 which did *"not make provision for the management of forests on private land."* (Makumbi and Manyindo 2000:24) The discourse of exploitation permeates the Statement on Forest Policy from 1948

> "Because of Uganda's dependence on agriculture [and] the rapid development of the country … it is necessary to limit the size of the forest estate to the minimum area which will achieve the primary aims of management" (cited in Forest Department 1955:7)

The statement made it clear that agriculture and rapid development take precedence over forest areas. This prioritization was the core of the exploitation discourse; that is, the forest cover had to be limited to advance agricultural production (Hoenig 2011). In practice this meant that the gazzetted areas would be protected whereas the private forests were exploited. Hence, the limited focus on conserving the private forests has its origin in the colonial administration's management of Uganda's forests and prevailed throughout the 20th century. This was also the case when the GoU in 1988 published an interim Forestry Policy which did not mention private forests (Makumbi and Manyindo 2000:24).

In summation, the exploitation discourse became dominant with the arrival of the British colonizers who brought changes to the land tenure and the agricultural practices of the rural peasants. The peasants were compelled to plant cash crops at the expense of the forests after the introduction of individualized land tenure had made private forest conservation a question of the individual owner's interests herein. Hence, private forest conservation was in the exploitation discourse seen as a competitor rather than an ally of agriculture. Although the Forestry Policy of 2001 had provisions for sustainable management of private forests, the exploitation discourse is still dominating the land-use politics in Uganda.

8 Human Impact on Forests in Kibaale

This chapter explores the proximate causes of deforestation in Kibaale. It is explained that the predominate cause of deforestation at the proximate level is a rapidly increasing population converting forests into permanently cropped land. The chapter furthermore explains why the rural population is not responsible for deforestation despite the fact that they are the main agents of forest conversion.

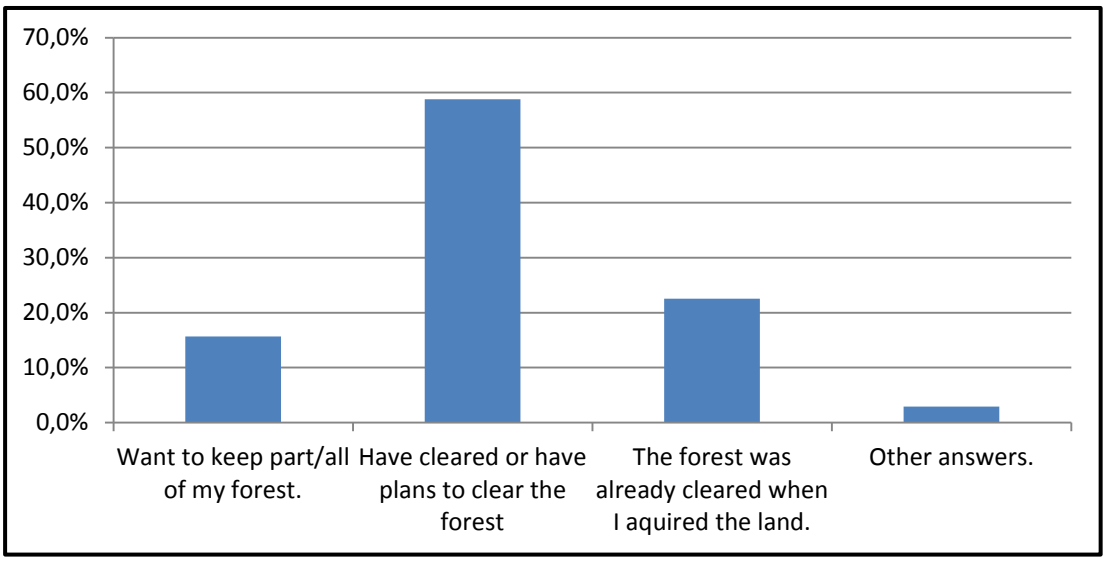
8.1 Rural Population as Agents of Deforestation

The role of the rural population in deforestation was made clear by a woman from Lusenke village, which has experienced excessive deforestation, who explained that

> "It is us, the residents, who cut [the forests] down … we can't avoid cutting them because that is the main source of income." (Foucs group discussion with women 2011, July 14)

This statement is corroborated by our data sample and illustrated in Figure 9. The figure shows how the majority of the respondents had converted their forests to permanently cropped land and the search for arable land therefore constitutes the primary proximate driver of deforestation. The demand for farmland is being driven up by of the staggering population growth. Kibaale's population growth rate ranks among the highest in Uganda with an alarming rate of 5.9% annually, compared to Uganda's country-wide rate of 3.4% annually (Green 2006a:7), which causes Kibaale's population to double approximately every 12 years. Since farming constitutes the main livelihood option for about 90% of Kibaale's population (KDLG 2011a:7), the demand for arable land is rocketing exponentially with the increasing population, effectively forcing people to turn to the forests in search for new farmland. In addition, widespread poverty in Kibaale causes people to search for means to improve their livelihoods. As farming almost exclusively is the only source of income in Kibaale's rural areas, the rural farmers are, at the detriment of the forests, forced to expand their agricultural businesses if they want to improve their livelihoods.

Figure 9: Respondents' use of Forests

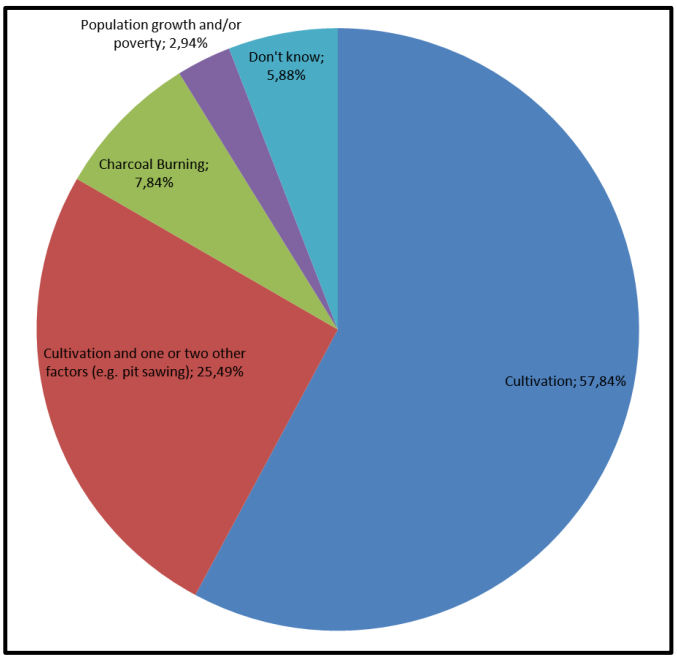


Infrastructure expansion and wood extraction is often mentioned as major drivers of deforestation, but in the sample area, these were not so much the causes of deforestation at the proximate level; rather, they are means employed by PFOs in their quest for acquiring new arable land. Hence, if the possibility for em-

ploying pit sawyers and charcoal burners is present the PFOs will seize this opportunity to profit from the conversion of the forest; a point that was corroborated by the respondents as illustrated in Figure 10. If there are no such activities available, the PFOs will instead slash and burn their trees.

Commercial activities of pit sawing and charcoal burning are taking place in different parts of the district. Charcoal burners and pit sawyers are dependent on two things, infrastructure and markets. In Kakiseke village there is a relatively newly constructed road connecting to Hoima Town and further to Kampala, where there is a soaring demand for charcoal (Tenywa 2011). In Nymarunda sub-county a road connecting it with the general roads network was also recently constructed which has increased the access of migrants and pit sawyers to the forested area. The DFO of Kibaale explains the role of pit sawyers and charcoal burners:

Figure 10: Causes of Deforestation according to Respondents



> "they buy from cultivators, they talk to the owner of the forests, who wants to clear that forest to turn it into farmland. When [they] are there, the forests continue going."
> (Kyamultonsaire 2011, July 7)

Remains from pit sawyers and charcoal burners were therefore noticeable when walking around in the forests adjacent to Muziizi and Kakiseke villages, as portrayed in Picture 1 and Picture 2. However, in the areas where they operate, deforestation is not a new phenomenon; before the improvement of the infrastructure and access to markets, owners would instead cut the trees down with simple tools such as pangas (machetes). Their main motive for deforestation was cultivation of crops. As it was not possible to hire charcoal burners or pit sawyers, the trees were simply burned or left to rot. This practice is still prevalent in places where there is no access to a market due to lacking infrastructure.

Picture 1: ***remains from pit sawyers inside a thick natural forest close to Muziizi village.***

Picture 2: sacks of charcoal in front of an earth-mound kiln for producing charcoal close to Kakiseke village.

Because the farmers' main interest is acquiring new arable land, the pit sawyers are contributing to an already existing problem. A 23-year-old woman from Kakiseke attests to this: *"there is half an acre of forest on our land. We plan to sell it to charcoal burners … Because I want to do shifting cultivation."* (Household Interviews 2011, July 19-20: Number 14) Much of the forests may therefore be cleared by pit sawyers or charcoal burners, but that is mainly an expression for the most prominent proximate cause of deforestation: the demand for new arable land. Access to markets, expansion of infrastructure, and the introduction of power-tools are thus not significant proximate drivers in themselves; rather, when available, they merely accelerate the pace of the deforestation. If there were no new markets, infrastructure expansion, or power-tools, villagers would instead burn the trees or leave them to rot to make way for new farmland (see Picture 3). This is what mostly happened in Kasambya village where the respondents claimed that there are no markets for timber and charcoal as reason for burning the trees. However, in areas with large forests left and not the same soaring demand for land, which was case in Lusenke village, the pit sawyers degrade forests as they provide an income to the PFOs.

Picture 3: a patch of forest, adjacent to Muziizi village, recently slashed and burned.

Poor farming techniques further accelerate the rate of deforestation. The rural population in Kibaale is often unaware of the proper ways of spacing their crops to boost the outtake, the need for crop rotation, the benefits of letting the soil rest (fallow), and the negative consequences of burning trees and shrubs to add soil fertility (Mann 2002) and the use of fertilizers is almost unheard of. The farming techniques presently employed cause the soil to get exhausted within few years, and farmers therefore have to search for new farmland which further increases the pressure on the forests. This creates a strong loop-back effect where decreasing soil fertility increases the demand for arable land. With better farming techniques in place, farmers would be able to increase their output by more than 50% (Foley, Ramankutty et al. 2011; Kyamultonsaire 2011, July 7; Tumunimbise 2011, May 18), and thereby reduce the demand for new arable land considerably.

Picture 4: Kibaale's roads are often flooded due to excessive rainfall, as was the case in this picture from the road to Hoima.

The accelerating deforestation is taking place against a backdrop of a growing recognition in Kibaale's population of the negative consequences of deforestation, which has already caused "storms *which destroy our gardens and houses, even drought*

which brings about famine." (Foucs group discussion with women 2011, July 14) The changing climate has led to low yields and erratic weather and therefore *"no one knows anymore when the seasons are starting and ending"* (Arinaitwe 2011, September 1). When travelling around Kibaale the changing climate was evident, and we experienced weeks of drought during the rainy season and heavy rain leading to floods in the dry seasons causing the bridge we had used to cross the Muziizi River to be flushed away and causing large puddles on the roads (see Picture 4). Most respondents in the household interviews were aware of the critical role of forests in the eco-system after learning about it on the radio, from NGOs or from friends, even though the knowledge was somewhat superficial. Nevertheless, the increasing demand for farm land renders it almost impossible to transform such sentiments into sustainable practices.

Picture 5: forest cleared to grow maize.

Forests, and trees in particular, are an integral part of rural life in Kibaale because trees provide poles for building houses, habitat for medicinal herbs, and fruits such as mangos and avocados. However, forests are often cleared for agriculture and improved livelihoods, which the rural population value above other benefits the forests may provide. Consequently, the forests are being cleared by the rural population in the search for arable land. There are many different supplementary proximate causes of deforestation such as commercial activities, infrastructure expansion, and poor farming techniques, but these tend merely to be vehicles of the main cause which is conversion of land to cultivate food and cash crops where especially maize, beans, and tobacco are prominent. Se examples in Picture 5 and the picture on the front page of this thesis, which shows formerly forested land converted into a tobacco plantation.

8.2 The Politics of an Empty Stomach

As the section above outlines, conversion of forests to other usages is the main proximate driver of deforestation in Kibaale. The vast majority of Kibaale's increasing population is severely impoverished and is mainly concerned about securing livelihoods for them and their families. Among the respondents 87% reported that they had experienced negative consequences from deforestation such as drought, famine, lack of firewood, changing seasons, and strong winds. A respondent from Kakiseke village explained that when she moved there 12 years ago *"it took 5 seconds [to collect firewood], now it takes 6 hours."* (Household Interviews 2011, July 21-22:42) Despite this, the respondents were apathetic towards stopping the deforestation because the immediate needs of caring for their families' requirements for food, paying school fees for their children, and so forth leave them without any alternatives. The desperation is easily noted in the exclamation by a woman from Muziizi village:

> "I want food. I have nothing to do. I will have to cut [the forest] down to get food." (Household Interviews 2011, July 28-29:85)

By singling out the rural population as key agents of deforestation one might imagine that this would mean the finger of blame would be pointed in the direction of the poor rural population as would be the case in a simple rational choice analysis. Such analyses are often inspired by von Thünen's land use model from 1826

where he stated that "*land is allocated to the use with the highest land rent (surplus or profit)"* (cited in Angelsen 2007:4). Simply, it suggests that if deforestation is taking place it is because the value of keeping the trees is lower than using the land for something else (for a rational choice analysis of deforestation in Uganda see Namaalwa, Gombya-Ssembajjwe et al. 2001). E.g., a PFO in Uganda will consider the highest value of the land and convert it to other uses if there is an option that yields higher profits than forestry. This is, however, a simplification of the drivers of deforestation in Kibaale.

Rational choice analyses do not take into consideration the value that the forests present for the society as a whole. Many of the services of the forests have no price and, hence, do not provide the owner of the forest with a profit (Contreras-Hermosilla 2000:7). Therefore the satisfaction of the private agents' objectives may be in conflict with the satisfaction of society's objectives. The causes of deforestation should therefore be understood as the discrepancies between the value of the forests for the individual household and those of the society. Due to this market failure, the owner is bearing all the costs of sustaining his natural forest that do not provide him with a livelihood except for having certain ecological that benefit the society as a whole. The PFOs do therefore not have incentives for sustaining their forests for these services because they do not have direct benefits from them. This is further explained by Obua and Agea:

> "In general, where an individual does not obtain the full value of social and non-monetary benefits provided by forests, there will be less incentive to maintain lands under forest cover." (2010:82)

One could blame the rural population for having too many children, for clearing the forests, for not using better farming methods, but the lack of alternatives has left them with no alternative. Clearing the forests is a matter of survival for many whereas for others it is a matter of securing better education and nutrition for their children. To blame the poor rural population for deforestation would therefore be a superficial analysis. We therefore argue for a more thorough analysis which takes political, social, and economic factors into consideration, what Angelsen calls *"the political economy of deforestation."* (2010:19639) By investigating the institutional factors of deforestation, the political economy of deforestation in Kibaale is therefore exposed. With the following chapter's investigation of the underlying drivers of deforestation we argue that the institutions have failed to educate, provide alternatives, and value the forests and therefore the incentives for sustaining forests, in contrast to agricultural activities, have been mitigated.

9 The Political Economy of Forest Management

> "The main source of deforestation is clearing by households … for agriculture or timber. The question is: what factors make farmers … decide to clear more forests?" (Kaimowitz and Angelsen 1999:81)

The chapter above clearly explained how deforestation in Kibaale is mainly caused by the rural population due to an increasing demand for farmland, further exacerbated by the high population growth. On this backdrop, this chapter initially reviews relevant parts of Uganda's policy framework for forestry management in order to explain how Uganda's forestry sector is built upon relatively well-crafted policies that are considered sufficient to curb deforestation.

The chapter hereafter goes on to explain how Kibaale's deforestation is rooted in the performance and implementation of the policy framework by institutions at both district and national-level. The proximate causes of deforestation are therefore transformed into actions that degrade the private natural forests by a lacking ability of relevant institutions to implement and fulfill their mandates.

This conclusion is reached by examining the political economy of forestry in Uganda. It is explained how the GoU under heavy influence from the IFIs, in planning for the future development of Uganda, has not prioritized the forestry sector and instead puts emphasis on growth and commercialization of agriculture. The low priority manifests itself in low budget allocations to the forestry sector together with a strong belief in development through cash-cropping in the agricultural sector at the detriment of the private forests. The lacking political and budgetary commitment is reflected in the inability and unwillingness of the relevant institutions to implement the policy framework. This comes to show when examining the four key institutions for implementing relevant policies:

- The FSSD which, due to financial constraints, political interference, and understaffing, struggles to carry out its many mandated functions such as overseeing and advising the forestry institutions;
- the DFS in Kibaale which is not carrying out its mandate to support the PFOs to manage their forests sustainably and struggles to provide them with training and assistance. The DFS is furthermore working directly against its mandate to protect the private forests due to political pressure from the local government;
- NAADS which is well-funded and well-staffed compared to the FSSD and the DFS, but is neglecting its mandate to encourage sustainable agricultural practices and is causing deforestation by promoting cash-cropping; and
- the Population Secretariat which struggles to implement the policies on population growth due to financial constraints and lacking political commitment.

The final part of this chapter argues that the DFS and FSSD's inability to carry out their mandates is not only a matter of financial constraints and lacking political prioritization of forestry, but also because they fail to utilize already available resources due to a lack of accountability and transparency together with an alarming level of corruption.

9.1 Uganda's Institutional Set-Up for the Management of Private Forests

In 1999, the GoU launched a Forest Sector Reform Process to clarify the, until then, confusing roles of relevant stakeholders in the management of Uganda's forests (Ribot, Agrawal et al. 2006; Banana, Ougugo et al. 2009). This caused the development of

- the Uganda Forest Policy (2001),
- the National Forest Plan (2002); and
- the National Forestry and Tree Planting Act (2003)

This section provides an overview of the effects of this reform process and the institutions it instigated with relevance for the private forests.

The Uganda Forestry Policy acknowledged that one of the key issues that the forestry sector faced was *"how to improve the management of forest resources on private … land."* (GoU 2001:2) This is a token of the government's realization of the accelerating problem of deforestation on private land, and that without dileberate action this trend was bound to continue (GoU 2001:16). Accordingly, the GoU stated that

> "The development and sustainable management of natural forests on private land will be promoted." (GoU 2001:16)

Among the most important achievements of the Forest Policy was a strenghtening of the institutional framework for the forestry sector aiming at clarifying and redefining the role of the central and local governments (GoU 2001:27-28). The Forest Policy furthermore aimed at creating rules and regulations for forestry activities "*based on appropriate incentives and disincentives, including licensing [and] penalties based on true economic valuations*" (GoU 2001:28).

Table 3: Responsibilities for the management of private forests in Uganda

	Strategies	Responsible institution(s)
National level management of private forests	Build capacity to oversee the forest sector	FSSD
	Formulate and oversee forestry policies and legislation	FSSD
	Provide technical support and monitor forestry in local governments	FSSD
	Provide advice, public information and advocacy to sector stakeholders	FSSD
	Ensure effective National Forest Plan co-ordination and cross-sectorial linkages	FSSD
District level management of private forests	Build capacity to mobilize, plan and coordinate district forestry activities	DFS
	Improve the promotion, planning and funding of forestry developments	DFS
	Collect revenue from licenses and taxes on forestry activities in the districts	DFS
	Increase tree planting through a national tree planting fund	DFS
	Improve the development and delivery of agroforestry technologies	DFS NAADS
	Support the management of private forests	DFS NAADS
	Build the capacity of farmers to demand and use appropriate forestry advisory services	DFS NAADS

Source: Adapted from GoU (2002:133-136)

The National Forest Plan of 2002 provides goals and strategies for turning the Forest Policy into action. The vision of the Plan was a "*sufficiently forested, ecologically stable and economically prosperous Uganda*" (GoU 2002:x). In continuation of the Plan came the The National Forestry and Tree Planting Act of 2003 which provides the legal instruments required for implementing the 2001 Forest Policy. The purpose of the Act was to provide for an integrated forestry sector that facilitates economic, social, and environmental benefits from forests and trees in a sustainable manner (GoU 2003:4).

The restructuring process of Uganda's forestry sector led to a new sharing of responsibilities for implementing the new policies and regulations by the district institution DFS, the agricultural institution NAADS, and to oversee and inspect the FSSD. These three institutions replaced the now-defunct Forest Department and all play an influential role regarding the privately held natural forests (Banana, Vogt et al. 2007:436).

Relevant responsibilities and characteristics of the institutions are explained in Appendix C and summarized in Table 3.

9.1.1 A Sound Policy Framework for Private Forestry Management

"Uganda's natural resources have the necessary legal protection…" (Ssewakiryanga 2011:114)

The institutional framework for conservation of private forests reveals a well-crafted system that promotes sustainable forestry and institutions that work together to provide support, advice, and training to the PFOs. Especially with the legislation's core themes of conservation, sustainable development, and institutional reforms with new roles for local and central governments. The improvements achieved by the reform are numerous but among the most significant is the devolvement of responsibility for collecting taxes and fees. Income generation is a new and important incentive for local governments' involvement in the reform. This incentive gives local governments greater efficacy in collecting taxes and fees, because they are keen on accessing revenues generated from the forests (GoU 2002:121). Simultaneously incentives for investing in forest management are also created in order to ensure the steady flow of revenues (Larson 2003:222). One of the means to achieve a steady flow of revenues is to sensitize farmers about the importance of avoiding heavy deforestation.

The framework's well-crafted nature is recognized by a wide range of scholars who all reach the conclusion that over time Uganda has managed to craft a policy framework that by and large is adequate to secure a firm management of the country's privately held forests (Akello 2007; Turyahabwe and Banana 2008; Mugalula 2010; Kahangirwe 2011). However, the framework has substantial deficiencies that require consideration.

The most noticeable deficiency is that *"there has been virtually no planned management of forests on private lands"* (Namirembe 2011:21). The Land tenure system has not been addressed in the policy framework and largely remains as it was established during the colonial period where the PFOs have *"absolute power over the land and therefore, the management practices will depend on their interests."* (Namaalwa, Gombya-Ssembajjwe et al. 2001:99) Therefore, should the owner desire to do so, he is entirely entitled to deforest his land (GoU 2003:Sec. 21, 2), although it requires a license if he wants to sell the trees.

A common denominator for all aims in the policy framework regarding conservation of private forests is that they are on a voluntary basis. PFOs are therefore not penalized if they do not adhere to these aims.

This is contrary to e.g. swamps and wetlands in Uganda, where degradation is prohibited in the environmental laws (GoU 1995:Sect. 35-41). PFOs are, however, legally entitled to clear their forests, which has been detrimental to the country's forest resources (Turyahabwe 2011, August 9).

As it has already been pointed out, Uganda's policy framework is, despite these deficiencies, considered rather well-crafted and sufficient to combat the massive deforestation. Paradoxically, the private forests are still being depleted rapidly. This has caused Turyahabwe and Banana to state that

> "Despite reforms in the forest sector, new institutions created are not yet in position to effectively enforce forest rules and regulations on forest resource use, particularly private forests." (2008:641)

They hereby align themselves with a growing consensus that desires no new laws or regulations and instead argues that what is needed is the implementation of existing policies together with more resourceful institutions (Turyahabwe 2011, August 9; Musoke 2011, August 11).These institutional shortcomings are the main focus of the following section.

9.2 The Political Economy of Budgetary Allocations for Forestry

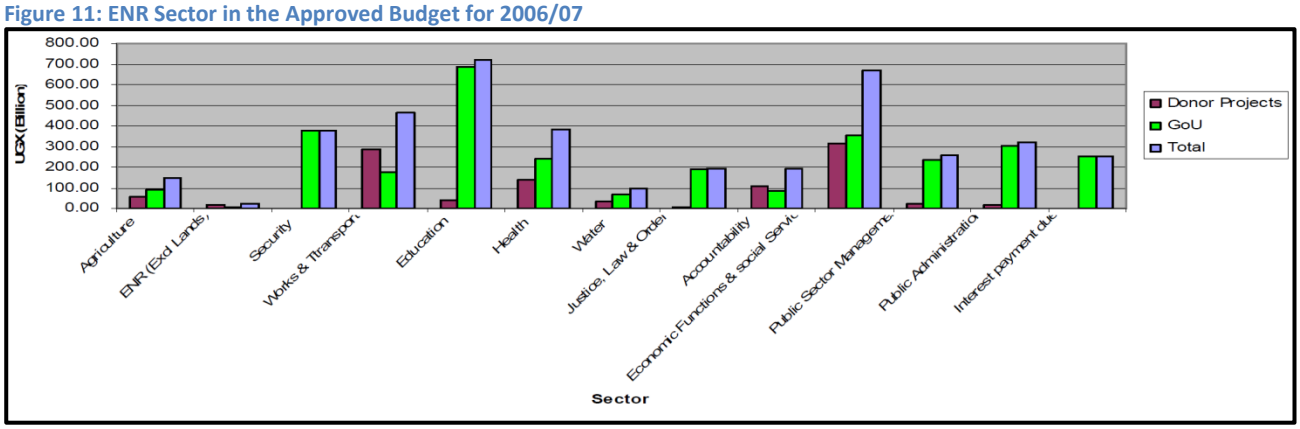
In policy formulations and political statements, conservation of Uganda's private forests is a priority for the GoU, which manifests itself in the new forest policy and forestry legislation together with the restructuring of the forestry governance system of 2003. Yet, despite these efforts, that clearly demonstrate the GoU's recognition of the socioeconomic and environmental value of forests, forestry is still not a priority in terms of budget allocations. The GoU's lacking budgetary commitment is significant to examine because it lies at the heart of the explanations for the forestry institutions' inability to implement the policy framework. This section therefore sheds light on how the otherwise well-crafted policy framework's effects are being hampered by two general and intertwined problems; namely, a lack of priority of the forestry sector which, in turn, causes rampant underfunding. An examination of planning, budget and fiscal resource allocation in Uganda therefore reveals that scant political support to a sector that is no immediate 'vote-getter' creates a forestry sector for preventing deforestation of private forests that on paper is geared to cope with the challenge but in reality is financially constrained.

9.2.1 Lacking Political Commitment in Budget Allocations

The low budget allocations to the forestry sector are highly influenced by the HIPC Initiative where developing countries, at the behest of the IFIs and in order to receive vital debt relief, must maintain macroeconomic stability, carry out key structural reforms, and satisfactorily implement a poverty reduction strategy. To satisfy these provisions Uganda has devised an NDP covering a four-year-period (2010/11 - 2014/15). The NDP sets out the country's development priorities and therefore also fiscal priorities, and holds four core areas of focus: human resource development, infrastructure development, critical production input, and science, technology and innovation (GoU 2010:49). In choosing the core priorities the GoU is influenced by an important feed-back mechanism, the extreme poverty in the country necessitates swift political action, and because the GoU is under continuing influence from the exploitation discourse it sees growth through agricultural commercialization and expansion as the only available tool to eradicate poverty. Accordingly, the NDP limits the funding available to sectors, like forestry, which are not among the core priories (Kamugisha-Ruhombe 2010:43).

The negligence of the peripheral sectors is palpable when examining the discrepancy between the stated policies and budgetary priorities. As mentioned, the GoU recognizes that deforestation on both private and public land is a pressing issue. This has fostered numerous visions in different publications from the GoU (2001; 2002; 2003; 2009; 2010), entailing several strides towards developing and implementing forest management plans and strengthening institutional capacity and regulatory/fiscal frameworks for forest management. The budget allocation has, however, not been corresponding with the political visions. Figure 11 compares the approved budget allocations for 2006/07, and clearly illustrates a gap between the political and economic priorities. Forestry is bundled under 'ENR (Excl Lands)', which received the lowest funding, and furthermore the private forestry institutions had to share the budget with other sub-sectors in the environment such as wetland, wildlife, and CFR protection which are considerably higher funded than institutions managing the private forests. Considering this, it is unlikely that the many visions stated by the GoU can be achieved with the funds provided in the budget.

Figure 11: ENR Sector in the Approved Budget for 2006/07



Source: Kamugisha-Ruhombe (2009:4)

On this backdrop it seems that the GoU's enthusiasm about forest conservation is stifled when budgets are allocated and *"when you look at the national level, you find that the … forestry sector is given low priority so you find the budget is very limited"* (Turyahabwe 2011, August 9). This can partly be attributed to a certain short-termism by politicians at both district and government-level in Uganda. The short-termism manifests itself in two ways. Firstly, the money allocated to a certain sector is often based on a disaster-perspective, where the government identifies urgent needs, money is allocated. This is of course to some degree justifiable, but the approach also creates certain problems. E.g. in some districts the government has started to act against the shortage of firewood (Tumunimbise 2011, May 18), but not in Kibaale because the lack of firewood is not yet critical. Issues relating to deforestation in Kibaale are therefore not likely to attract significant political attention before the consequences have been sorely felt. Hence, the politicians in Uganda will often be one step behind because they preclude themselves from taking preventive actions. Secondly, forestry is, despite forests' indispensable role in the ecosystem and support to other sectors like agriculture, health and construction, not a subject that garners many votes during elections. Contrary to e.g. roads, schools and hospitals, forests offer benefits of a somewhat fuzzy nature that are difficult for the electorate to relate to. The politicians' immediate interest is to be elected, and forestry is therefore not a high priority because the electorate demands tangible benefits (Kamugisha-Ruhombe 2009:10; Turyahabwe 2011, August 9).

9.2.2 (Inter)National Priorities

The low budgets allocated to the forestry sector should not only be attributed to a lacking commitment in the GoU but also to the influence of the IFIs. As mentioned, the GoU has to cater for certain provisions under the HIPC Initiative to receive debt relief, and the section above clearly illustrated how the satisfaction of these provisions in the NDP is unfavorable for budgets allocated to the forestry sector. The role of the IFIs is, however, not restricted to an indirect influence as there is also a perceived direct influence from the IFIs on the priorities made in the NDP. The degree of direct influence is somewhat uncertain, because the NDP's fiscal priorities were made in a nontransparent manner (Odaga and Lochoro 2006:iii). By the same token it is difficult to determine the exact influence of the IFIs, but the World Bank's programme coordinator for Tanzania, Uganda, and Burundi, Kathryn Funk, claims that the GoU had plenty of latitude when making the fiscal priorities in the NDP: "*The NDP is a fully country-owned and led plan. The Bank provided advice and support whenever it was called upon to do so.*" (Gaestel 2010) The senior resident representative of the IMF in Uganda, Thomas Richardson, seemingly contests this by stating that

> "In line with our mandate, the IMF was involved in advising on the macroeconomic framework underlying the NDP." (Gaestel 2010)

The statement implies a role of the IFIs that by far exceeds the advisory role that the World Bank representative claims to hold. Several participants at the stakeholder meeting elaborated further on the 'advice' offered by the IFIs and explained how the GoU was under strict influence from the IMF and the WB when formulating the NDP and the budget priorities it entails (Alinda, Andreasen et al. 2011, September 26). There is an obvious contradiction inherent in this procedure, the GoU was free to set the priorities in the NDP as long as they were approved by the IFIs. A point that that is directly reflected in a statement from a senior IFI official based in Kampala:

> "the IMF really gets the ownership thing in ways we didn't ten years ago. Countries … are not dependent on our money but are on our advice and approval." (Hickey 2011:39)

The problem is that the forestry sector ostensibly is not one of the top priorities of the IFIs (Alinda, Andreasen et al. 2011, September 26) which raises doubt about the proneness of the IFIs to approve an NDP with stronger focus on forestry.

Although the IFIs claimed that the GoU had full ownership of the NDP process they, prior to the process, developed a so-called Country Memo, where they identified what they saw as the main constraints to growth in Uganda. A senior IFI source in Uganda attests to the influence of this Memo: *"the main aim [of the Memo] will be to influence the policy formulation of government"* (Hickey 2011:37). The Memo concludes that there is a "*need for Ugandan policy makers to pro-actively steer structural transformation and job creation through public policies and targeted investments.*" (World Bank 2007:3). Consequently, the Memo calls for an improvement of the rural infrastructure and market access (World Bank 2007:24). The NDP was developed under a tight timetable dictated by the IFIs, and the GoU was therefore under considerable pressure and borrowed heavily from the Memo (Hickey 2011:37). The IFI's recommendations were therefore adopted wholesale in the NDP, which has resulted in a dramatic increase of funding for roads in Uganda's budgets (Hickey 2011:37). No such calls were made for investments in the forestry sector. The Memo acknowledges that Uganda's natural resources are under increasing pressure due to population growth, but the IFIs do not see investments in the forestry sector as a solution to this. The IFI rather envi-

sion a transformation of the workforce from one of rural smallholder farmers to one of urban manufacturing and service (World Bank 2007:8-9). Looking at a district like Kibaale and its rampant deforestation this 'growth approach' seems very unlikely to achieve its aims of transforming the work force before the forests are depleted.

9.2.2.1 Budget Ceilings

The political priorities of the NDP are manifested in the in Uganda's so-called budget ceilings. Budget ceilings are limits set by the Ministry of Finance on basis of resource envelopes available for expenditure, and therefore determine how big a part of the national budget can be allocated to a given sector. The ceilings are a conditionality in the HIPC Initiative and required to ensure macroeconomic stability and to qualify for debt relief (Odaga and Lochoro 2006:iii; Kamugisha-Ruhombe 2010:10). The budget ceilings effectively curtail all additional investments in the forestry sector because these would break the ceilings and threaten Uganda's debt relief. If e.g. a donor wants to invest in the forestry sector the donation must not cause the sector to exceed its ceiling or it will be rejected (Alinda, Andreasen et al. 2011, September 26).

Table 4 compares the approved budgetary ceilings in 2006/07 with the projected ceilings from 2007/08 – 2009/10. The forestry sector is bundled under the ENR category which received the lowest ceiling. Once again, it is important to emphasize other sub-sectors, than the institutions working with private forestry, receive the largest share. The low ceiling allocated to ENR has caused Kamugisha-Ruhombe to state that

> "Above all … budget ceilings are the main cause of low financial allocations to forestry." (2010:46)

In 2007 the MWE devised a Sector Investment Plan for ENR in cooperation with Greenbelt Consult. The Plan covered the following 10 financial years and outlined the investment activities required to fund the sector over the 10-year period (Greenbelt Consult 2007:ix). The estimated required budget in the plan was USH1.282 billion of which forestry would get the lion's share amounting to 46%. The Plan was developed in accordance with what was regarded as 'real needs' which is why forestry gained prominence (Kamugisha-Ruhombe 2009:4). It was assumed that the recommended funding without greater difficulties could be mobilized from willing donors and the GoU (Greenbelt Consult 2007:xii-xiii, 55). However, the budget ceilings listed in Table 4 clearly show that the forestry sector would never be able to access all the funds allocated by the Sector Investment Plan. If one assumes that the USH1.282 billion that the Plan recommends to be invested in the forestry sector is used in equally big proportions this would amount to USH128 billion annually, which by far exceeds the ceiling set for the entire ENR sector (USH23 – 55 billion). Table 4 furthermore reveals that ENR has the overall lowest relative co-funding by the GoU and is primarily dependent upon donors. Hence, despite strong positive statements in the Plan, natural resources in general, and forestry in particular, are not given a corresponding priority in the national budget allocation.

The budget ceilings also affect local governments' efforts to stop deforestation, because the ceilings are communicated downwards in the system from the central to the local governments. The GoU is very rigid about enforcing budget ceilings and may impose economic sanctions if the districts exceed their ceilings. Districts' incentive for channeling additional funding into the DFS is therefore hampered (Odaga and Lochoro 2006:iii; Alinda, Andreasen et al. 2011, September 26). The low budget ceilings are reflected in the allocation of conditional grants to the districts. The conditional grants make up around 97% of the Kibaale district's budget (KDLG 2011a:97). The conditional grants are given by the GoU to the districts earmarked for specific purposes, *"but natural resources hardly have any kind of conditional grant" (Alinda, Andreasen*

et al. 2011, September 26), and *"[c]onsequently, most district programmes such as forestry, which are not funded from conditional grants, are in the situation where they can barely pay staff salaries."* (Kaggwa, Hogan et al. 2009:20).

Table 4: Budget Ceilings 2006/07 - 2009/10 (USH billion)

Sector	2006/07 (Approved)			2007/08 (projected)			2008/09 (projected)			2009/10 (projected)		
Sector	Donor Projects	GoU	Total (Ceiling)	Donor Projects	GoU	Total (Ceiling)	Donor Projects	GoU	Total (Ceiling)	Donor Projects	GoU	Total (Ceiling)
Agriculture	56	91	147	82	103	185	88	120	208	56	219	275
ENR (Excl Lands)	18	5	23	23	7	30	38	11	49	40	15	55
Security	1	377	377	0	397	397	0	407	407	0	455	455
Works & Ttransport	286	179	465	323	241	564	477	242	719	189	400	589
Education	37	684	721	37	715	752	37	743	780	1	865	866
Health	139	243	382	135	251	386	150	275	426	101	459	560
Water	33	66	99	42	87	128	13	100	113	1	123	124
Justice, Law & Order	6	190	196	10	192	202	8	222	230	0	241	241
Accountability	109	88	197	92	124	217	98	132	230	62	148	210
Economic Functions & social Services	314	356	671	334	386	720	384	391	775	209	450	660
Public Sector Management	22	236	258	39	249	288	57	253	311	28	321	349
Public Administration	17	301	318	7	301	308	8	251	259	7	284	291
Interest payment due	0	254	254	0	300	300	0	300	300	0	288	288
Total	**1,039**	**3,068**	**4,107**	**1,124**	**3,353**	**4,477**	**1,358**	**3,449**	**4,807**	**695**	**4,268**	4,964
% Share of ENR			**0.5**			**0.7**			**1.0**			**1.1**

Source: Kamugisha-Ruhombe (2009:6)

9.3 A Neglected Policy Framework

This section explores the consequences of the scant political and budgetary commitment to the forestry sector. It is explained how the FSSD and DFS are unable to live up to their mandates to manage and oversee the forestry sector, and support the PFOs in Kibaale. The section goes on to explore how NAADS, despite being well-funded and supported politically, is neglecting its mandate to work for sustainable agricultural practices. The final section argues that Uganda's soaring population growth is caused by financial constraints and lacking political commitment of the GoU to implement its policies to bring the population growth under control.

9.3.1 An Ambitious Department with few Resources

Due to financial constraints the FSSD struggles to oversee the forestry sector and provide extension services which it is mandated to. The limited budget allocated to the FSSD causes a severe inadequacy of material and human resources in the department. This is detrimental to the private forests in Kibaale because the FSSD is not able to build the capacity of stakeholders in Kibaale to take action against the deforestation. In addition, many activities are taking place in Kibaale without the proper checks and balances that only the FSSD can provide.

The human resources of the FSSD are considered extremely inadequate considering the department's many tasks. Wages are not included in the budget allocated to the department but paid by the MWE. The MWE does, however, only allocate enough money for the FSSD to employ 12 technical staff and eight field staff (Musoke 2011, August 11). Employing only eight field staff renders it difficult to reach all districts in Uganda, especially remote districts like Kibaale. A claim substantiated by the DFO of Kibaale:

> "it is as if we don't have a line to the ministry. In fact we don't get visitors from the ministry, it is over four years, we have never had a meeting together. They don't even come to the field, they don't come to see us." (Alinda, Andreasen et al. 2011, September 26)

Consequently, the DFO and the rest of the staff of the DFS in Kibaale do not receive continuing education from the FSSD and there is no capacity building of the DFS staff. This has prompted the commissioner of the FSSD to complain about the qualifications of the DFO in Kibaale (Musoke 2011, August 11), but as long as the MWE only allocates enough money to employ 20 members of staff this is not likely to change, which has negative ramifications for the private forests, because the DFS in Kibaale is not educated and supported sufficiently to deal with the loss of private natural forests.

Concurrent with the limited human resources, the FSSD is also constrained by material shortcomings because of financial constraints. Last financial year, the department was budgeted to receive USH160 million to finance its many tasks. In comparison, the FSSD estimates that to become fully operational, it would need a one-off payment of USH5.4 billion and a significant boost of its annual allowances the coming financial years (Musoke 2011, August 11). During an informal conversation with a high ranking official within the MWE we were, however, told that only around half of the budgeted funding was released to the department. The informant told of death threats, resignations and corruption that went to the top of the system. According to him the budget was accounted for, but less than 1% had actually been utilized by the department whereas the rest had evaporated in the system. He said the culprits behind the corruption were *"big people in the top of the system."* He had signed the budgets himself full-knowing of the levels of corruption, but felt powerless to intervene. By endorsing the illegal conducts with his signature, our source, is an accomplice to the corruption, and we therefore find no reason to doubt his information.

When visiting the FSSD's headquarter, and only office in Uganda, situated in Kampala on the same plot as the NFA whom it is mandated to supervise, the lack of material resources is striking. One is immediately faced by the relatively new and impressive building in which the NFA resides, whereas the FSSD's headquarter is quite hard to find and situated behind the NFA's buildings in a humble wooden shed which by the mere looks of it does not exude the authority the FSSD is supposed to hold as the executive power of the MWE. Contrary to the NFA, the FSSD has no reception and very modest and ill-equipped offices.

The inferiority of the FSSD's office illustrates how the lacking priority of the department in the GoU, and the limited budget this fosters, compromises the department's authority. This renders it difficult for the department to oversee the other institutions in the forestry sector and to take action against irregularities and penalize misconducts. The question of the issuing of licenses serves as a good example of this.

Before a license is issued, the FSSD's field staff is supposed to visit the forest in question and assess if the trees are mature for harvesting and that the trees are actually growing on private land and not in a PA. After issuing a permit the staff is furthermore to control that the recipient of the permit adheres to the regulations. However, the FSSD does not have any means of transportation, which complicates this process considerably. Inspectors sometimes catch a ride with the applicant or holder of the license in question, but this severely compromises the inspectors, because the rejection of a license or the impounding of illegally harvested timber are likely to cost the inspector his ride back to Kampala. He therefore risks getting stranded far away from Kampala (Musoke 2011, August 11). The lacking means of transportation together with the poor staffing in the FSSD therefore makes it very difficult for the department to oversee the issuing of

licenses. Consequently, the FSSD has, in recent years, only issued one license for timber harvesting in the whole of Uganda and none in Kibaale, effectively making all timber harvesting by pit sawyers in on private land in Kibaale illegal.

Pit sawing in private forests is, however, widespread in Kibaale, and many of the pit sawyers actually hold a license. These licenses are often counterfeits but almost just as often issued by the DFS in Kibaale. Probably due to the FSSD's absence in Kibaale, a system has evolved where the DFS de facto possesses the final authority to issue permits for timber harvesting:

> "I have not actually received cooperation from Kibaale and actually the DFO goes ahead to give out licenses, I think he has even started to print out his own books and it is not only in Kibaale, but all over. There are so many culprits." (Musoke 2011, August 11)

The issuing of permits for timber harvesting in Kibaale is fully formalized and the DFO showed us copies of several licenses he had issued. When we asked him about the role of the FSSD in the issuing of licenses he seemed ignorant of the correct procedures for issuing a license, and claimed that it only required the approval from his office and LC1, LC3, and LC5 chairpersons together with the PFO. He has, however, been the DFO of Kibaale for five years and previously worked for the DFS (Kyamultonsaire 2011, July 7; Kyamultonsaire 2011, September 19). It therefore seems unlikely that he would not know the legislation. This leads one to suspect that the procedures are deliberately being ignored due to the potential profits the issuing of permits present to the district. On this backdrop, numerous licenses have been issued in Kibaale and few rejected and *"the FSSD is now not in control of what harvesting is done. They don't know what is being taken out. Is it sustainable?"* (Alinda, Andreasen et al. 2011, September 26).

Many applications would probably have been rejected if the FSSD was involved in the process, because the department in 2008 was ordered by the MWE to be very careful about issuing permits for pit sawyers as it is not sustainable (Musoke 2011, August 11). The districts can, however, without consequences ignore the instructions and mandate of the FSSD because the department does not possess the authority and power to enforce its mandate and sanction irregularities. The lacking communication between the DFS and FSSD means that the DFS seldom report to the FSSD and the department can thus not supervise the DFS:

> "We are supposed to get [reports] but we don't and some of them conveniently say they don't know where to report, yet they do. So that is how we are supposed to be operating and i think the lay out, the mandate, the policies are clear." (Musoke 2011, August 11)

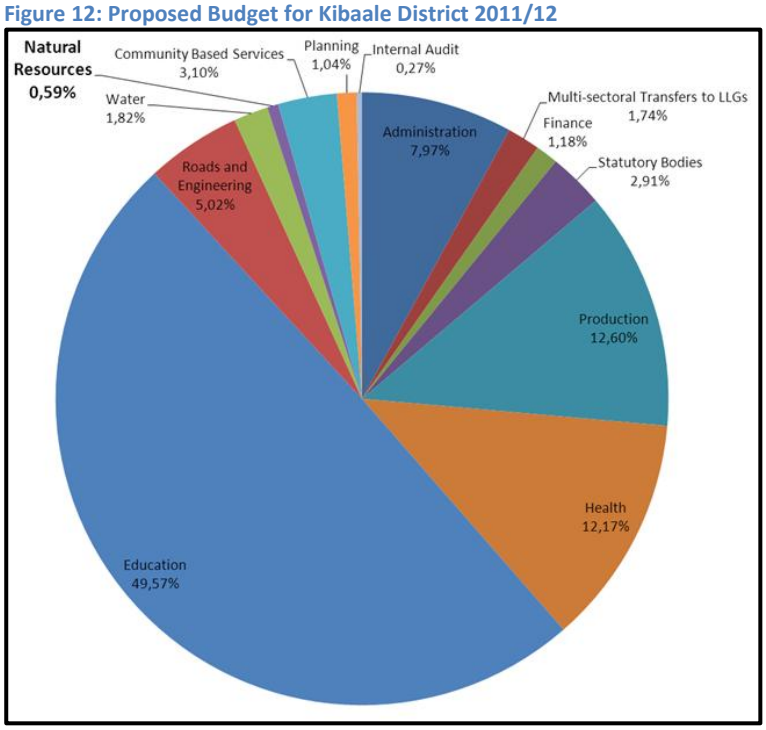
Instead of reporting to the FSSD, the DFS instead reports only to the district's Chief Administrative Officer, who in turn is required to report to no one (Namirembe 2011:21).

The financial constraints do not only hamper the activities of the FSSD, but also preclude it from implementing many of the policies and laws devised under the reform process. Moreover, the severe level of corruption and lack of transparency inherent in the forestry sector greatly limits its performance. Hence, due to lacking interest from the GoU, low budget allocations, and a compromised political mandate to enforce the forestry policies, the FSSD is not able to implement the policies (Turyahabwe 2011, August 9).

9.3.2 An Institution Caught between a Rock and Hard Place

The DFS is responsible for providing advisory support to PFOs and overseeing the management of private forests, but similar to the FSSD its ability to live up to its mandate is being curtailed by financial constraints. It is the district council in Kibaale that funds the DFS, but the district seems to be more interested in upholding high revenues from licenses and permits than investing in the DFS. It is therefore not capable of carrying out its mandate of providing advisory services to encourage forestry as a beneficial land-use and promote agroforestry and thereby prevent the loss of privately held forests.

Figure 12: Proposed Budget for Kibaale District 2011/12



Source: Based on numbers from KDLG (2011b:2)

The DFS's staff counts only three persons, which, according to the DFO, is not nearly enough to carry out its many functions. A problem that is further exacerbated by little and poor equipment; e.g. the DFS has only one motorcycle but not enough fuel to keep it running all year around (Kyamultonsaire 2011, May 19). When it has the money to pay for fuel, the DFS sometimes borrows a car from other institutions in Kibaale, but nonetheless, the DFS is not capable of effectively patrolling the whole district and even less able to provide advisory services to the PFOs. A token of this is that not one of the household respondents had been in contact with the DFS. The DFS is therefore not able to sway resource users' land-use towards sustainable practices. When patrolling, the DFS often encounters irregularities and regularly arrests perpetrators or impounds tools from people who are harvesting unlicensed, but because the staffing and materiel only permit him to make sporadic patrols it is probably only the tip of the iceberg (Kyamultonsaire 2011, May 19).

The DFS' lacking ability to fulfill its mandate is to a strong degree caused by the budget ceilings and lack of conditional grants from the GoU. The proposed budget the financial year of 2011/12, which are devised under the restrictions of the budget ceilings, is illustrated in Figure 12 and clearly illustrates how the forestry sector is among the sectors that receive less. The forestry sector is bundled under Natural Resources, and therefore has to compete with e.g. the wetlands department; a competition which outcome is often

detrimental to the forestry sector's budget (Namirembe 2011:22). For the financial year of 2011/12, the Natural Resource Department is budgeted to receive USH149 million, amounting to 0.59% of Kibaale district's budget, which is a decrease of USH5.7 million compared to the previous financial year. Despite the low budget allocation to the DFS, forestry presents the main source of revenue for the district amounting to 70% (USH295 million) of the locally raised revenues for the financial year 2010/11 (KDLG 2011b:3; KDLG 2011c). Locally generated revenues do, however, make up a very small proportion of Kibaale's budget and are declining; in the budget for 2007/08 they made up about 2,2% of Kibaale's budget (KDLG 2008:36) whereas the percentage declined to 1,9% in 2010/11 (KDLG 2011a:xiv). Consequently, forestry is almost the only source of revenue the district controls and is therefore subject to the main priorities of the district such as health and education. The district has an adopted policy of returning 20% of the revenues collected by DFS to the Natural Resource Department, but this has never been implemented (Nyamyaka 2011, August 31; Kyamultonsaire 2011, July 7). Instead only USH20 million, or 6.7%, was allocated to be shared in the Natural Resource Department. According to the LC5 chairperson this lacking implementation was due to budget ceilings dictated from the GoU, and therefore "*a question of [a] small resource envelope*" (Nyamyaka 2011, August 31).

It has not been possible for us to determine whether the envisioned procedure of returning 20% of the revenues to the Natural Resource Department would conflict with the budget ceiling dictated by the GoU. It does, however, not seem that the abolishment of the ceilings would prompt the district to implement this policy. This is partly because of the district's low priority of the forestry sector, and partly because of a limited capacity of the DFS to take advantage of the budgetary planning processes in the district which it is mandated to (GoU 2002:120). Thereby the low budget allocations to the DFS are likely to leave it in a perpetual underfunded state, because it does not have the capacity to raise awareness in the budgetary processes and advocate for increased budgets to the forestry sector in future budgeting processes (Namirembe 2011:22). The DFS' role has hereby been limited to one of collecting revenues for the district and patrolling. Its primary connection with resource users has been reduced to two monthly radio programs and it is therefore not able to live up to its mandate of offering advisory services to the PFOs. Consequently, no training of PFOs is taking place and no alternative livelihoods options are being developed. The PFOs are therefore not learning potential measures that they can take, in order to conserve their forests, such as agroforestry, and they are more likely to deforest their land due to lacking training and incentives. The lax attitude in the local government towards deforestation is somewhat surprising when taking the development in Kibaale's neighboring district Mubende, described in Box 2, into consideration.

Box 2: Deforestation in Mubende

Not many years ago, Mubende was enjoying high revenues from its private forests. Severe deforestation has, however, left the district with almost no private forests and caused the monthly revenues to drop from around USH5 million to USH50,000 (Tumunimbise 2011, May 18).

Considering the low budgets allocated to the forestry sector, one might expect a corresponding scant political priority of the sector, but this is not the case. The forestry sector presents a great treasury for the district, because the reform process installed the district as the sole recipient of revenues raised from the private forests, whereas the district, prior to the reform, received less than half of the revenues (GoU, 2002:121). The forestry sector in Kibaale therefore receives much political attention, and the DFS seems to be under pressure from the district to collect revenues from e.g. permits for timber harvesting. Timber and charcoal are increasingly becoming *"the main economic*

activities in the district. About 20 lorries of timber leave the district for Kampala every day," (Kagolo 2009) and "*Kibaale now is sustaining Sudan in terms of timber*." (Nyamyaka 2011, August 31) The DFS is thus forced to indirectly encourage deforestation activities on privately held land because of the district's interest in reaping the forests' potential economic benefits. The DFS is not in a position to withstand this pressure from the district because it reports and is accountable to the district. Hence, incentives are created for the staff in the DFS to satisfy the interests of the district rather than its mandate to protect the forests. The LC5 chairperson was proud of the high revenues the district receives from the forests and delightedly explained how the DFS generated millions of USH to the district from the forests and that "*in Kibaale, we are not ashamed, and in fact the forests have sustained the district*" (Nyamyaka 2011, August 31). The barefaced exploitation of the forest resources does, however, meet criticism from several stakeholders. E.g. the NAADS coordinator in Kibaale stated that

> "even the district, we've been fighting with them because, like we say, you know, you people are always giving out licenses to the people who are cutting, can't you reduce on the licenses? Now, yes you are getting revenues but revenues against destruction of the environment." (Arinaitwe 2011, September 1)

The pressure on the DFS to garner revenues is to some degree understandable because widespread poverty and a soaring population growth feed back to the institutional level and create a demand for the district to deliver benefits such as education and healthcare. The LC5 chairperson was therefore troubled by the potential human consequences of the declining revenues: "*but me, my concern would be what would happen to the people?*" (Nyamyaka 2011, August 31). This concern has, however, not prompted a corresponding determination in the district to reinvest some of the revenues in the forestry sector to ensure the sustainability of this source of income.

The high revenues collected by the DFS are possible due to the bypassing of the FSSD. The issuing of permits is therefore encumbered with much confusion, little transparency, and many suspicions of corruption among the respondents in general, but especially at the household level and among the LC1 chairpersons. The respondents feel powerless to address the corruption where they suspect 'big people' in the district to profit from deforestation by allowing illegal operations (Household Interviews 2011, July 19-20:11; 2011, July 21-22:28, 48; 2011, July 26-27:73; 2011, July 28-29:88, 90). In informal conversations we were furthermore told that officials in the Kibaale DFS have cars which are much more expensive than their pay grade could support and according to a volunteer forest ranger, we interviewed, the DFS has given him a motorcycle and regularly supplied him with fuel (Tibagkia 2011, July 15). This is despite the fact that the volunteer rangers are not officially employed by the DFS. It seems peculiar that the DFS is able equip three forest rangers that are not within the local government structure, and at the same time complains about having only one motorcycle and not being able to pay for fuel. This leads one to suspect that the forest rangers are involved with collecting illegal revenues for the DFS and possibly high ranking people in the district (Kagolo 2009).

The corruption regarding timber permits is rendered possible by an almost complete breakdown in the procedures for inspecting and overseeing the timber permits. As it has already been mentioned the proper procedure for obtaining a permit requires inspections of the forests and signatures from LC1, LC3, LC5, DFS, and FSSD representatives. The DFO claimed that the LC3 chairpersons were in charge of the inspection but they renounced that task and pointed to the LC1 chairpersons and forest rangers (Kyamanywa and Mulumba 2011, July 14; Womuaisa 2011, July 15; Kyamultonsaire 2011, May 19). None of the LC1 chairper-

sons, we interviewed, were involved in the issuing of permits or inspecting, but nonetheless pit sawyers were present in the villages (Ndizigiye 2011, July 20; Ssesange 2011, July 26; Kemerwa 2011, July 29). The LC1 of Kasambya village explained that *"when they [the pit sawyers] do come they just tell me they been sent from the district and have just come to report their presence in my village and that they are going to cut trees."* (Ndizigiye 2011, July 20) The confusion and lacking transparency in the issuing of permits caused the LC1 chairperson of Lusenke to suspect corruption:

> "I suspect [corruption] though i don't know how it is done, because on those forms there are usually stamps, I wonder why they don't cross check to see if that stamp is from that particular village, where they claim the trees are." (Ssesange 2011, July 26)

Despite the lacking budgetary commitment, the district has realized that measures must be taken to ensure that the forests do not disappear. To curb the problem, the district has embarked on tree planting and spent a considerable amount of money on tree seedlings (Nyamyaka 2011, August 31; Kamamyire and Fadson 2011, July 15). The system for dispersing the seedlings is, however, erratic, and the effort has been curtailed by a lacking capacity to disperse and plant the trees. Of the 102 villagers interviewed in Kibaale, only four persons had received seedlings from the district even though the demand is much higher. 77% of the respondents were interested in planting, but many of them did not have access to seedlings and could therefore not start planting. Regardless of the district's failure in dispersing tree seedlings, tree planting is still widespread. About 42% of the respondents had planted seedlings that they had bought, collected from the forests, or cultivated in their own nursery beds.

A common denominator of the district-sponsored and the private tree planting efforts is that it is almost exclusively exotic species, such as pine and eucalyptus seedlings, that are being planted. The district's afforestation plan focuses solely on pine and eucalyptus (Nyamyaka 2011, August 31), while 30 of the 42 respondents that had planted trees had planted either pine or eucalyptus, and most of the 79 respondents who intended to plant were hoping to plant either eucalyptus or pine. Even though pine and eucalyptus plantations do not host much biodiversity they play an important role in curbing the pressure on the private natural forests. The problem in this concern remains that villagers are often not knowledgeable of the benefits of natural forests that a plantation cannot provide. Consequently, many are clearing natural forests to make way for pine or eucalyptus plantations. This was observed by the LC1 chairperson of Muziizi village: "*[n]atural forests are decreasing because we cut them down to plant pine and eucalyptus.*" (Kemerwa 2011, July 29). Based on the sample area, it can be stated that both cultivation and plantations were more profitable for the PFOs than reserving natural forests. This implies that there is an economic incentive for the PFOs to deforest, and deforestation therefore seems to be an optimal land allocation decision from the PFOs' perspectives. The PFOs' tendency to consider the natural forests as an obstacle rather than a great asset might have been changed if the DFS had been able to deliver alternative livelihoods options compatible with forest conservation such as agroforestry technologies and thereby convince the rural farmers about the potential benefit of these.

9.3.3 Prioritizing Agriculture over Forestry

> "… many people receive enterprises then they cut down the forest and plant them. It came up one time where it was said that NAADS is a good programme, but an enemy to the environment." (Arinaitwe 2011, September 1)

This section explains a dichotomy which currently exists in Uganda's land use priorities. Despite a policy framework that encourages the forestry and agricultural sectors to work together to ensure sustainable agricultural practices, NAADS is not living up to its mandate, to increase productivity and income in a sustainable manner, and the agricultural sector is therefore largely promoted at the expense of the forestry sector. The effects of the colonialization for the private natural forests can thus be seen to have persisted after independence with continuing deforestation of private natural forests in effect. NAADS is the main proponent of the exploitation discourse and the focus on agricultural production at the expense of private natural forests.

NAADS was launched in 2001 as envisioned in the Plan for Modernization of Agriculture of 2000. The Plan was a strategic framework to transform the society by raising incomes of smallholder communities with the overall goal of increasing *"the productivity of factors of production in agriculture, to ensure food security, to create gainful employment, to increase incomes, and to improve the quality of life of those engaged in the agriculture sector."* (GoU 2000:1)

There were great hopes for NAADS which was *"built on principles of participation, reducing poverty, strengthening* farmer *livelihoods and reducing the level of environmental degradation."* (Stroud, Obin et al. 2011:1) As such, NAADS' responsibility was to be the principal agent of implementing agricultural policies, to increase the income of rural farmers. These interventions were to be implemented while NAADS at the same time was intended to develop *"environmentally friendly, socially acceptable and affordable technologies … for efficient use of natural resources in rural areas."* (GoU 2000:25). These intentions are in line with the National Forest Plan (2002) which regards a partnership between the agricultural and forestry institutions as necessary for the development and well-being of the population and environment. However, in practice forestry and NRM play an insignificant role in the day to day work of NAADS both nationally and locally. We interviewed Dr. John Wakikona, a senior national-level NAADS officer, who explained that although NRM was meant to be a pillar of NAADS' work,

> "… that pillar has never taken off, it is not NAADS. NAADS is one pillar, advisory services. Natural resource and environment was one pillar which never took off, although people pretend to lump everything … but that is … not NAADS' mandate." (2011, September 22)

NAADS is well-funded and therefore able to employ more than 1,600 persons nationally. It has a large share of the national budget compared to the forestry sector because agriculture features as one of the intervention areas in the fulfillment of the core priorities of the NDP and therefore receives an annual multi-million dollar budget (GoU 2010:48; Kalyango 2011; Masiga 2011). In Kibaale, the district NAADS coordinator, Hillary Arinaitwe, oversees 99 sub-county NAADS officials (in contrast to the three members of staff employed by the DFS) and receives USH3.2 billion (12.6% of district's budget) which amounts to more than 20 times the size of the whole Natural Resource Department's budget (KDLG 2011b). In each sub-county, NAADS employs a coordinator and two advisory service providers, one working with crops and one working with livestock. Although the NAADS coordinator is interested in NRM issues, NAADS is not working with forest conservation in Kibaale:

> "Us as NAADS, we have not been so much in agro-forestry … but the forestry department is so much involved and they are giving out agro-forestry trees." (Arinaitwe 2011, September 1)

This suggests that the NAADS coordinator recognizes the problem of deforestation, but does not seem to think that it is a task for NAADS. NAADS is therefore mainly concerned with raising agricultural output without considering the potentially negative outcome for natural forests. NAADS in Kibaale is therefore not fulfilling its mandate, and is seemingly unaware of its obligation to work with the DFS in providing extension services to PFOs. Consequently, the DFS has not had a significant impact on agroforestry or tree planting, and the seedlings given out are mostly eucalyptus which often accelerates deforestation.

The household interviews revealed that 15 out of 102 respondents had received enterprises from NAADS in the form of crops or livestock. The enterprises were most often beans, ground-nuts, and maize. In order to cultivate the crops the farmers would often clear forests[13]. No respondents had received agroforestry enterprises or crops compatible with sustainable management of forests, and the enterprises provided by NAADS thus often become a vehicle of deforestation. Moreover, despite being a well-established organization there were many reports by respondents of late arriving crops together with a lack of training and many spoke of corruption, exclusion of the poor, and some spoke of ethnic segregation (Household Interviews 2011, July 19-20:10, 14; 2011, July 21-22:26, 39, 42; 2011, July 26-27:53, 73; 2011, July 28-29:86). There are generally many reports of malfunction which has caused NAADS' programme to be *"suspended off and on due to fraud and corruption."* (Namirembe 2011:26) Nonetheless, NAADS is a popular programme because it offers tangible benefits. This was also reported by Masiga, an agricultural scientist, after the presidential election of 2011:

> "[NAADS] is by far the most appreciated programme government … has ever implemented. During the campaigns it was the most talked about programme by all candidates." (2011)

In terms of the ground work that NAADS carries out, it works on a demand-driven basis where farmers instigate small groups and decide for themselves which enterprises they want to receive. Therefore NAADS' interest in agroforestry is dependent on the farmers' preferences. I.e. if the majority of the farmers in a sub-county wanted to preserve the forests, then NAADS would support them, but if they wanted to plant maize or beans and cut down the forests then that was up to them and NAADS would still offer support. This was explained by Wakikona:

> "Now the farmers, if they do select agroforestry as an enterprise … they each can be supported, they can get seedlings ... But we don't go directly into promoting of forests or even carry out any policies. The National Forestry Authority is interested with that for conservation." (Wakikona 2011, September 22)

Despite the mandate of NAADS to integrate NRM in its work this has not yet been implemented. NAADS does not analyze the impact on natural forests of the enterprises they hand out and forest conservation does not feature in the training provided by NAADS. Furthermore environmentally friendly enterprises are not promoted or featured in the training of the farmers. NAADS is mandated to ensure that farmers are aware of the wide range of opportunities for agroforestry and sustainable agricultural practices. NAADS is, however, neglecting this mandate and is not sensitizing farmers. The awareness among NAADS' farmers about agroforestry solutions and sustainable practices is thus very limited which is probably why the demand for these enterprises is very low. This means that NAADS basically ignores NRM questions and expects institutions like the DFS and FSSD to handle these questions. According to the NAADS representatives

[13] Tobacco is another popular cash-crop in Kibaale. British American Tobacco is the leading actor, among five corporations, in promoting tobacco with thousands of farmers affiliated nationally in Uganda (Bakyalire 2011, August 15).

we interviewed, NAADS is not supposed to consider NRM issues when distributing enterprises and Wakikona was visibly irritated when we suggested otherwise. Overall the 1600 officials working in NAADS are mainly educated in agriculture and *"hardly you get any with forestry training."* (Wakikona 2011, September 22) At the household level we found that the PFOs are not trained by NAADS in NRM, which was also observed by Stroud, Obin et al.: *"The current enterprise identification and selection process does not demand analysis of what it might do to natural resources … even in simple terms. The enterprise development process does not integrate NRM."* (2011:26) Due to the demand driven approach, the farmers are themselves in charge and *"it is only on very rare occasion[s]"* that they choose agroforestry (Wakikona 2011, September 22).

In summary, despite reports of favoritism and corruption, NAADS has an impact on some farmers by supporting them with training and crops or livestock. NAADS is, however, focusing primarily on agricultural expansion and commercialization without emphasis on biodiversity and sustainable forestry management. NAADS work on a demand-driven basis which means that the farmers themselves choose which enterprises they want, but without training and sensitization in sustainable forestry the farmers tend to choose the seemingly most profitable enterprises. Agroforestry is therefore extremely rare. Consequently, the forests are often cleared to plant crops provided by NAADS. NAADS is not fulfilling its mandate when it comes to agroforestry and NRM and due to the distortion between the funding and interest for respectively agriculture and deforestation it is to some degree fair to say that agriculture works as an enemy rather than friend of forestry. This is a feeling that is shared by many stakeholders within the forestry sector (Bigabwa 2010, December 9; Musoke 2011, August 11; Tumunimbise 2011, May 18; Alinda, Andreasen et al. 2011, September 26). The Senior Environment Officer of Kyenjojo remarks in this regard, that forestry is underfunded because the two sectors are seen by the central government as enemies:

> "Sometimes we say maybe government is limiting us to give us money because we are going to limit the activities on government and what they want as a priority is agriculture." (Mugisha 2010, December 9)

9.3.4 Disregarding the 'Population Explosion'

> "I am not one of those worried about the 'population explosion'. This is a great resource." (President Museveni cited in Rice 2006)

Population growth is a highly disputed subject in Uganda. We have already established that population growth, due to institutional failures, drives the demand for arable land and is therefore influencing the proximate causes of deforestation. This section points out how the cross-cutting factor of population growth[14] to a large extent springs from institutional failures of the GoU's implementing body regarding population growth, the Population Secretariat, which has not been successful in implementing the GoU's policies on population growth.

[14] Since we have mentioned poverty as another cross-cutting factor, one might argue that policies of poverty eradication would call for a corresponding attention, but we find policies regarding poverty eradication contrary to population growth do neither have specific policies nor a specific institution; rather, concerns about poverty are intrinsic in most of the GoU's policies (e.g. in its policy toward population growth). The failure to alleviate poverty can therefore not be traced back to specific policies or institutions, and is consequently examined best in an ad hoc manner.

Uganda's population grew from 6.5 million in 1959 to 33 million in 2011, and with a growth rate of 3.4% per annum, the population is projected to reach 130 million in 2050 (GoU 2007). To devise and ensure the implementation of the population policies, the GoU in 1988, at the behest of UN, set up the semi-autonomous Population Secretariat (Barigaba 2011; Burunde 2011, August 8). The Secretariat is, however, struggling to implement its policies, and consequently "*Uganda's population policy has suffered major failures of implementation*" (Barigaba 2011). The GoU does not necessarily seem to see this as a negative trend, which the following quote gives testament to:

> "A country like Uganda is presently underpopulated … this population is not big enough for us to cope with the resources we have. We have got more resources than people to exploit them…" (Museveni and Kanyogonya 2000:215)

The GoU's lax attitude towards population growth illustrates a glaring paradox where the GoU on one hand is devising policies to bridle the country's soaring population growth, but on the other hand is encouraging population growth. According to the Head of Information and Communication, at the Population Secretariat, the lacking commitment to implement the policies is caused by unwillingness in the GoU because it sees population growth as something that can propel the economy and "*[t]hey basically look at it in a positive way, whereas it is negative*" (Burunde 2011, August 8). The GoU's desire for a growing population is founded in the belief that a large population creates a large market, and therefore positively contributes to growth and development. Most observers and donors do, however, agree that the potential benefits of a huge population will be eroded away by unemployment and lacking access to education, because the population will grow at a faster pace than the establishment of new jobs and schools (Barigaba 2011; Lirri 2011; Burunde 2011, August 8). This will have dire consequence because an increasing number of people will be dependent on subsistence farming to sustain their livelihoods which will often be at the detriment of the diminishing private natural forests (Burunde 2011, August 8).

One of the unsuccessful policies of the Population Secretariat is the emphasis on child spacing (Barigaba 2011). The Population Secretariat is responsible for sensitizing and campaigning for family planning to enable rural villagers to limit or space births. There is, however, a 41% gap of unmet family planning needs in Uganda (Barigaba 2011), while the number was considerably higher in our sample area (around 80%).

One of the main reasons for the lacking impact of the Population Secretariat's attempts to promote family planning and spacing of children is that the low budget allocations from the GoU renders it difficult for the Secretariat to implement policies regarding family planning satisfactory. One of the key issues concerns the contraceptives dispersed which have a reputation among the women of causing multiple side-effects. Women therefore often refrain from using them. At the focus group discussion, the women told us that "*[s]ome of us get bad side effects and when that happens we just quit family planning*." (2011, July 14) This is acknowledged by Burunde who admits that the side effects have not been explained properly and that they "*are taking a very big toll on the number of people who would have used family planning*" (2011, August 8). He furthermore explained how hormone contraceptives that are cheap and are causing many side effects, and therefore are banned in the West, are being dispersed in the villages. A respondent in Nalweyo corroborated this by explaining how most villagers' only option of receiving contraceptives was the cheap injections dispersed close to the village. For contraceptives of better quality they would have to pay for transportation to a health clinic in a town, effectively excluding the greater part of the villagers due to the expenses (Household Interviews 2011, July 21-22:37). As most male villagers have an aversion toward con-

doms, the injection of poor quality contraceptives offered close to the villages is the only option available, but their bad reputation causes many women to refrain from using them. Many therefore use no contraceptives, which makes them prone to give birth to more children. The consequences for the environment is expressed by the LC3 chairperson of Nalweyo:

> "… since then it is now 15 years, the one who came in the womb is now a man and can also construct and he deserves to eat and he has to dig and you can never dig unless you destroy the environment." (Womuaisa 2011, July 15)

9.4 Non-Fiscal Constraints

We have so far seen that the forestry institutions responsible for private forests are either severely underfunded, in the case of the DFS and FSSD, or relatively well-funded but not working with conservation of private forests as is the case of NAADS. The analysis has, however, also shown that the lacking funding is accompanied by political interference and corruption caused by a lack of accountability and transparency in the institutional framework for management of private forests. This section therefore examines the non-fiscal reasons for the lacking ability of the institutions to fulfill their mandates.

We have presented examples of formal and informal political interference in the work of the forestry institutions which hinder their performances. Many respondents in our study were under the impression that corruption exists in the Kibaale DFS regarding timber licenses. These suspicions have gained some attention in the Uganda media, where a newspaper article puts further evidence to corrupt practices in Kibaale:

> "Rich businessmen connive with some officials who give them [licenses] to cut trees … The top leaders tell us the district earns a lot of money from pit-sawing." (Kagolo 2009)

Together with the widespread corruption in the FSSD, explained in section 9.3.1, this gives evidence to a deeply corrupt institutional framework for private forestry management in Uganda. One of the reasons for the corruption is that the institutions are not being held accountable by the population due to lacking transparency. The respondents from our study often felt powerless to oppose the educated and wealthy politicians, business people, and officials. Simultaneously, the higher institutions either fail to monitor and sanction corrupt behavior in lower institutions or are, like the FSSD, not in a position of authority to impose checks and balances. Some cases of corruption and malpractice have been exposed by the media (e.g. Kagolo 2009) and by national and international NGOs working with NRM in Uganda like ACODE, Environmental Alert, and CARE (Alinda, Andreasen et al. 2011, September 26). These efforts have, however, so far not been able to improve the performances of Kibaale's DFS and the FSSD[15].

The permanent state of underfunding, corruption, and political interference creates a toxic environment for the human resources in the DFS and FSSD. The understaffed forestry sector institutions tend to feel isolated and staff members have a sense of resignation and despondency (Bigabwa 2010, December 9; Mugisha 2010, December 9; Musoke 2011, August 11; Kyamultonsaire 2011, July 7; Tumunimbise 2011, May 18; Kyamultonsaire 2011, May 19; Alinda, Andreasen et al. 2011, September 26). The DFO of Mubende expressed the feeling of defeat:

[15] In a few cases there have been improvements in the management and awareness of issues of malpractice in the management of the CFRs (e.g. see Child 2009).

> "you have nothing, you can't do much. We don't have transport, like you see me, that's how we are. So you end up failing." (Tumunimbise 2011, May 18)

This has created low motivation, which is further exacerbated by a local government system where excellent performances are not valued as there are no avenues of promotions (Musoke 2011, August 11). There is a feeling among some members of the DFS' staff that the battle against deforestation has been lost. The excessive deforestation therefore feeds back to the district where the staff has settled into resignation due to this overwhelming task. The widespread despondency is fertile soil for corrupt behavior which due to the lack of transparency and accountability *"strains relationships and limits performance."* (Namirembe and Lwanga 2009:50)

The corruption, political interference, and lacking transparency in the forestry institutions expose a broken governance system marred with misconducts. The responsible institutions are not being held accountable by neither the public nor the higher governmental institutions. Although underfunding is the key underlying driver of deforestation, it is important to point out that the performances of the institutions are further hampered by a complex interlink of corruption and interference in funding and performances, and lacking transparency at all levels. Because of these deficiencies, the policy framework, which was meant to curb the loss of private natural forests, is not being implemented. We previously (in section 9.3.1) explained how most of the FSSD's allocated budget disappears due to corruption and it is therefore given that increased funding will not necessarily lead to a betterment in the FSSD and the DFS' performances due a broken governance system.

10 Concluding Remarks and Recommendations

> "Very complex issues do not lend themselves to simple answers. But complexity does not mean that it is impossible to produce intelligent analyses leading to practical decisions." (Contreras-Hermosilla 2000:7)

10.1 Conclusion

At a time where forest conservation is being promoted throughout the developing world, it is essential to reach a deeper understanding of the socio-economic and political processes that shape deforestation processes in order to warrant relevant prescriptions to curb degradation of the forests. With this in mind, we have explored the drivers behind deforestation of private natural forests in Kibaale in order to understand why the country's otherwise well-crafted policy framework for forest conservation has not prompted a corresponding betterment in the conservation of this vital resource. A vast amount of data has been collected, examined, and commented on throughout the analysis leading to the discovery of many interconnected findings. The findings have generally been supportive of each other and can be summarized in a few important conclusions regarding the drivers of private natural deforestation in Kibaale. Overall, we found that deforestation is a complex, multifaceted process, and its drivers can therefore not be reduced to a single variable or a few variables even. Rather, the interplay of several proximate as well as underlying factors, both influenced by a discourse of exploitation, drives deforestation in a synergetic way.

The first level of analysis, focusing on the historical drivers, revealed that the exploitation of private forests to accelerate economic growth became dominant with the arrival of the British colonizers who brought changes to the land tenure and the agricultural practices of the rural peasants. This discourse of exploitation has taken root in Uganda and is now intrinsic in governmental attitudes toward the forests. By the same token, reaping the potential for growth that the forests present takes prominence over conservation and leads to deforestation. The loss of private natural forests is therefore partly driven by a discourse of exploitation that value economic growth over forest conservation.

In the second level of analysis, focusing on the proximate causes of deforestation, we found that the expansion of permanently cropped land is the predominant proximate driver of deforestation. Agricultural expansion often works in combination with other proximate causes, especially wood extraction and infrastructure extension, but we found that these are not so much the direct causes of deforestation but rather facilitators of the rural population's search for new arable land. The increasing demand for arable land is to some degree caused by ineffective farming techniques but to a much higher degree by a soaring population growth and widespread poverty in a district where the greater majority of the population is subsistence farmers. The analysis did, however, explain that even though the rural farmers are the main agents of deforestation, the reason why they are clearing private natural forests is that there is a discrepancy between the value the forests present for the individual farmers compared to the value they present for the Ugandan society as a whole. This discrepancy is caused by the inability of the local and central governments to give the rural farmers incentives to value their forests over agricultural expansion.

Hence, the third and final level of analysis, concerned with the underlying drivers of deforestation, focused on this failure of the governments. We found that the central government has managed to devise a well-crafted policy framework for forest conservation. The framework established a sound institutional landscape geared to collectively provide extension services to private forests owners by educating them in sustainable agricultural practices and offer alternative livelihoods. Lacking priority of the forestry sector and

inadequate budget allocations has, however, fostered under-resourced institutions unable to implement and fulfill their mandates. The lack of priority can be traced back to the central government that is under continuing influence from the discourse of exploitation and furthermore is under heavy pressure from the International Financial Institutions for whom forest conservation is no top priority. The central government is therefore primarily concerned with propelling the economic development of the country, effectively making forest conservation a very low fiscal priority. Consequently, the Forestry Sector Support Department and District Forest Services are struggling to implement and fulfill their mandates. Because the manner in which communities use their forest resources is contingent on their interaction with these institutions, the rural farmers have continued their harmful agricultural practices because the institutions have not been able to provide extension services and promote sustainable practices.

The central government's growth oriented focus spills over into its attitude towards population growth. Despite a widespread consensus among donors, experts, and scholars alike about the negative consequences of the country's population growth, the central government sees the booming population as a great asset in the country's economic development. Consequently, the Population Secretariat is under-resourced and unable to fulfill its mandate and the policies it formulates to curb the population growth are neglected. The growing population in Kibaale's does not necessarily have to spell Malthusian doom, but because forestry is struggling to find its place in the exploitation discourse, the relationship between forestry and agriculture has been disintegrated. In line with the exploitation discourse, the National Agricultural Advisory Services is almost exclusively concerned with promoting economic growth through cash cropping despite being mandated to provide farmers with enterprises and training in agricultural practices that are compatible with forestry management. The National Agricultural Advisory Services hereby becomes a vehicle of deforestation rather than the promoter of sustainable agricultural practices.

The negligence of the policy framework is, however, not purely caused by scant political and fiscal commitment to the forestry sector. The forestry institutions are marred with corruption and navigate in a system that is almost completely stripped of accountability and transparency. They therefore struggle to work toward the intended policy goals because the allocated resources tend to evaporate in the system and are therefore seldom put to good use.

When the conclusions above are taken into account, the answers to the thesis' research question are clear: the reasons why Kibaale's private natural forests continue to decline are that

- The colonial experience has induced a discourse of exploitation in Uganda, promoting economic growth at the detriment of the forest resources;
- There is an increasing number of poor subsistence farmers searching for new arable land which is almost exclusively to be found in hitherto untouched private natural forests; and
- Because of low priority of the forestry sector in the International Financial Institutions and the central government, the forestry institutions are under-resourced and are not able to implement the otherwise well-crafted policy framework. Consequently, alternative livelihood options, to substitute harmful agricultural practices with sustainable livelihood options, are not being offered. The institutions are therefore not able to turn the negative trends at the proximate level. The negative consequences are accelerated by an unwillingness to deal with the soaring population growth and a continuing promotion of cash cropping.

Thus, in line with Turyahabwe, we argue that the actions of the increasing and poor rural population are turned into practices that degrade the environment because *"the law is there but there is nobody implementing."* (2011, August 9) The lacking implementation of the policy framework is therefore the underlying driver of deforestation in Kibaale. The inability of some institutions and unwillingness of others to implement the policy framework are caused by the central and local governments' historically contingent perception of the natural resources as catalysts of economic growth. It is, however, important not to assume that there is a banal unidirectional cause-effect chain springing from the historical causes that are influencing the institutional framework which, in turn, is transforming the rural population's land use practices. We therefore point out that Kibaale's deforestation is causing widespread poverty which, in turn, feed into the central and local governments' increasing focus on economic growth at the detriment of the forests.

Because our study is not externally validated, the findings describe exclusively the drivers behind deforestation in Kibaale. The findings should therefore not be transferred uncritically to other cases. The study does, however, hold a high degree of relevance for other districts in Uganda that are experiencing deforestation of forests on privately held land. Even though other districts' proximate drivers of deforestation may differ considerably they are all influenced by the historical experiences and the parts of the analysis concerning underlying drivers at the national level are not restricted to Kibaale but all of Uganda's districts.

To examine the complex process of deforestation in Kibaale we have drawn on a matrix of different theoretical frameworks and, with inspiration from these, tailored a framework that holds high explanatory powers to our specific case. Unlike much existing literature that tends to remain focused either on single factor causations or universally applicable theoretical panaceas, we find that a pragmatic, rather than schematic, theoretical approach to understanding the drivers of deforestation in a specific case is suitable. This approach enabled us to ground our study in the empirical data and thereby allowed us to grasp the multitude of context-dependent factors at play in Kibaale. On this backdrop, we do not recommend other researchers to employ our framework in future case studies of deforestation; rather, we call for studies that apply our pragmatic approach to the study field. We therefore invite scholars and practitioners alike to find inspiration in our approach to studying the drivers behind deforestation in other contexts.

10.2 The Future of Private Forestry in Uganda

> "It is … only a matter of time before a national shortage of land becomes a real problem. Moreover, in certain areas of the country there is a menacing confrontation between competitive land uses, whose resolution requires immediate attention" (National Report on the Human Environment 1972, cited in Hamilton 1984)

Four decades ago the National Report on the Human Environment identified the urgency of dealing with Uganda's scarce land resources and the exploitation of its forests. So far no such actions have been taken and Uganda's forest resources are being depleted at an uncontrollable rate that threatens the integrity of these resources and the future of the country. We therefore look to the future of forestry in this final section of the thesis and forward recommendations for improving governance in the institutional framework and for restoring the balance of the environment. As we have already published tangible recommendations, in our policy brief, we will here reflect more broadly on the future of Uganda's private forests. In our recommendations we are inspired by the recently deceased Nobel Peace Prize winner Wangari Maathai and on the basis of her visions for the future of African governance and forestry we suggest two levels of

action. Firstly, to insert urgency, interest, and good governance into the institutional framework for private forestry management. Secondly, to take measures to restore the environment by invoking the imagination of the public and start planting trees.

10.2.1 Moving Away from Exploitation

> "You cannot protect the environment unless you empower people, you inform them, and you help them understand that these resources are their own, that they must protect them." (Wangari Maathai cited in Merton and Dater 2008)

There is a need not only to rethink, but to start thinking about the private forestry sector in Uganda. So far not much interest has been vested herein. We recommend Uganda to embark on a process that includes forestry in its core national development priorities and in the agricultural programmes. This should result in well-funded forestry institutions and the development of new agricultural practices that simultaneously cater for the rural population's livelihoods and protect and sustain the environment. The process should be inclusive and include stakeholders from all levels including poor farmers, local governments, ministries, the presidential office, the civil society, and international partners and donors. For the forestry institutions to function there is a need to improve governance and take a firm stand against political interference and corruption in the institutions. The population should be empowered and trained, with the help from the civil society, to monitor and hold the government accountable and sanction irregularities. In line with Yemi Katerere, we believe that the challenge ahead will be for Uganda to *"… develop forest and climate change policies based on transparent, inclusive and effective governance systems that engage and respect the rights of all relevant stakeholders."* (cited in International Cooperation Geneva 2011)

10.2.2 Restoring the Environment

> "It's really amazing. You plant a seed; it germinates and looking so fragile, and within a very short time it becomes a huge tree. It gives you shade and if it's a fruit tree it gives you fruit … to build and transforms lives … We want to see many Africans planting trees. There is absolutely no excuse to stop desertification because this is something that is doable and cheap" (Wangari Maathai cited in Merton and Dater 2008)

The current rate of deforestation means that Uganda's mild climate, lush forests, rich biodiversity, and many rivers may be something Uganda's future generations can find only in history books. To avoid this, there should be initiatives to restore the precious ecosystems and plant indigenous trees. Most efforts of afforestation have, up until now, been centered on fast-growing exotic tree species like pine and eucalyptus. Although these exotic species may offset some of the demand for forest produce, they cannot restore the rich biodiversity as they are, what Wangari Maathai called, 'silent forests' deprived of undergrowth, wildlife, and water (2011). We therefore suggest that Uganda include provisions and incentives for farmers to plant indigenous trees and include training about forestry in the planning of agricultural activities by distributing indigenous tree seedling and generally promote enthusiasm about forests and tree planting. The process of restoring the environment hinges on the restoration process' ability to be broad and participatory and include poor farmers and especially women who are excluded. Political goals are unlikely to be reached if they do not include the forest-adjacent communities because they are the ones who live with the forests and live of the land. Their empowerment and cooperation is therefore paramount.

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Appendix A

Questions used in the household Questionnaires:

Questionnaire number

Date

District

Sub-county

Village

Gender?

Age?

Marital status?

position in household?

Ethnicity?

Main occupation?

Secondary occupation?

Do you have a formal education? At what level?

Household number of people?

Of which are males?

Females?

Children under 18?

How many children should a family have?

Have you received family planning?

If no, why not/if yes, did it help you (how)?

Born in the village?

If b, how many years have you live in the village?

If b, where did you migrate from and why?

Do you think the same will happen there (why?)

Are you doing anything to prevent it (what/why not?)

Does your household have land available?

How much land?

How did you acquire it?

What do you use it for?

Is it Kibanja?

If yes, does that have any influence on your usage and future plans? How?

Do you have any forest/did you use to have forest, how much and what type, do you expect to keep the forest, why did you cut it down?

If cut down, how did you do it and what did you do with the trees, if you sold it or gave someone permission to harvest it, how much money did you get?

Do you have any experience with land becoming infertile? if yes, what happened?

What can be done about infertile land?

Do you have any experience with fertilizers?

if yes, what experience/if no, what do you know about fertilizers?

Do you have a radio?

Have you heard the radio programme from the district about environment on Saturdays?

What do you think about it and is the training useful for you?

Can your household use resources from a private forest?

Which resources?

Who's forest do you get it from?

Do you need permission to get any of those resources?

Which resources?

How much did it cost?

Does your household have an income from products and resources gathered in private forests? Yes/no

what types of products do you sell?

Where do you sell the products?

How much would you estimate the revenue is monthly?

Have you planted trees on your land or on common land recently?

If yes, what types of trees?

From who and where did you acquire the seedlings?

What was the purpose of planting trees?

Do you plan to plant trees in the future?

Which species of trees?

What is the purpose / if no, why not?

Where will you acquire seedlings?

Natural resource management

Is the local government involved with the management of the forest or agriculture? How?

How do you think the local government is performing in the management of the private natural forests? Why?

Have you received training in natural resource management or agriculture?

By whom?

If yes, has it helped you (How)/ if no, would you like to receive training (in what)?

Have you benefitted in some ways from NAADS? How/ If no, why not?

Have you received training? Did it help you? How?

Did you learn about forestry matters? What was said?

Has the forest cover changed in the last five years (or since you arrived to this area)? How?

What do you think the forests will look like in five years?

What do you think drives these changes?

What do you think are the consequences of clearing the forests?

What have the consequences been for your family (e.g. time to collect firewood, access to drinking water?)

Is there any illegal logging/charcoal burning? Done by whom? Why do they do it?

If so, do you think the local government is trying to prevent this? If so, how? If not, why?

Have you heard about corruption regarding illegal charcoal burning and logging? Who are involved and how does it work?

Is conservation a good idea (why/why not)?

What do you think will make people stop destroying the forests?

Comments and additional information

Appendix B

Interview Guide for the interview with George Nyamyaka, LC5 Chairperson in Kibaale district.

The state of the forests and actions to be taken

1. What do you think about the state of the private natural forests in Kibaale?
2. Do you see any positive tendencies?
3. What are the negative tendencies?
4. According to the DFO the private natural forests will most likely disappear within the next 5-10 years, what do you think about that?
5. What do you see as the main drivers behind deforestation? What can be done to stop the deforestation?
6. Does the LG have any plans for halting the deforestation? Which? Are they in place? What are the main obstacles?
7. How do you and your office work together with the DFO?
8. Could the cooperation be improved? What can be done?
9. Do you work together with LC5 in other districts?

Line of command

10. Does your office receive guidelines from the central government regarding the private natural forests?
11. From which ministry/person do you get them? Can we get his/her contact information?
12. How are you working with the FSSD?
13. Are these guidelines backed by economic support?
14. Do you think that conservation of the private natural forests is high on the agenda in the central government?
15. Does the central government's priority of forest conservation correlate with your office's or do you find it less or more important? How?

Financial issues

16. Do you think that the forest sector in Kibaale is sufficiently funded to stop the deforestation? Do you think that it is sufficiently equipped to perform its duties?
17. Kibaale district receive high revenues from forestry activities each year, how long can that continue?

18. We were told that there is a policy of returning 20% of the revenues to the natural resource departments, but that it is not being implemented. Why is that?

19. It seems to us that you are currently enjoying high revenues from forestry, but if you continue like this the revenues will decline drastically within a few years, what do you think about this?

20. Do you think that corruption is contributing to the deforestation? Is which ways? What is being done/can be done?

Procedures

21. Do you have knowledge of the procedures the DFO's office follow for handing out permits for harvesting timber and clearance of forests? Does the LG set any rules for how many permits they are allowed to issue or how much of the private natural forests they are expected to leave untouched?

Influx, population growth and conflicts

22. What role do you think migration plays in deforestation?

23. Is the influx of migrant causing any conflicts?

24. What role does population growth play in deforestation?

25. What is the LG's policy regarding population growth?

26. Do you think that the farmland in the district is being used efficiently? Could anything be done to increase the outtake from agriculture (e.g. education and fertilizer)? If increased outtakes could be gained, how would that affect the problem of increased pressure on forest resources from the growing population?

27. Do ethnic disputes play a role regarding deforestation? If so, does this have any influence on tenure security? How does this spill over to matters of forest conservation? What is being done to change this?

In conclusion

28. Do you think people living in vicinity of the forests are concerned about the wellbeing of the forests? If not, why? What can be done? Who do you think is responsible for this lack of information?

29. What do you think should be done in order to save the private forests?

Appendix C

Institutional framework

District Forest Services

Prior to the reform process, forestry had historically remained centralized, effectively giving the districts little voice in the management of forest resources, and a limited role in providing forestry services. This was changed considerably with the decentralization reform and the reform of the forestry sector. The local governments were now empowered as the principal governmental agent for supervision and monitoring of management and thus responsible for upholding the law in privately owned forests. To carry out this mandate, each district was obliged to create a DFS. One of the main responsibilities of the DFS is to prosecute any person willfully destroying forest resources in contravention to the National Forestry and Tree Planting Act (GoU 2003:Sec. 3h). Besides this, the DFS is working together with the district to:

a) Improve promotion, planning and funding of forestry.

The DFS ensures that forestry is promoted in the local government planning processes. The DFS is furthermore required to raise public and political awareness of forestry issues and create economic opportunities to animate the public and politicians to active participation in forestry development. The funding for these services is to come partly from a mobilization of funds from local and national sources, and partly from actively advocating and promoting reinvesting of forestry revenues back to the forestry sector.

b) Collect revenues from licenses and taxes on forestry activities.

Prior to the reform, revenues from the forestry sector were collected by the Forest Department, and the district only received 40% of the gross revenues in return. This was changed under the reform, and the district councils now collect and receive all the revenues from private forests. The sources of income are mainly from taxes and registration fees on saw-milling, pit-sawing, timber trading, and charcoal production.

c) Support the delivery of forestry advisory service.

It is the local governments' role to oversee forestry advisory services in the management of private natural forests. The DFS is to play a major role in supporting the delivery of these services (advice, training and information). The aim is to strengthen the capacity of farmers and forest users to demand forestry advisory services through e.g. sensitization and advocacy.

d) Promote the planting of trees and agroforestry.

The DFS is mandated to promote tree planting. To achieve these goals, the DFS is to contract the planting of trees and to provide extension and advisory support services to encourage communities to plant trees (GoU 2001:11; 2002, 123; 2003:Sec. 40, 4). Districts are in particular to promote agroforestry technologies and support management of private forests by providing forest management advice and assisting in the registration of private forests. PFOs should be encouraged to register their forests and with support from the DFS establish a management plan for the forests in order to establish incentives and enabling framework to encourage forestry as a beneficial land-use (GoU 2002:118-123).

Forestry Sector Support Department

The FSSD[16] is a national-level department. It is the technical arm of the MWE and is mandated to ensure the implementation of national policies and adherence to performance standards by the local governments. The FSSD is furthermore to monitor and offer technical advice, supervision and training (GoU 2003:Sec. 47, c). This mandate is fulfilled by

a) Formulating and overseeing forestry policies, standards and legislation.

The FSSD has the overall responsibility for formulating and implementing national forestry policies, standards, and legislation together with overseeing the implementation of forest management principles by the DFS (GoU 2002:107).

b) Providing technical support and monitoring forestry in local governments.

The FSSD is to oversee and supervise the activities of the DFS (GoU 2002:108). To do this, the FSSD assists in the provision of technical advice, supervision and training of local governments to enable them to carry out the delivery of forestry services (GoU 2003:Sec. 47, c). In addition, the FSSD must facilitate training of the DFO of each local government (GoU 2002:108).

In addition to these two core responsibilities, the FSSD is the only mandated organization to give out licenses for timber harvesting, based on the information received from the DFS (GoU 2003:Sec. 44,1).

National Agricultural Advisory Services

NAADS is working in each sub-county to establish a sustainable and effective demand-driven agricultural advisory service that can enable farmers to identify and cease opportunities to increase productivity and incomes in a sustainable manner. Hence, NAADS is mandated to integrate forestry as a strategy to improve the livelihoods of people. This is to be achieved by enhancing intensification and productivity of smallholder agriculture, decentralizing responsibilities for extensions to sub-counties and learning from successful programmes and experiences (GoU 2002:24).

Furthermore, it is also stipulated in the National Forest Plan that NAADS should work together with the DFS in providing extension services to PFOs; that is, to

a) Improve the development and delivery of agroforestry technologies.

It is a priority in the Forest Plan to integrate trees into farming systems for increasing agricultural productivity and incomes; i.e. agroforestry (GoU 2002:65). Agroforestry is seen as a means to reach the dual goal of development and sustainability, because it provides livelihood opportunities for poor people, improves incomes, and reduces vulnerability to shocks and stresses. Simultaneously agroforestry can be seen as a production component in a holistic farming system because it enables farmers to produce benefits in corporation with the forests and not at the detriment of the forests (GoU 2002:62). NAADS is responsible for increasing the access to information, knowledge, and technology for profitable production about agroforestry (GoU 2002:66).

[16] At the time of the reforms, the FSSD was known as the Forest Inspection Division, but it was changed into the FSSD in 2006 because its role had more facets than inspecting (Musoke 2011, August 11).

b) Build the capacity of farmers to demand and use appropriate forestry advisory services.

According to the Forest Plan, the success of the advisory services is dependent on the degree to which farmers manage to organize themselves and articulate their demands for necessary support services. NAADS is therefore to support initiatives by farmer groups, in corporation with their sub-county government, to contract advisers to deliver services (GoU 2002:24,66). To ensure that farmers are aware of the wide range of opportunities the farmers are to be sensitized and helped in choosing and expressing their demands. The FSSD are to support NAADS in fostering and developing the farmers' interest for agroforestry and crops compatible with sustainable forestry (GoU 2002:66).

c) Support the management of private forests.

To ensure sustainable use of the forest resources and the protection of biodiversity, NAADS is, in corporation with the FSSD and the DFS, obliged to support the management of private forests (GoU 2002:45,71). Among other things this is to be done by providing *"mass communication and sensitisation on the values of natural forests … promote the opportunities and benefits arising from registering the ownership of plantation and natural forests"* (GoU 2002:45). This is to be done by offering targeted incentives for PFOs to set aside their forests as permanent forest land and remove disincentives for forest conservation.