Factors shaping the availability of state-owned, degraded tropical forests for conservation management by NGOs in Ghana, Kenya and Uganda

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Abstract

Degradation of tropical forests contributes to climate change, loss of biodiversity through habitat reduction and ongoing poverty for people who depend on forest resources. This study investigates the current policy environments governing the use of degraded state forests in Ghana, Kenya and Uganda. The research has been undertaken with a view to assisting A Rocha International, an international NGO, in their evaluation of the potential to establish a community conservation project in one or more of these countries. In order to achieve this aim, two key research questions were posed: 1) How do institutional, social and ecological factors enable or constrain NGOs from achieving community conservation goals?; and 2) To what degree are state-owned, degraded tropical forests available for conservation management by NGOs?

A multiple case study approach was used for the research. Data was gathered through face-to-face and remote interviews, current policy documents and other secondary sources and personal observation during field trips to Ghana and Kenya. Interviews were conducted with conservation NGO staff, forest-adjacent residents, state forestry officials and district forestry services staff. The policy environments of each country were analysed using a modified version of the social structurationist framework.

It was found that the policy environments in Ghana, Kenya and Uganda share many important similarities. Despite the fact that published state policies in all three countries are generally supportive of community conservation initiatives, it is evident that limited policy implementation is likely to have the greatest impact on any proposed project. Socially, pressures on forest governance stemming from corruption, demographic pressures, poverty and energy dependency are common to all three countries. Ecologically, on a broad scale, similar conditions exist across the three countries.

Complexities of land tenure, forest benefits distribution and competing interests of actors in Ghana, Kenya and Uganda, can lead to challenges in developing partnerships

with local stakeholders in a community conservation project. A key lesson emerging from the study is that time and resources should be invested in addressing this issue. If successful, regardless of the published state forestry policy the conservation NGO may be enabled by the stakeholders to achieve its goals and even influence policy. Faith-based organisations may also have some advantages when it comes to building successful working relationships between project stakeholders. Further lessons relevant to conservation NGO work in the African context may be gleaned from the field of development studies.

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List of Abbreviations

ARG	A Rocha Ghana
ARI	A Rocha International
ARK	A Rocha Kenya
ARU	A Rocha Uganda
CBO	Community-Based Organisation
CFM	Community Forest Management
FAO	Food and Agriculture Organisation of the United Nations
FBO	Faith-Based Organisation
FMNR	Farmer-Managed Natural Regeneration
FSD	Forest Services Division (Ghana)
KFS	Kenya Forest Service
KFT	Kijabe Forest Trust
MTS	Modified Taungya System (of agroforestry)
NFA	National Forestry Authority (Uganda)
NGO	Non-Governmental Organisation
PA	Protected Area
PPP	Public Private Partnership
REDD+	Reducing Emissions from Deforestation and Forest Degradation (United Nations programme)

Chapter 1: Introduction

1.1 Context

Degradation of tropical forests contributes to climate change, loss of biodiversity through habitat reduction, and ongoing poverty for people who depend on forest resources. Forests act as carbon sinks, and deforestation speeds up climate change by releasing carbon into the atmosphere. Climate change poses a significant threat both to humankind and many ecosystems around the world. In Africa, risks associated with climate change include droughts, erratic and late rains, temperature rise, windstorms and bushfires (Kalame *et al.*, 2011). These effects, combined with poverty, increase pressure on tropical forests in the region through increased foraging, charcoal burning and firewood extraction, as well as conversion to agricultural land.

Blay (2012, p. 267) differentiates between deforestation, which is "the removal of forest cover and conversion to other land uses such as agriculture", and degradation, which is defined as "a permanent decline in the productive capacity of the land". Degradation not only implies disappearing vegetation but also the deterioration of biophysical conditions of a site that may be barriers to the forests' self-recovery (Lemenih and Bongers, 2010). The abiotic and biotic ecological conditions that characterise degraded lands include:

- "Low stock and quality of seeds and other propagules of native species in the soil seedbank;
- Primacy of seeds of aggressive (competitive grasses) in the soil seedbank
- Low numbers of animal-dispersed seed as a result of both low visitation by disperser animal community and increased isolation of degraded sites from remnant forest patches;
- High incidence of herbivory; and
- Unfavourable ecological conditions such as poor soil quality, high dessication and strong direct irradiance" (Lemenih and Bongers, 2010, p. 172).

In addition to its impact upon biodiversity, forest degradation has negative effects on human livelihoods as long periods of drought and increasing desertification in sub-Saharan African countries reduce the availability of the ecological inputs needed for agriculture and therefore increase the rate of internal migration and associated conflict over resources (Blay, 2012).

However, if restored, degraded forests have the potential to provide habitats for threatened species and to contribute to carbon mitigation (Edwards *et al.*, 2014), which can in turn have a positive impact on local livelihoods. As a result, in Africa, many national governments are working with non-governmental organisations (NGOs) and private businesses to address the challenges described above on state-owned, degraded tropical forest areas.

Degraded forests in tropical areas are usually managed by state forestry departments, but an important shift in forest tenure has occurred since 1985 where management rights have increasingly being given to local communities or private companies (Larson *et al.*, 2010). In Africa, this trend has been linked to the decentralisation that occurred as part of state structural adjustment programmes, correlated with increased market liberalisation and growing recognition of the rights of indigenous peoples' to maintain their identity through use of their ancestral lands (Barry *et al.*, 2010, p. 24).

For conservationists, the motivation to protect degraded forests drives a desire to explore opportunities for sustainable use within the bounds of state legislation and social conditions. Degraded forest can be used for biodiversity conservation and natural habitat preservation, sustainable livelihoods, environmental education and climate change mitigation, or any combination of these goals. The way in which state degraded forests are managed determines the extent to which these goals may be achieved. If degraded forests can be used by local communities in a sustainable way while at the same time meeting conservation goals, there is less incentive for state departments to relinquish them for purely agricultural purposes.

1.2 Aim and research questions

This study aims to investigate the current policy environments governing the use of degraded state forests in Ghana, Kenya and Uganda. The research has been carried out with a view to assisting A Rocha International (ARI), an international NGO, in their evaluation of the possible establishment of a community conservation project in one or more of these countries. In order to achieve this aim, two key research questions were posed:

- How do institutional, social and ecological factors enable or constrain NGOs from achieving community conservation goals?; and
- To what degree are state-owned, degraded tropical forests available for conservation management by NGOs?

Conservation management by NGOs, refers to projects seeking to promote biodiversity conservation, facilitation of sustainable livelihoods for local community members, environmental education, and / or climate change mitigation. The availability of state degraded forests may be affected by a range of institutional, social and ecological factors. For each case study, these factors were examined under the collective concept of the 'policy environment', which encapsulates the range of factors that influence the availability of degraded state forests for use as biologically and financially sustainable community resources. A number of scholars have highlighted the need for investigation into the multi-faceted policy environments in countries where projects in degraded forests could potentially operate (Sassen *et al.*, 2013).

For the purposes of this study, 'institutional factors' encompass a range of state-initiated activities proposed in policy and/or enacted by government institutions, including the economic and human resource capacity of the state forestry department to implement such activities. 'Social factors' capture the cultural and societal factors such as population and economic pressures, cultural practices and norms the term. Finally, 'ecological factors' encompass the biological and physical characteristics of the areas of forest under examination. This may include, for example, the capacity of the degraded forest to respond to restoration efforts, based on water, fire risk, soil

condition.

1.3 Rationale for study

There is a significant body of academic literature considering the theoretical potential for degraded forests to be useful in conservation (Edwards *et al.*, 2014; Meijaard and Sheil, 2007). This has developed over the last 5-10 years as conservationists have debated the biodiversity value of degraded forests. Obviously this varies according to differing local conditions and the physical state of forests, yet there appears to be increasing consensus affirming the conservation value of such forests (Barlow *et al.*, 2007; Didham, 2011). However, while theoretically degraded forests may be useful in conservation projects, this does not mean they are necessarily practically available for this kind of use, particularly given the political and resource challenges faced within many countries. Actors intending to implement conservation projects in such countries, whether commercial or non-governmental organisations, are regularly hindered by corruption, poorly-enforced forest policies and legislation, and use of the forest by agriculturalists, hunters, and local residents (Armah *et al.*, 2014; Bongers and Tennigkeit, 2010). Activities belonging to this latter group are often described as 'illegal' use, however use of such term can mask the complexity of a situation where land tenure is messy and involves both traditional and modern ideas of land ownership (Armah *et al.*, 2014).

Forestry research in east Africa has progressed from being initially focussed on the commercial utilisation of state forests, to focussing on plantation forestry with exotic species, then social issues surrounding forestry such as community engagement in management, and finally, in recent years, on issues of biodiversity and climate change (Bongers and Tennigkeit, 2010). Even now, very little research is geared towards management of marginal forests and restoration of degraded forests, despite the fact that these now constitute the majority of remaining forests in much of Africa (Bongers and Tennigkeit, 2010, p.9). To help address this gap in the literature, this research examines three case study countries, Ghana, Kenya and Uganda and considers whether one or two of these countries has a more favourable policy environment, within which

community conservation projects led by non-state actors may operate.

A Rocha International is a Christian conservation NGO operating in twenty countries worldwide (A Rocha International, 2015). ARI projects aim to have a community emphasis, bringing people from widely differing backgrounds and cultures together to work towards conservation goals. ARI has grown as Christians across the world realise the increasing impact of humans on the natural environment and seek to be better stewards of the resources shared by people and the planet. The first A Rocha project began in Portugal in 1983. A field study centre and bird observatory was established near the Alvor estuary, which led to advocacy for protection of this unique habitat as well as environmental education opportunities and wildlife experiences for local residents. The name 'A Rocha' means 'the Rock' in Portuguese; it is a metaphor used in the Bible to demonstrate the steadfast nature of God. The Alvor site has since been visited by thousands of people from many countries, and volunteers, holiday makers and workers have been inspired to replicate the practices evidenced there (A Rocha International, 2015).

As Christians realise that important habitats and wildlife in their local regions urgently need protection, new A Rocha projects have started in other parts of Europe, the Middle East, Africa, North America and Australasia. Local branches of the organisation are always established by local residents; it is only after they are independently established under different names that each regional organisation joins the international organisation, ARI. Hence A Rocha is a network organisation consisting of diverse but equal partners, rather than an organisation based on a 'parent-child' model (with headquarters in a key city and subsequent 'planted' local versions established by the main office). The international cross-cultural nature of the Christian community means it is able to contribute to collaboration between economically underprivileged communities and more affluent nations, not least as communities struggle to reconcile the need to protect biodiversity with their hopes for sustainable development (A Rocha International, 2015).

1.4 Research strategy

Ghana, Kenya and Uganda were selected as the focus for this research using the following criteria:

1) They are host to extensive tropical forests, a high proportion of which are managed by their respective governments;
2) Much of their state forests are degraded; and
3) They each have a well-established A Rocha national organisation operating at the local level.

Following the case study methodology outlined by Yin (2009), a multiple case study approach was used for this research.

Interviews were conducted during two field trips, which took place in April and May of 2015. The first was a visit to Ghana as part of an official research investigation trip with senior A Rocha International staff members, during which we visited several state forests around Kumasi. The second field trip occurred because I was invited to a relevant Christian conservation conference in Kenya where community conservation practitioners were available for interviews. Unfortunately a visit to Uganda was not possible due to time and financial constraints, however the next best approach was taken in the form of interviews conducted via email and telephone calls. The goals of the interviews and nature of the questions were informed by background research and examination of key state policy publications.

For each of the three case study countries, the three currently most influential pieces of forest policy or legislation were identified for analysis. These documents were chosen based on a review of the relevant literature and the relevance of the selection was confirmed by the in-country practitioners who were interviewed. The documents are listed in Table 1.1 below, with the ones chosen for special focus due to their

influence marked in bold[1].

Table 1.1 Policy documents analysed in this study

Ghana	Kenya	Uganda
Forest and Wildlife Policy (2011)	**Forest Policy (2014)**	**National Forest Plan (2012)[2]**
National Forest Plantation Development Plan Annual Report (2013)	Forest Conservation and Management Bill (2015)	National Forestry and Treeplanting Act (2003)
Draft Forest Plantation Strategy 2015-2040[3]	Forests Act (2005)	Forestry Policy (2001)

For the purpose of informing A Rocha's evaluation as to where they may initiate a project, the institutional, social and ecological factors of the policy environment needed to be collated and compared between countries where ARI currently operates. This was conducted using a multi-part framework that allows comparison between different countries on a national-level scale, known as the 'social structurationist' framework. The social structurationist framework was originally developed by Aalto (2012) to explain energy policy formation. The framework, applied to a Russian context, conceptualises the policy environment in terms of structural dimensions and then identifies enabling and constraining factors within each dimension (Tynkkynen, 2014). This study takes the original structural dimensions employed by Aalto and with some modifications, employs them to analyse the forestry policy environments in

[1] Throughout this thesis, the in-text citations of all policy documents give the year that the document was conceived by the relevant government and by which the document is primarily known (despite the fact that some of the documents were actually published the following year).
[2] This document is officially entitled The National Forest Plan 2011/12 – 2021/22 and was published in 2013, however in this thesis it shall be referred to as, simply, the National Forest Plan 2012, because this is how it was referred to by Ugandan interviewees.
[3] Although published in 2013, this is herewith referred to as the Forest Plantation Strategy 2015-2040 following its full title, to indicate the significance of its projected policies.

Ghana, Kenya and Uganda. Different versions of modifications to the model have already been made and applied by scholars in the field of energy policy analysis (Fortin, 2014; Tynkkynen, 2014), however this appears to be the first study to use the model for analysis of a forestry policy environment.

The three main groups of factors considered in the study were institutional, social and ecological. Other groups of factors such as financial influences were unable to be included in this study due to practical limitations of time and access to information. For the same reasons, the study is more heavily focussed on institutional and social factors than ecological factors. This approach is justified because A Rocha already possesses expertise in the area of ecological analysis but the organisation requires more data about the nature of institutional and social factors, which may influence any potential future projects in the subject countries. A cross-country comparison of such factors will inform practical decision-making regarding issues such as the nature of A Rocha's interaction with government bodies. For example, must the national A Rocha branch operate through supporting a local community based forest organisation, or are they able to directly manage a portion of degraded state forest as a registered non-state entity?

State forestry policies are developed within a broad and noisy policy framework where there are competing demands for land for food production, infrastructure development, watershed protection, biodiversity conservation and countless other national economic projects. This means that policy development and implementation must involve multiple sectors and government agencies rather than simply forestry departments (Larson, 2010). For this reason, this research takes into account the whole 'policy environment' and seeks to analyse it from the perspective of an NGO.

1.5 Thesis outline

The thesis consists of six chapters. Following this introductory chapter, Chapter Two provides background information regarding the management of degraded state forests in developing countries. This is followed by an overview of the organisation, A Rocha International, and a brief introduction to the three case study countries – Ghana, Kenya

and Uganda.

Chapter Three reviews the literature about approaches to biodiversity conservation, carbon-sequestration, and community management of degraded forests in Africa, specifically those owned by the state. Key ideas were extracted from relevant books and articles to provide a background of past and present forestry policies in Ghana, Kenya and Uganda. International influences, the role of NGOs, and important institutional, social and ecological factors are explored.

In Chapter Four the research methods that were used in this study are outlined and critically analysed. A social structurationist approach has been used to analyse the interviews with various stakeholders, policy documents and other secondary sources that comprise the empirical data.

Chapters Five describes and discusses the results of the research in Ghana, Kenya and Uganda. Each case study is analysed using the social structurationist framework, which looks at enabling and constraining factors pertaining to the biophysical, institutional and social elements of the national policy environments.

Finally, Chapter Six summarises the emerging conclusions and suggests ways that A Rocha and other NGOs may apply the information to the design of community conservation projects on degraded state forest. Because this research was focussed specifically on ARI and its local counterparts in Ghana, Kenya and Uganda, the observations have some elements that are specific to faith-based organisations. However, because the experiences of several other organisations were also explored for comparison, some general observations are made that may help inform diverse conservation groups. Finally, areas for further research are suggested in this chapter.

Chapter 2: Background

2.1 Introduction

This chapter introduces the ideas that have informed the design, content and approach of the present study. Section 2.2 providing introduces the case study countries by providing general political, social, economic and environmental information about Ghana, Kenya and Uganda, before describing the nature of ARI the three A Rocha national organisations located in these countries. Section 2.3 presents information pertaining to ARI's four key goals for community conservation: biodiversity conservation, sustainable livelihoods, climate change mitigation and environmental education. Section 2.4 explores some potential options available to NGOs for sustainable use of degraded forests, including natural regeneration, climate change mitigation, agroforestry and a mixed-mode management style.

2.2 Case studies

ARI is the central branch of an international Christian conservation organisation that is comprised of twenty national branches, which are characterised by national ownership and contextual responses to environmental problems (A Rocha International, 2015b). A Rocha national organisations typically focus on three main areas of work: research and conservation, resourcing the global church to respect and care for the natural world, and environmental education (2015b). The A Rocha organisations in Ghana, Kenya and Uganda have officially been part of the ARI community since 2003, 1999 and 2010 respectively. They have each enacted a number of successful community conservation projects, although these projects have not generally focused on the restoration of state-owned, degraded forests. Now ARI is exploring whether to partner with one of the national A Rocha organisations in these countries to implement such a project, and this study was designed to inform ARI regarding the different policy environments within which the organisation would need to operate.

Figure 2.1 depicts a map of Africa illustrating the location of the three case study

countries.

Figure 2.1 Location of case study countries in Africa. *Source:* Maptive (2016).

In East Africa, a region encompassing twenty countries including Kenya and Uganda (United Nations Statistics Division, 2013), most existing forest is managed by the state (Obua & Agea, 2010). This is also true of Ghana in West Africa, where a total area of 1.7 million ha of forest is managed by the Ghanaian state forestry authority as reserves, compared to an estimated 400000 ha that exists off-reserve, under private or

customary management (The REDD Desk, 2013).

2.2.1 Ghana

Ghana has two main ecological zones: the high forest zone mainly in the southwestern part of the country constituting a third of the total land area (about 35% of the country) and the savannah zone occupying the rest of the country. The biological diversity of the high forest ecological zone is considerable and accounts for most of the biological diversity of the country (Republic of Ghana, 2011, p. 13).

An extensive forest estate, consisting of 1.63 million hectares of forest reserves, was established in the 1920s in the high forest zone. The forests are classified as on-reserved (state protected forests) and off-reserved (private and customary forests). There are 282 Protected Areas (PAs) covering a total area of 23,729 km² with 216 of them located within the high forest zone. Forest and wildlife conservation areas constitute about 16.2% of the total land area. Two types of PAs exist - production reserves exploited for timber (75%) and protected forests (25%) established for conservation purposes (Republic of Ghana, 2011, p. 13). This forest estate has been subjected to various impacts and pressures such as population and economic growth, both of which fuel higher domestic wood consumption. A high rate of deforestation and forest degradation has been linked to the demand for timber to satisfy the export markets (Ghana Forestry Commission, 2013, p. 1).

Ghana has a population of 26.8 million (World Bank, 2014a) and a GDP per capita of 1440 USD (World Bank, 2014b). About 11 million people live in forest areas and the livelihoods of about 67% of this group are supported by forest activities such as micro/small scale carpentry, hunting, illegal chain-saw operations, woodfuel collection and the gathering and commercialisation of diverse non-timber forest products (NTFPs) (Republic of Ghana, 2011, p. 13). This is in addition to the estimated 120 000 people who are formally employed by the forest and wildlife sector. Biomass in the form of firewood and charcoal dominates the total energy consumed in the country (averaging 67% in 2008) (Republic of Ghana, 2011, p. 13).

In Ghana, the state forestry authority is known as the Forestry Commission (FC). The FC oversees the Forestry Services Division (FSD), which operates in parallel to another state organisation, the Wildlife Division. The FSD is divided into district Forest Offices, which oversee regional forestry affairs. Appendix Two depicts an organisational diagram illustrating the various levels of responsibility within the FSD, as well as similar diagrams for the national forestry authorities in Kenya and Uganda.

Ghana's forestry sector is known to be hindered by what Armah *et al.* (2014) call 'messy policies'; that is, policy problems consisting of multiple, overlapping, interconnected subsets of relentless problems that cut across multiple policy domains and levels of government decision making (Armah, Luginaah, Yengoh, Taabazuing, & Yawson, 2014, p. 1725). The problems stem from unclear rights and responsibilities due to fractured land tenure. This leads to conflict and is has been exacerbated by the shift over time from communal to private land ownership (Marfo, Acheampong, & Opuni-Frimpong, 2012).

2.2.1.1 A Rocha Ghana

Established in 1999, as Eden Conservation Society, A Rocha Ghana (ARG) provides practical conservation interventions aimed at contributing to the sustainable management of important ecological habitats. ARG also initiates programmes aimed at facilitating community adaptation to climate change. In 2003 Eden officially became part of the international A Rocha network. The organisation now works throughout the country, from four field bases, to help communities protect some of Ghana's most biodiverse and threatened habitats: coastal fishing communities who depend on healthy mangroves; villages around the rainforest of Atewa; farmers and fishermen at Lake Bosomtwe and the peoples of the arid savannah surrounding Mole National Park (A Rocha Ghana, 2016a). ARG has been instrumental in implementing the idea of Community Resource Management Areas (CREMA) around Ghana. The idea of a CREMA was established in 2000 by The Wildlife Division of the Ghana Forestry Commission, to address the challenges of wildlife management. It is designed to create a financial incentive for farmers to use and manage natural resources sustainably, by

devolving management rights and responsibilities to them (A Rocha Ghana, 2016b).

2.2.2 Kenya

Kenya is endowed with a wide range of forest ecosystems including montane rainforests, savannah woodlands, dry forests and coastal forests and mangroves. These forests have high species richness and are home to many endemic species. They are considered to be an important natural asset for the country, due to their environmental and life supporting functions, as well as the provision of diverse good and services. The national constitution cites a target requirement of 10% of the country's total land area to be forest cover, however currently only 6.99% of the land area is covered in forest (Republic of Kenya, 2014).

Kenya's forests have many critical ecological, social, cultural, and economic functions. Kenya's population is 44.9 million (World Bank, 2014a) and the country has a GDP per capita of 1360 USD (World Bank, 2014b). It is estimated that forestry contributes to 3.6% of Kenya's national Gross Domestic Product (GDP), as well as making an important indirect contribution to local economies through charcoal production and forestry products for direct subsistence uses. In particular, communities adjacent to forests benefit from subsistence utilisation of the forests. Forests also support the majority of productive and service sectors in the country, particularly agriculture, fisheries, livestock, energy, wildlife, water, tourism, trade and industry. Together, these sectors contribute between 33% and 39% of the country's GDP. Forest biomass comprises about 80% of all energy used in the country, and montane forestry areas surrounding river headwaters (known as 'water towers') provide local climate regulation, water regulation, water purification and waste treatment and water pollution sinks. Over 75% of the country's renewable surface water originates in these water towers, and therefore they serve a critical role for human livelihoods through agricultural irrigation and the production of hydroelectricity. Other services provided include erosion control, natural hazard and disease regulation (Republic of Kenya, 2014).

Kenya faces similar issues to the other two case study countries. Deforestation in Kenya

is estimated at 50 000 hectares annually, with a consequent yearly loss to the economy of over USD 19 million (Republic of Kenya, 2014). The state forestry authority is the Kenya Forestry Service (KFS) and in partnership with the Kenya Wildlife Service where appropriate, KFS has responsibility for protecting all state forest reserves. However KFS has limited financial and human resource capacity to carry out its mandate and suffers from issues of corruption and messy/confusing policies. It seeks to involve forest-adjacent communities in forest governance, and like the other case study countries, Kenya enacted policy to help achieve this in the 2000s. This followed a period of decentralization and increased recognition of indigenous land rights since the 1980s (Funder & Marani, 2015, p. 90-91).

Land tenure confusion exists and is exacerbated by the often ambiguous role of customary tenure. One quarter to a third of Kenya's land area is subject to formal title; the remainder is governed by customary tenure (Wily, 2012). This proportion applies to forests as well, creating a situation where customary tenure plays a vital role in forest management (Wily, 2012, p. 3). Many people who obtained land titles since the 1960s have preferred to regulate land transfer and use on the basis of local community customs due to the existence of corruption and poor bureaucracy in the statutory system. This has resulted in many people being uncertain of their rights (Wily, 2012, p. 4). The confusion also makes it difficult for non-state actors such as A Rocha International to evaluate possibilities for community conservation projects, without a thorough study of each local area.

2.2.2.1 A Rocha Kenya

A Rocha Kenya (ARK) was registered as an NGO in 1999. The main field study centre is located at Mwamba, on the coast. This is next to Watamu National Marine Park and near Arabuko-Sokoke Forest, the largest remnant of a dry coastal forest which originally stretched from Somalia to Mozambique. The forest contains an unusually high number of rare birds. Mida Creek, also nearby, has important mangrove forests whilst Dakatcha Woodland, located 40 km to the north of Malindi, is the world's only known breeding site for Clarke's Weaver (*Ploceus golandi*). ARK provides opportunities for

conservationists, researchers, students, community groups and holiday makers to participate in practical conservation programmes at these sites through research, environmental education and community conservation.

In 2001 ARK established the Arabuko-Sokoke Schools and Eco-tourism Scheme (known as ASSETS) which supports poor children living around the forest and Mida Creek area with secondary school bursaries funded by local sustainable tourism activities. Scientific projects undertaken include bird monitoring, coral reef research and forest regeneration studies (A Rocha Kenya, 2015). Success with ASSETS and other projects at Watamu has led ARK to establish two more field stations and a new field study centre is being developed in Nairobi, where training in conservation farming from a Christian perspective (known as 'Farming God's Way') is seeking to improve local livelihoods (A Rocha Kenya, 2016).

2.2.3 Uganda

Uganda lies in the transitional zone between the East African savanna vegetation systems and the moist tropical forests of the Congo basin (Obua & Agea, 2010, p. 65). The country has a population of 37.8 million (World Bank, 2014a) and the GDP per capita is 715 USD (World Bank, 2014b). Tropical high forests account for about 4% of the total area of Uganda, however many of these forests are now degraded. The country's forests are managed either as central forest reserves (CFRs) or outside of protected areas, local forest reserves on private or customary lands (p. 68). Local forest reserves are managed by local governments, while central forest reserves have been managed by a semi-autonomous body established in 2003, the National Forest Authority (NFA) (Ainembabazi & Angelsen, 2014).

Most of the CFRs with tropical high forest are rich in biodiversity (Obua & Agea, 2010). They protect watersheds, river valleys and lakeshores that regulate the water which many people in Uganda depend upon for their livelihoods. Tropical high forest cover declined from 12.7% of total land area in 1900 to 3.6% by 2000, and the rate of deforestation has increased by 21% since the end of the 1990s (Obua & Agea, p. 90). The current official figure for tropical high forest cover is 924 000 ha (which is 3.8% of

Uganda's land area) while other wooded lands are said to cover 3 974 102 ha (19%) (Uganda National Forestry Authority, 2016). According to the Ugandan Government's National Forest Plan (2012, p. vii), the rate of deforestation in Central Forest Reserves was 1.1% from 1990-2005. This was attributed to unsatisfactory forest law enforcement and governance and institutional failures (Republic of Uganda, 2013). Ainembabazi and Angelsen (2014, p. 48) state that the establishment of individual forest plantations, often commercially-orientated and privately-owned, is typically occurring in central forest reserves that have been degraded by the rural poor.

In Uganda, like Ghana and Kenya, forest policy has been shaped by colonisation and then evolved towards an increasingly decentralised model during the post-colonial period (Turyahabwe & Banana, 2008). 12-15% of Uganda's total land area, including forestry, is subject to formal title. Elsewhere rural lands are governed by customary tenure (Wily, 2012).

2.2.3.1 A Rocha Uganda

A Rocha Uganda (ARU) is the most recent national organisation within the three case study countries to join ARI, which it did in 2010. The organisation's head office is located near Lubigi Wetland, the biggest papyrus swamp in the area around the country's capital, Kampala, which is also surrounded by slums. ARU is studying and protecting the wetland, important for many waterbirds and birds of prey, through their work with the local communities. Providing clean drinking water and finding new ways to dispose of sewage and rubbish, ARU seeks to bring health, dignity and hope to people living nearby, whilst also reducing the pollution of the swamp (A Rocha Uganda. 2016).

Across Uganda, approximately 25% of the population still lacks access to clean, safe drinking-water. ARU helps local people to build their own bio-sand filters: a cheap and simple solution. By filtering water through layers of sand and sediment, drinking water no longer needs to be boiled, reducing the number of trees that need to be cut down for charcoal production. Combined with environmental and health education, the activities are also improving the quality of life of local families (A Rocha Uganda, 2016).

2.3 Outcomes sought by A Rocha International

At the outset of this study, ARI named the following as goals for any potential community conservation project in Ghana, Kenya or Uganda: biodiversity conservation, community livelihood benefits, climate change mitigation and environmental education (Naylor *et al.,* 2014). This section explores what these goals entail, providing important background information for Chapters Five and Six, which seek to assess how possible it would be for an NGO to attain such goals within the policy environments of the three case study countries.

2.3.1 Biodiversity conservation

In recent years the conservation literature has debated the biodiversity value of degraded forests in tropical countries (Didham, 2011; Gibson *et al.,* 2011). Many scholars defend the ongoing biodiversity value of forests that have been degraded, arguing that a logged tropical forest is better than none at all because it is still possible to maintain ecosystem function and services in such forests (Meijaard & Sheil, 2007; Edwards, Tobias, Sheil, Meijaard, & Laurance, 2014). On the other hand, some contend that focussing on biodiversity value on degraded lands may be a double-edged sword because it detracts from the more important goal of conserving primary forests (those that have not been significantly logged), and can be used to justify the use of tropical forests for commercial interests such as oil palm plantations (Didham, 2011).

Although it has been demonstrated that primary tropical forests have an irreplaceable biodiversity value, areas of native regeneration and exotic tree plantations can also provide important complementary conservation services (Barlow *et al.*, 2007). This is particularly important in developing countries, such as Ghana, Kenya and Uganda, where it is common practice for the government to hand over state-managed, degraded tropical forest areas for agricultural use due to poor policy strategy or because the state is lacking the resources required for management or restoration. The agricultural practices occurring on such land often lead to the destruction of habitat for native flora and fauna. In comparison, if the forests are restored they may once again provide important habitats for a range of species that are important both to humans

and the wider ecosystem. Therefore, from a biodiversity conservation perspective it is vital that action is taken to protect forests from further degradation and restore them where possible. This is in line with one of ARI's core values; that is, to engage in practical conservation of the natural world (A Rocha International, 2015a).

2.3.2 Sustainable livelihoods

Decentralisation of forest management has taken place over the last thirty years in Ghana, Kenya and Uganda in an attempt by national governments to devolve responsibility to more localised government agencies (Republic of Ghana, 2011; Funder & Marani, 2015; Turyahabwe & Banana, 2008). Throughout this process, conservation interests have ensured that attention to biodiversity conservation has been taken into account in reforms. However Larson *et al.* (2010) argue that this has often been at the expense of community rights and livelihoods and customary practices. Although policies may increasingly attempt to include forest adjacent communities in management and decision-making, in practice the balance of power is often more complex.

To consider how ARI may facilitate the development of sustainable livelihoods, a working definition of this concept must be established. A livelihood comprises of capabilities, assets, including both material and social resources, and activities, which are mediated by institutional and social relations and the natural environment (Ellis, 2000, cited in Kamwi *et al.*, 2015, p. 208). Sustainable development was famously defined in the World Commission on Environment and Development (WCED)'s Brundtland report in 1987 as, '...development that meets the needs of present generations without compromising the ability of future generations to meet their own needs' (WCED, 1987, p. 43). Although the terms are nuanced and debated, environmental concern is clearly a prerequisite for sustainable development, including the development of sustainable livelihoods. Forest adjacent communities often consist of poor subsistence farmers (Marfo *et al.*, 2012).

The Modified Taungya System (MTS) one example of a system that improves the livelihoods of its participants in a sustainable way (as discussed further in Section

2.4.3). MTS is an agroforestry system that involves inter-planting trees with local staple food crops according to strict guidelines for proportion of trees to crops and spacing between plants (Kalame *et al.*, 2011). Protection of the resulting forest canopy, once it has been established (usually after three years), is secured by a requirement for farmers to move to other nearby plots after three years and to tend the original trees to maturity (Kalame *et al.*, p. 519). Analysis of this system attributes it with promoting sustainable livelihoods for poor farmers through the following benefits: increased energy security through access to renewable cooking fuel, e.g. firewood from a well-managed forest; a share in the benefits from timber sales; soil enrichment that benefits cultivation of food crops; access to forest products for household construction and medicinal use; protection of local water sources from sedimentation through erosion control; modification of the microclimate and creation of windbreaks; management of bush fire outbreaks; and prevention of desertification. These factors combined also contribute to reduce community vulnerability to the effects of climate change (Kalame *et al.*, 2011, p. 526).

2.3.3 Climate change mitigation

Forests play an essential role in global efforts to mitigate climate change by acting as sinks for carbon storage through the sequestration of carbon in biomass, as well as, on the other hand, having the potential to contribute to global greenhouse gas emissions through deforestation (Marfo et al 2012, p. 161). A Food and Agriculture Organisation of the United Nations (FAO) report published in 2012 highlighted the importance of forest management conditions in order to facilitate climate change mitigation (FAO, 2012). Examples of measures taken in response to climate change included tree planting (by governments, private forest owners and NGOs) and conservation management by NGOs, community based organizations, indigenous communities and forest services. With regard to non-state actors, the FAO report found that management strategies in commercial forestry are focussed on adapting to changing market conditions while community forestry examples are more oriented towards ecosystem conservation and restoration, usually supported by third parties. In order for climate change mitigation to occur through forest conservation, the FAO (2012) argues

that the following structures should be put in place:

- Definition of rights to land and forest carbon benefits;
- Prior and informed consent mechanisms;
- Cost and benefit distribution mechanisms;
- Requirements for monitoring and verification, which are relevant to small-scale forest managers as well as to large commercial enterprises;
- Best practices and lessons learnt from past forest management actions documented and shared;
- Stakeholder platforms that ensure transparency and equity in all agreements (Food and Agriculture Organisation of the United Nations, 2012, pp. 32, 43).

Many of the institutional structures listed above are explored in this study to determine how, in their current state, they might enable or constrain community conservation initiatives. Blay *et al.* (2012b) describe a range of different carbon offsetting schemes in Africa, demonstrating that forest restoration projects for carbon sequestration are already being implemented in collaboration with local communities. For example, in Ghana newly established forest plantations constitute one of the largest and most immediate sources for changes in carbon stock in the country. According to Blay *et al.*, the Government of Ghana and other organizations are presently establishing forest plantations at a rate of 20 000 ha annually. In 2010, the USAID-funded Sustainable and Thriving Environments for West Africa Regional Development (STEWARD) programme conducted a pilot program in two degraded forest reserves in Ghana to build on a 10-year old restoration project to work with communities in developing a carbon monitoring methodology (Blay *et al.*, 2012b). Examples like this provide evidence that NGOs such as ARI have the potential to incorporate climate change mitigation into their project goals.

2.3.4 Environmental education

In order for local community members to participate in community conservation on degraded forests and to work closely with the functioning local authority that is responsible for forest management, they need to be in possession of suitable

information to enable activity that supports best practice (Larson, 2010). Communities may lack the capacity to fully benefit from forest management approaches due to having less access to information than their state management partners, which puts them at a disadvantage in negotiations. This may be one area where environmental education would be beneficial. A Rocha seeks to create a model for conservation through any proposed community project as well as providing sites for tropical forest research and fostering existing ecosystem knowledge within the local community via school environment clubs and community education (Naylor *et al.*, 2014).

State forestry managers may also benefit from the provision of environmental education. To give an example from one of the case study countries, the ARK blog documents how in 2015 many staff members of the Kenya Forest Service (KFS), were not able to identify important wildlife species and habitats found in a local forest reserve they were responsible for managing. The Arabuko Sokoke forest reserve lies between Kilifi and Malindi on Kenya's North Coast. It was gazetted in 1943 as a forest reserve and covers an area of 420 km², including 382 km² of indigenous forest. There are over 230 bird species and over 50 mammal species in the forest reserve. Six bird species are considered globally endangered while others are endemic to the forest and six mammal species are endangered. When A Rocha Kenya, together with KFS and other forest stakeholders, identified a knowledge gap among the KFS staff, the organisation collaborated with the stakeholders to develop a program designed to educate KFS staff members in local species identification and other relevant knowledge. The program has three volunteer guides and is open to all the staff and any other people wanting to gain general knowledge of the Arabuko Sokoke Forest Reserve habitats and species (A Rocha Kenya, 2015).

2.4 Options for sustainable use of degraded forests

2.4.1 Regeneration

Regeneration of degraded forests can be described as either natural (passive), or

assisted (active) (Lemenih & Bongers, 2010, p. 175). With the former approach, the forest area is simply protected from disturbance and restoration is allowed to happen naturally over time without human input. Natural regeneration is dependent on the nature and extent of the forest cover remaining in the degraded area. The self-recovery of heavily degraded tropical forests may be hindered by factors such as a limited remaining seedbank, poor soil quality, the prevalence of invasive and highly competitive grasses and reduced habitat for seed dispersers (Lemenih & Bongers, 2010, p. 175). These limitations are intensified by increased length and intensity of disturbances in the forest area (p. 176).

Active restoration methods may involve planting plantation forests designed with special conditions to facilitate forest regrowth, or reseeding propagules, planting facilitator species, redressing the soil with mulches and other organic substrates, constructing soil and water conservation structures, reintroduction of disperser animals or supporting the functioning of beneficial micro-organisms (Lemenih & Bongers, 2010, p. 177).

Lemenih and Bongers (2010, p. 172) advocate for the role of plantation forests in fostering ecological restoration on degraded forests in East Africa. When techniques for bolstering biodiversity are embedded in management approaches, they argue that plantations can provide services to degraded land such as providing conducive microclimate conditions at the forest floor for regenerating plants, habitats for seed-dispersing bird species, soil protections and enrichment and suppression of competitive weeds (Lemenih & Bongers, p. 175). Lemenih and Bongers also argue for the necessity of community participation for success.

One form of regeneration requiring lower inputs than plantation planting is Farmer-Managed Natural Regeneration (FMNR) (World Vision United States, 2016). This involves farmers utilising the tree stumps that remain in a degraded area to regrow saplings, rather than using seeds. FMNR has been successfully implemented by non-state actors in Kenya such as World Vision.

2.4.2 Climate change mitigation

Forests contribute to climate change mitigation by removing atmospheric carbon dioxide and storing it in biomass and other carbon sinks (Torres *et al.*, 2013, p. 1032). As a global carbon stock, forest vegetation sequesters about 283 Gt of carbon in its biomass, 38 Gt in dead wood, and 317 Gt in soils and litter (Marfo *et al.*, 2012, p. 161). Deforestation is believed to account for about 15% of global greenhouse emissions (Marfo *et al.*, p. 161). These figures demonstrate why so many actors across the globe are seeking to preserve and plant trees in the fast-growing tropical forest zones, such as those in the case study countries. Degraded state forests provide a good example of where appropriate forest management can reduce emissions from deforestation and forest degradation (Torres *et al.*, 2013).

The basic procedure for estimating changes to carbon stocks in forests is to obtain an estimate of carbon content or an annual carbon stock change factor per hectare and multiply it by the corresponding area of forest (Torres *et al.*, 2013, p. 1034). Agreements under the United Nations Framework Convention on Climate Change (UNFCCC) have defined different rules to account for forest carbon services. For example, carbon removals in “new” forests are considered carbon sequestration, while carbon gains occurring in existing forests under REDD+ are said to be carbon enhancements because they are additional to gains from reduced emissions from deforestation and forest degradation. In the Clean Development Mechanism of the Kyoto Protocol (CDM) developing countries can execute reforestation and afforestation activities in areas that have not been forested since 1990, however for afforestation projects the requirement is that the area has not been forest in the last fifty years. This means that areas which are currently not defined as forests (i.e., cropland, grasslands and degraded land with canopy cover below the threshold for forest) can be host to carbon sequestration activities. For reforestation and afforestation projects, carbon removals are quantified by comparing the growth of the planted trees with the carbon stock that would have been expected had the project not been implemented (Torres *et al.*, 2013, p. 1035).

Although climate change mitigation through carbon offsetting for governments, businesses and individuals is growing (Hamrick, 2015), the sector is complex and evolving. Climate Stewards is an organisation belonging to the ARI network that offers a relevant example of an NGO carrying out projects for carbon mitigation purposes. Climate Stewards works with A Rocha Ghana to manage and implement small-scale tree planting projects in central and northern Ghana (Climate Stewards, 2016). Planting and managing these new mini-forests brings triple benefits: sequestrating carbon, improving livelihoods and restoring biodiversity. The Climate Stewards sites are at schools around Kumasi in central Ghana, and in predominantly Muslim communities around Larabanga and Damongo in the drier north of the country. All trees are indigenous varieties chosen to suit the local climate, and include mahogany, kapok, dawadawa and ebony. In addition to these native species, 10% of each site is planted with a commercial crop such as cashew, mango, citrus or oil palm which provides a sustainable source of income to local people after just a few years. Since 2007, Climate Stewards has planted over 33 000 trees on 15 sites covering 91 hectares of land. These trees will absorb 14 845 tonnes of CO^2 over an average 50 year lifespan (Climate Stewards, 2016). In this way, climate mitigation projects that involve smallholder farmers may provide solutions decreasing agriculture's role in global greenhouse gas (GHG) emissions while also increasing food security and promoting sustainable livelihoods for smallholder farmers (Lee, 2011, p. 1).

2.4.3 Agroforestry

Agroforestry is an increasingly popular option for the restoration of degraded forest areas (Blay, 2012a, p. 304). The practice involves the planting of cash crops or the rearing of livestock on the same piece of land where tree-planting for conservation is taking place (Blay, 2012a, p. 304). Blay (2008) describes how the planting of indigenous tree species while maintaining and managing non-timber plant and animal resources is a new dimension of forest management and biodiversity conservation in Ghana. Of late this new trend of forest management has received a great deal of attention especially for the production of non-timber forest products such as medicinal products, fodder, cane, foods, and fibre, rather than exclusively for wood.

One specific example that illustrates the practice of agroforestry from within the case study countries is the Modified Taungya System (MTS) in Ghana, as described in Section 2.3.2. Although improvements could be made to ensure MTS grants appropriate rights to forest-adjacent communities, as a system it has been successful in achieving its twin goals of increasing forest cover through tree-planting and benefitting local communities through providing space for sustainable agriculture (Marfo *et al.*, 2012, p. 168).

It is worth noting that the effect of agroforestry on forest conservation is heavily influenced by farmer characteristics, production practices, market and tenure conditions and thus broad generalisations about its success are difficult (Angelsen and Kaimowitz, 2004, cited in Ainembabazi and Angelsen, 2013, p. 49).

2.4.4 Mixed-mode management

Mixed-mode management is when a combination of different management approaches are implemented in the same area of forest. For example, sustainable plantations of high-income species may be developed on a portion of a forest concession to fund a conservation project, while the remainder (usually the greater proportion of the total area) is allowed to regenerate. This may be considered 'mixed-mode' management, compared to a non-profit management model that has a singular focus on biodiversity conservation and does not generate its own funds. For example, the following mixed-mode funding options would be considered by ARI: a portion of the degraded area being set aside for tree-planting for the sale of carbon credits; production and marketing of non-timber forest products, eco-tourism or even some commercial timber production (Naylor *et al.*, 2014). All of the above options would be designed to occur alongside biodiversity conservation on the area of degraded forest, to fund the conservation work but not to hinder it.

2.5 Conclusion

This chapter has provided background information on the three case study countries: Ghana, Kenya and Uganda. The countries are all located in sub-Saharan Africa and

share a number of similar social, economic, environmental and policy conditions. There is a national A Rocha organisation in each of the countries, and a brief description of the purpose and projects of each of these organisations was given. The overarching goals of A Rocha were then discussed. These include biodiversity conservation, promoting sustainable livelihoods, climate change mitigation and environmental education. There are a number of opportunities to pursue these goals in degraded state forests, and this chapter described several management techniques including: regeneration, agroforestry, tree-planting for carbon mitigation, and a mixed-mode method that combines several of the above techniques. Next, Chapter Three will review the literature examining the policy environments in Ghana, Kenya and Uganda, including international influences, the role of NGOs and the range of factors that enable and constrain community conservation projects.

Chapter 3: Literature Review

3.1 Introduction

The literature surrounding forestry policy and community conservation issues in Africa is rich and multi-faceted. This chapter attempts to synthesise the literature relevant to the present study. The chapter begins with a general overview of research pertaining to community conservation on degraded tropical forests in Africa, followed by sections focussed on the historical and current provision of state forestry policy in Ghana, Kenya and Uganda. Next international influences on forestry policy and then the views of different authors on the role of NGOs in the field of community forest conservation, are explored. The institutional, social and ecological factors that enable and constrain community conservation projects are then investigated. Key themes examined here include issues of land tenure and stakeholder participation in forest management, the capacity of state forestry authorities, economic influences, demographic factors, energy demands, and illegal forest use. Some literature pertaining to ecological factors such as soil quality, water availability and fire risk is also briefly reviewed. However, because ecological factors are less central to the study, these factors are not examined in the same depth as the institutional and social factors.

3.2 The Policy Environment

As described in Chapter Two the community conservation goals of A Rocha International (ARI) include biodiversity conservation, sustainable livelihoods, climate change mitigation and environmental education. Given these goals, it is important to examine the many ways which state forestry policies and their implementation may impact on degradation within tropical forests in Africa. There is general consensus in the literature that an understanding of the local context is a vital component in planning a successful conservation and development initiative (Bongers & Tennigkeit, 2010; Kamwi, Chirwa, Manda, Graz, & Kätsch, 2015; Larson, 2010; Petursson, Vedeld, & Sassen, 2013; Sassen, Sheil, Giller, & ter Braak, 2013). For example, Sassen *et al.* (2013,

p.257) carried out a comprehensive study of the drivers of forest cover change on Mt Elgon, Uganda between 1973 and 2009 which found that contextual factors such as law enforcement, collaborative management and political interference determined impacts on forest cover, more than the formal policies determining market access and commodity prices. The researchers concluded that conservation and development interventions should recognize and address local, contextual factors as well as conditions generated by larger scale external influences such as economic and demographic policies. These conclusions support the approach of this study, which attempts to gauge influences within the whole policy context including institutional, social and ecological factors.

State forestry policies also determine the extent to which the rights and responsibilities of forest dependent communities are recognised. A strong move towards decentralisation has occurred across Africa in recent years, transferring some of the rights of forest management from the state to local people (Barry, Larson, & Colfer, 2010). This has had a significant positive impact on the level of engagement in forest management that is available to local communities (German, Karsenty, & Tiani, 2010). It is increasingly being recognised that a balance must be struck between the demands of local people's forest use and biodiversity conservation (Bongers & Tennigkeit, 2010, p.8). While some authors believe that these goals are not mutually exclusive, i.e. benefits to both people and biodiversity may be attained in a single project, others are more circumspect and argue that trade-offs must be made by all parties (Fay, 2007). Another complicating factor when it comes to planning community conservation projects is that factors controlling the local implementation of state policies have just as much, if not more, impact on degradation levels as the policies themselves (McDermott *et al.*, 2010).The following section will explore both the forestry policies published by the state and some of the factors influencing implementation of these policies in each of the three case study countries.

3.3 State forest policies

Ghana, Kenya and Uganda, have diverse policy frameworks that are intended to govern

the nature of forest management. These frameworks incorporate policies that specifically relate to state-owned, degraded tropical forests as well as well-preserved state forests, private, and customary forests. This section provides an overview of general points made within the literature pertaining to degraded forest policies in each country, highlighting common themes and ideas. An in-depth analysis of the policies themselves is undertaken in Chapter Six.

3.3.1 Ghana

Ghana's forest policy, forest legislation, the forestry bureaucracy, and the rest of the governance superstructure all have roots in the country's former colonisation by Britain (Opoku, 2006, p. 19). During the colonial period, forestry was tightly state-controlled to supply timber exports to Europe. After Ghana became independent in 1950, the transfer of power to Ghanaian politicians changed the internal composition of the timber industry and its relationship with the political and forestry establishments (p. 19). Corruption became rife, and between 1948 and 1992 there was no major policy review despite the occurrence of independence, Africanisation, international commodity price collapse, nationalisation, and the many shifts in the political-economic function of the forest sector (p. 21). Politicians and civil servants ran the sector by ad hoc administrative fiat; governments passed laws to catch up with administrative pronouncements or not at all. Most management plans expired in the late 1960s and were not replaced (p. 21).

However, by the early 1990s, several factors had combined to compel a fundamental policy review. Global (particularly donor country) concern about the environment was increasing, especially with regard to climate change and the importance of tropical forests in combating this. There was also heightened national awareness of deforestation and its consequences following the major drought and bushfire crisis of the mid-1980s; and finally, the public became increasingly aware of the central role the timber industry played in deforestation. From the late 1980s through the early 1990s, Ghana was at the centre of a series of exposés of the corruption and rapaciousness of the international timber industry. The 1994 Forest & Wildlife Policy marked an attempt

to restore order and credibility to the sector (p. 21), and several other policies have since been enacted which build on the 1994 policy to work towards more decentralised, community-oriented forest management (Republic of Ghana, 2011). The Ghana Forestry Commission (FC) was established as a semi-autonomous corporate body, and is currently the key authority charged with responsibility to regulate, conserve and manage forest and wildlife resources (SAL Consult Ltd., 2014, p. 35). The FC reports to the Ministry of Lands and Natural Resources (p. 48).

Currently many forestry and agriculture policies in Ghana are, at least on paper, largely consistent with principles of forest conservation and sustainable development (SAL Consult Ltd., 2014, p. 30-48). In 2014 the REDD+ Mechanism in Ghana commissioned a comprehensive strategic environmental and social assessment of the Ghanaian national forestry policies and legal framework. This provides useful analysis for this research because the goals of REDD+ align closely with those of A Rocha International. REDD+ is an international attempt, supported by the United Nations and upheld in a number of international agreements, to work towards 'Reduced Emissions from Deforestation and Forest Degradation' on a global scale, through country-level programmes (SAL Consult Ltd, 2014, p. 3-5). The assessment demonstrated that the Ghanaian government is promoting rehabilitation and restoration of degraded forest landscapes through the development of plantations and community forestry (p. 34). Large scale and small holder forest plantation investments are being encouraged (p. 35) and are eligible for financial assistance on lands suitable for commercial timber production (p. 37). Community forestry and civil society engagement is also being increasingly recognised in government policy (p. 34, 57). The Modified Taungya System (MTS) is an important agroforestry approach that has been implemented by the Ghanian government since 2002. Kalame *et al.* (2011) give a largely positive review of the outcomes of this scheme, which includes provision of agricultural land for poor subsistence farmers and has led to successful reforestation. However, some authors are more critical of the MTS, calling into question the perceived benefits of the scheme for local people (Marfo *et al.*, 2012, p.169).

Despite these policy efforts, much of the literature agrees that Ghana's current forestry policy environment remains lacking in a number of areas. Marfo *et al.* (2012) explore the fractured tenure and unaccountable authority in Ghana with reference to climate change mitigation schemes, while Armah *et al.* (2014) describe the 'messiness' and complexity of policies governing natural resources in Ghana. Ghana also has a lack of land use planning that is a drawback to sustainable development (SAL Consult Ltd., 2014, p. 30). The Ghanaian forestry sector is further complicated by the existence of a customary land tenure system involving land belonging to traditional chiefs and tribes (known as 'Stool' and 'Skin' lands), which functions in parallel, and sometimes competes with, the modern statutory land tenure laws (SAL Consult Ltd., 2014, p. 29, 55). ClientEarth (2013), a non-profit environmental law organisation, provide an overview of the rights of local communities to share in the monetary and non-monetary benefits from the exploitation of forests on their lands. ClientEarth provides evidence that although Ghana's Forestry commission is shifting to a management approach which asks communities to have an increasing share of responsibility, in practice the communities are not yet receiving their fair share in benefits from the forests. This is despite the fact that Ghana's national constitution includes a formula for sharing benefits from Stool and Skin lands that allows communities to receive a greater proportion from these customary lands than they currently are (ClientEarth 2013).

3.3.2 Kenya

Land is also a major political issue in Kenya. The country's political history is heavily intertwined with struggle over land resources, from the time of colonisation, throughout the liberation wars in the 1950s and 1960s right through to the present (Petursson *et al.*, 2013). As in Ghana, public land has been used by successive governments in independent Kenya as a means of political patronage and control (Klopp, 2000, cited in Petursson *et al.*, 2013).

Many native forests in the Kenyan forest reserves were replaced by softwood plantations during the colonial period and early independence, a phenomenon that also occurred in Uganda. Donor agencies provided crucial financial and technological

assistance for this process. Subsequently, between 1960 and 1999 the size of these plantations increased from around 1 500 ha to 10 000 ha (Petursson *et al.*, 2013). However, the forest reserve regime has not been able to deliver sustainable governance of the softwood plantations, partly due to the Shamba system. This is a form of agroforestry similar to the MTS in Ghana, which allows local communities temporary cropping rights between the trees during certain stages of plantation establishment. The idea is to create a win-win situation with farmers given rights to crop the forest floor and simultaneously facilitate forest tree establishment by tending and weeding. When the canopy closes, the farmers are supposed to leave the area and move to another plot (Petursson *et al.*, 2013).

Petursson *et al.* (2013, p. 27) consider the Shamba system to have failed, and give the following explanation as to why:

> The farmers were required to rent the plots from the FD [Forestry Division]. That created monetary dependency at the FD and by that a disincentive for the FD officials to transfer the agricultural plots back to forest, as should have happened once the trees matured. In order to sustain the agricultural potential, the forest tree seedlings were purposely damaged or up-rooted. Furthermore, the FD failed to control the number of farmers and the type of agricultural practices and to carry out proper replanting. As demand for agricultural land is high, the regeneration of plantation areas failed and large forest tracts actually became permanent agricultural areas. Between 1960 and 1999, more than 2000 ha was completely converted to agriculture (Petursson *et al.* 2013, p. 27).

This critical view of the capacity of Kenya's forestry sector is supported by the findings of researchers both inside and outside the country. The Resource Conflict Institute (a Kenyan policy think tank also known as RECONCILE) describes how over the years the sector has faced a myriad of challenges including; excision of state forest land, indiscriminate destruction of natural forests, poaching of rare species, weak governance structures, and lack of resources to regulate, police and protect the forests, lack of incentives to enhance communities participation and the duplication of laws and regulations (RECONCILE, 2014).

However, in 2007, the Forest Act 2005 was enacted leading to many progressive

changes such as the inclusion of communities living adjacent to the forests. This was done through the establishment of Community Forest Associations (CFAs) and Forest Conservancy Committees (FCCs) at the local and regional level respectively. Chapter 5, part 2 of the Constitution of Kenya deals with environment and natural resources. It outlines the obligations of the national government in relation to environmental issues. The Forest Act 2005 has been revised and aligned to the Kenyan Constitution under the Forest Conservation and Management Bill (2015). The management of forests and other operations are informed by other policies/legislation including, the Forest Policy (2014), the Kenya Forestry Master Plan and the Environmental Management and Co-ordination Act of 1999 (RECONCILE, 2014).

The Conservation Secretary of Kenya's Ministry of Environment, Water and Natural Resources (MEWNR) evaluated the 2014 Forest Policy and Bill at an Inter-Parliamentary Regional Hearing of Exemplary Forest Policies in Africa (Gathaara, 2014). He argued that the Bill was a step forward towards better participatory management with communities. This is hopeful, especially as some researchers argue that even since the change in policy and regulations in 2005, little has been achieved towards improving the use, management and governance of Kenya's forest resources (RECONCILE, 2014).

3.3.3 Uganda

Turyahabwe and Banana (2008) offer an overview of the history of forest policy and legislation in Uganda, describing a process of developments that were very similar to those which occurred in Ghana and Kenya:

> Uganda's forestry sector evolved from a highly regulatory colonial forest service (1898-1961), which was characterised by a centrally controlled and industry biased forest policy with limited local stakeholder participation; followed by the post-independence era (1962-1971) that maintained the forest estate in a reasonably good condition through the process of command and control; through a non-directional phase characterised by disruption of economy, insecurity and impaired delivery of goods and services (1972-1986); to a more decentralised, participatory and people oriented approach that has typified the focus of the policy over the last two decades (1987-to date)" (Turyahabwe &

Banana, 2008, p.641).

This evaluation of Uganda's history is supported by Obua and Agea (2010), who also describe the current policies governing Uganda's state forests and outline how the policy framework for Uganda's forests has gradually shifted to one which aims to be supportive of community involvement in forest management and uses incentives such as revenue sharing to achieve this.

The National Forest Authority (NFA), a semi-autonomous government body, was established in 1998, following the institutional restructuring that occurred as a result of the promulgation of the Constitution of Uganda in 1995 (Obua & Agea, 2010). In response to severe forest degradation and deforestation, the Ugandan government classified forests into either local and central forest reserves, with the former decentralized to local governments and the latter (from 2003) managed by the NFA. Mandated by the Forest Policy of 2001, the NFA is a for-profit, semi-autonomous organisation that seeks to raise revenue while at the same time attempting to restore and conserve central forest reserves (CFRs) by, among other strategies, leasing parts of CFRs to private investors to establish commercial forest plantations (Ainembabazi & Angelsen, 2014, p. 48).

Aspects of forest revenue in Uganda, such as timber royalty, forest produce fees and licence fees, are controlled by the government through the Forest Fees and Licence Order of 2000 (Obua & Agea, 2010, p.76). These charges are levied in forest plantations and natural forests, but not private forests. Charges for round-wood production include a cutting charge for every pole harvested, which varies according to size, and a charge on the haulage or conveyance of firewood. Licences are required and charges are supposed to be levied for non-wood forest products such as charcoal, bamboo, seeds and seedlings, palms, rattan canes and forest services such as ecotourism, grazing and hunting (Obua & Agea, 2010, p.77). There are also charges for processed product production, such as the value added tax (VAT) paid by sawmillers and pit-sawyers (p.78) and although the NFA does not collect any charges on forest products trade, trading

licences are required to sell processed forest products and are issued by urban or local authorities. Ground rent is also charged for farmers wishing to use government forest reserve land to plant trees, which was charged at USh1500 per hectare per year according to the Forest Fees and Licence Order of 2000 (cited by Obua and Agea, 2010). In addition to the categories of fees listed here, there are fines and penalties for breaking forestry laws and regulations. However, according to Obua and Agea (2010, p.79), in many instances the fines charged were not sufficient to discourage unlawful behaviour. Because this was leading to forest degradation, the NFA started to enforce higher penalties from around 2001.

Causes of deforestation in Uganda include encroachment, land grabs and degazettement of protected areas to agriculture. There is a growing trend of change in land use of protected areas from forest to sugar cane, palm oil, tea or tobacco growing, or industrial expansion. Obua and Agea argue that this is occurring because politicians and investors view protected areas as a 'land bank' for future appropriations of investment (p. 80). Examples include the Bugala Islands, a protected area where an palm oil plantation has now been developed, Namanve central forest reserve (CFR) where an industrial park is now situated, and Pian Upe Wildlife Reserve which has been given over to large-scale agriculture. Other causes of deforestation include: high population pressure (Uganda's national human density average is 102 people/km2 compared to the world's average of 42 people/km2), overexploitation of forest resources, armed conflict, civil unrest and refugees, weak capacity of the forest sector and market failures (Obua & Agea, 2010, p. 80-82).

Ainembabazi and Angelsen (2014) argue that despite the forest policy reform that has taken place in Uganda in recent years, deprivation and exclusion of local forest users still occurs. For example, clan leaders can have undue influence by leading in decision making and defining rules that are followed by the rest of the community (Obua and Agea, 2010, p.85). In addition, a number of scholars have demonstrated that decentralisation of forest reserves in Uganda has had the effect of reducing forest quality (Banana, Vogt, Bahati, & Gomba-Ssembajjwe, 2007; Jagger, 2010; Turyahabwe,

Geldenhuys, Watts, & Obua, 2007). All of these scholars describe the significant impact of institutional failures such as lack of capacity, funds and mandate in the case of local governments. They also argue that selective enforcement of rules takes place on CFRs managed by the NFA (Ainembabazi & Angelsen, 2014, p. 49). Weaknesses in policy such as failure to institutionalise sustainable community participation and the absence of detailed and adequately responsive guidelines to interpret policies, especially from a legal point of view, have affected state protected forests. Also, important decisions regarding forests have tended to be made by senior politicians rather than the NFA. A number of researchers note the lack of effective monitoring and enforcement of rules and regulations, particularly by the government organisations that were established to do this following decentralisation (Turyahabwe & Banana, 2008, p.641).

3.4 International influences

It is increasingly recognised that global forestry policy trends and international expectations of consumer countries have a significant influence in shaping state level forest policies in producing countries (Maguire, 2013). Three key ways that this takes effect are through timber regulations in exporting and importing countries, international markets for carbon credits, and international pressure to conserve the biodiversity that remains in tropical forests. In addition, the human rights based agenda in international forest policy has grown to have an significant influence on state level policies in recent years (Sikor & Stahl, 2011). International policymakers have encouraged a move toward clearer land tenure within African countries and this has in turn enabled more participatory governance for indigenous and forest-adjacent communities (Barry *et al.*, 2010). Each of the three case study countries references these international influences in their forestry policies (Republic of Ghana, 2011, p. 8; Republic of Kenya, 2014, p. 17; Republic of Uganda, 2013, p. 47-50). For example, Ghana's Forest and Wildlife Policy (2011, p. 30) lists fourteen international environment and forestry conventions and treaties which Ghana is signatory to and highlights how the Forestry Commission receives a large part of its budget from international funding (p. 6). Due to its role in shaping national policy, the international policy agenda must be considered as an important factor influencing the institutional

component within policy environment analysis.

3.5 Non-Governmental Organisations (NGOs)

Despite the influential role NGOs often play in the joint management of protected areas in Africa (Fay, 2007, p. 81), they are not as widely referenced in the forest management literature as expected. Many publications explore the role of private agriculture or timber companies and local government institutions, as well as forest-adjacent community groups, but only peripherally include NGOs in their studies (e.g. Bongers & Tennigkeit, 2010; Innes & Nikolakis, 2014; Larson, 2010). A range of critiques have been made of the influence of conservation NGOs on politics and governance in Africa, including those which are highly condemnatory of conservation NGOs and blame them for having a negative impact upon indigenous people, to those who argue that NGOs are "basically forces for good doing their best in difficult circumstances" (Brockington and Scholfield, 2010, p. 1-3). The growing influence of NGOs in forest management in Africa may be partly due to decentralisation and the lack of capacity of local government institutions. This can leave state and district level forestry offices seeking to partner with any agency that has the capacity to take on management of forest concessions, whether it be private individuals, companies or NGOs (Ainembabazi & Angelsen, 2014; Obua & Agea, 2010). NGOs such as ARI should be aware of the ambivalent lens through which their efforts may be viewed and should seek to mitigate the risk of influencing forest management when their presence is not welcome, or when they lack appropriate levels of understanding of local cultural nuances.

It is interesting to note that within the literature it is not easy to identify an area that is specifically focussed on conservation NGOs. Some authors seek to differentiate between conservation and development organisations, and it has been argued that conservation literature has much to learn from the academic discipline of development studies, which has developed a high level of critical reflection on the work of NGOs in Africa and elsewhere (Brockington & Scholfield, 2010). Faith-based organisations (FBOs) such as A Rocha International comprise a significant proportion of development organisations globally, however whether or how they are classified as NGOs is the

subject of differing opinion within the literature (Clarke & Ware, 2015). One meta-study on how FBOs are contrasted with NGOs in international development literature detailed at least seven different typologies for understanding this, which ranged from FBOs and NGOs being considered as the same in all substantive matters, to being considered entirely incomparable, with a range of relationships in between (Clarke & Ware, 2015). This ambiguity makes it difficult to determine exactly what research is relevant to this study, and therefore the literature included has been drawn from a range of academic fields.

3.6 Factors that enable or constrain community conservation projects

Many factors contribute to the success or failure of community conservation projects carried out by NGOs in Africa. This section considers how relevant literature evaluates a range of institutional, social and ecological factors that shape the policy environments in the case study countries. A broad range of factors is presented here to reflect the literature, however this study was not able to collect data for all of these points of interest. Chapter Four explains the research design and the method that was used to determine which of the elements below would be investigated during data collection.

3.6.1 Institutional factors

3.6.1.1 Land tenure

There is widespread consensus in the literature regarding the importance of land tenure clarity for forest conservation (Blay, 2012; ClientEarth, 2013; Diaw, 2005; Obiri, Hall, & Healey, 2010). One study that considered the process of restoration of an Indonesian conservation forest concluded that restoration, management and rehabilitation of degraded and secondary forests can only succeed if land tenure, land user access and customary property rights are secure and forest governance is effective (Ulfah J. Siregar *et al.*, 2012). Customary land tenure is a very important feature of the local cultural context in Ghana, Kenya and Uganda, with communal ownership of land and forest resources a significant part of this (ClientEarth, 2013; Wily, 2012; Obua & Agea, 2010).

Due to land tenure confusion, the distribution of stumpage fees and other financial benefits derived from forests can be very complicated in the three case study countries. Particularly in Ghana, many layers of complexity exist due to the presence of a system of traditional chieftaincy and expectations of receipt of forest revenue from at least four different administrative bodies with claims to the land (ClientEarth, 2013). Land ownership also determines access to forests, the level of security forests are afforded, and the degree of investment they receive (Blay, 2012, p. 280).

3.6.1.2 Stakeholder participation in forest management

An awareness of the need to incorporate a human-rights based agenda into forestry policy around the world is growing, and is increasingly encoded within international agreements. This has highlighted the need to secure the rights of indigenous people and local communities to access forests and forest benefits (Sikor & Stahl, 2011). In turn, governments in developing countries have been encouraged to develop policy techniques that offer affirmative support for indigenous people, which has implications for REDD+ and similar forestry projects, such as A Rocha's potential projects. Sunderlin (2011) describes how centralised control of state forests is decreasing in tropical countries while local/community rights are increasing, and the control of private firms over forests is increasing at an even faster rate. Blay *et al.* (2008) also advocates strongly for the benefits of participatory co-management.

Although participatory co-management is increasingly supported in both policy and practice, some relevant literature does question the success of this approach. Schmitt (2010, p. 355) questions whether communities actually have the skills necessary to sustainably manage forest areas, especially with regard to timber production, or whether traditional practices have succeeded in the past primarily due to low population pressure. Obiri *et al.* (2010, p. 313-315) argue that community co-management does not lead to equal benefit-sharing but leaves the poorest people missing out due to traditional hierarchies. It has been pointed out that the success of community conservation governance arrangements could be improved by employing a 'distributive gains' ideology in negotiations between multiple partners, rather than the

'win-win' scenarios that have traditionally been promoted and have often proven unrealistic (Fay, 2007).

3.6.1.3 Capacity of state forestry authorities

It is widely recognised that although most countries have enacted detailed forest legislation governing the use and protection of their forest resources, in some countries, corruption and lack of enforcement are severely limiting the value of such laws (Innes & Nikolakis, 2014, p.3). Weak capacity of state forestry authorities can be the result of states placing less value on the forestry sector, resulting in a lack of staff training, underfunding and a failure to equip district officers and rangers with sufficient, well-maintained equipment to carry out their responsibilities. In turn, this may lead to local state forestry staff being tempted to partake in corrupt practices, such as collaboration with illegal users of forest services in order to reap a portion of the proceeding benefits.

It has been shown that poor enforcement of regulations designed to protect forests allows encroachment of forest users and people settling illegally in forests, especially those from other districts rather than the traditional neighbours or inhabitants of the forests (Ainembabazi & Angelsen, 2014, p.54). In Uganda, sometimes leases for smaller portions of land are given to individuals rather than corporate businesses, who then establish small-scale forest plantations usually under an agreement that specifies some protection for trees and biodiversity or demands that new trees be planted. While intended to support the preservation of state forests, this practice has been shown to achieve this only with weak or mixed results (Ainembabazi & Angelsen, 2014). One complicating factor is that owners of individual forest plantations are often absent, i.e. not living on the forest site. If the state expects them under the conditions of the lease to enforce protection measures for the forest, without state assistance, and they do not adequately enact this due to absenteeism, then the lack of protection leaves the forest open for easy access for illegal use leading to degradation (Ainembabazi & Angelsen, 2014, p.52).

3.6.1.4 Economic drivers

State-enacted economic incentives can either enable or constrain the advancement of commercial plantations and agriculture (Blay, 2012, p. 281), therefore either inhibiting or facilitating these chief threats to the preservation of primary forests. For example, policies controlling commercial timber harvesting practices and plantation management can greatly influence the degree and nature of habitat restoration that occurs (McDermott, Cashore, & Kanowski, 2010). Economic incentives that encourage forest degradation may include low taxes for timber companies or subsidies for the agricultural sector. Perverse incentives may also endanger the establishment or protection of primary tropical forest. For example, the Ghanaian law that grants the state protection for any tree planted on private as well as public land, effectively prevents farmers from gaining value from trees should they ever harvest them, which discourages their being planted or protected by farmers (ClientEarth, 2013). Another disincentive may be the creation of legal conditions that guarantee a poor or risky market for ecosystem services, such as carbon offsetting through tree-planting or protection of primary forest against disturbance.

Public-private partnerships (PPPs) are increasing in number in all three case study countries (Republic of Ghana, 2011, p. 4; Republic of Kenya, 2014, p. 2; Republic of Uganda, 2013, p. 16). The national governments favour leasing state forests to businesses for commercial enterprises in order to generate income for the state and delegate the cost of monitoring and boundary enforcement. This can be linked to the rapid increase in the rate of state degraded forest in sub-Saharan Africa (Blay, 2012, p. 267) because rather than prioritising protection of the forests for biodiversity, the main goal of commercial enterprises is to generate profits. Nevertheless, corporate social responsibility (CSR) can take the form of forest conservation measures, particularly within multi-national corporations. This is due to increased consumer interest in the global supply chain for products and packaging, and forces a commercial desire to act responsibly towards the source countries of raw products components (Innes & Nikolakis, 2014).

3.6.2 Social factors

3.6.2.1 Demographic pressures

In African countries where degraded tropical forests are located, human populations continue to increase dramatically (Blay, 2012, p. 280; Bongers & Tennigkeit, 2010, p. 8; Cohen, 2014, p. 8). There is widespread evidence of this population pressure significantly contributing to the increased strain on forest services in the case study countries (Ainembabazi & Angelsen, 2014, p.53; Republic of Kenya, 2014, p. 2; Republic of Uganda, 2013, p. ix). In addition, internal migration due to climate change puts pressure on remaining primary forests as people move away from areas that have become unsuitable for agriculture due to drought and desertification. This trend is particularly evident in Ghana (Kalame *et al.*, 2011, pp., p. 524).

Another demographic force is the increasing proportion of consumers with higher disposable income in sub-Saharan Africa, which has resulted in growing demand for timber and forest services (Cohen, 2014, p. 12) often for use in household construction (Republic of Uganda, 2013, p. 7). The national timber markets in Ghana, Kenya and Uganda are under pressure to increase their capacity in order to meet this demand (Republic of Ghana, 2011, p. 5; Republic of Kenya, 2014, p. 4; Republic of Uganda, 2013, p. 7). The Ghanaian Forest and Wildlife Plan (2011, p. 5) describes how Ghana's past forestry policy was orientated towards timber exports and failed to recognise domestic utilisation of timber products. This has resulted in a "huge domestic timber demand gap", which has led to widespread illegal chainsaw operations in the supply of lumber to the domestic market (Republic of Ghana, 2011, p. 5). In Kenya, similar problems have led to a dependence on imported timber (Republic of Kenya, 2014, p. 4).

3.6.2.2 Lack of alternative employment opportunities

Subsistence agriculture remains the primary occupation of the majority of rural Africans (Blay, 2012). When land availability is reduced and no other option for employment is available, small-scale farmers are more likely to move onto protected forest areas to farm illegally or to make use of forest services, for example by extracting

woodfuel or bushmeat. The results of a study by Kamwi *et al.* (2015) show that using natural resources such as forest products and services is vitally important to rural livelihoods. Commercial agricultural expansion and population increase have resulted in reduced availability of land for the subsistence farmer. Livelihood coping strategies when this kind of land use change occurs may include piecework, food aid, borrowing from relatives and wild food collection, however farmers may also resort to illegal logging (Kamwi *et al.*, 2015). Russel *et al.* (2011, p.122) argue that agriculture in Central Africa has been subject to so many restrictions that it is usually imperative for a farming family to rely on some kind of "illegal" trade—pit-sawing, hunting, gun manufacture, artisanal mining, whisky-brewing, marijuana growing—in addition to farming, for survival. The majority of these activities are likely to have direct repercussions for biodiversity conservation in tropical forests.

3.6.2.3 Energy dependency

In much of sub-Saharan Africa, populations are dependent on charcoal and woodfuel for their primary source of energy, especially for cooking and heating (Blay, 2012, p.277). In Ghana, biomass in the form of firewood and charcoal dominates the total energy consumed in the country, averaging 67% in 2008 (Republic of Ghana, 2011, p. 4). In Kenya, biomass comprises approximately 80% of all energy used in the country (Republic of Kenya, 2014, p. 1), with an even higher proportion of the Uganda's total energy consumption taking the form of woody biomass, at 92% (Republic of Uganda, 2013, p. 6). A study by Ainembabazi and Angelsen (2014, p.50-52) showed that in Uganda the most common forest products harvested were firewood, charcoal and poles. The majority of households extracted forest products for home consumption, rather than for selling on. It was cheaper for families to source the products from common forests (such as state forests) rather than to plant plantations on their own land to provide a source of wood. This evidence in the literature demonstrates a significant challenge for conservation NGOs if their work challenges people's access to sources of primary energy.

3.6.2.4 Hunting of bush meat

In Africa, although laws typically exist that regulate hunting and selling wild animals, in practice wildlife hunted for food is usually an unregulated open access resource that anyone with the time and equipment can harvest (Bennett *et al.*, 2007, p.885). Again, this may be largely attributed to a lack of appropriate management and tenure systems that would involve rural communities in determining rights to access and use natural resources. Wildlife harvested for food is a valued good that is subject to growing demand from population increase. As a result, in many rural locations in Central and West Africa where there are few barriers to entering the bushmeat trade and few alternatives to offset demand, hunting pressure is increasing and wildlife populations are declining (Bennett *et al.*, 2007, p.885). For community conservation projects aiming to facilitate the flourishing of endemic forest fauna through habitat protection, encroachment into protected forests by bushmeat hunters presents a complex boundary enforcement issue.

3.6.3 Ecological factors

There is a plethora of ecological factors that enable or constrain community conservation projects. The main emphasis of this research is on institutional and social factors. However, this section briefly outlines some of the ecological factors relevant within the case study countries.

3.6.3.1 Soil quality

In tropical forest zones, soil quality can be adversely affected by agriculture or commercial plantations, as opposed to when forest is protected or left to regenerate. Soil disturbance can result in the release of carbon and nitrogen into the atmosphere, contributing to climate change. Kotze *et al.* (2016) conducted a study in southern Africa which found that cultivation depleted the former virgin soils of crude humic substances, extractable humic substances, humic acids and fulvic acids across three agro-ecosystems.

3.6.3.2 Water availability

Water availability is also a key consideration for community conservation in degraded tropical forest area. The existence of a water source on a degraded site may allow for faster and cheaper regeneration if active planting will take place. Water availability may have been constrained through the process of degradation and therefore restoration could have a positive effect. For example, a recent study from West Africa found that a decrease in land cover corresponded to decrease in surface water and base flow and increased evapotranspiration (Awotwi, Yeboah, & Kumi, 2015).

3.6.3.3 Fire Risk

The level of local fire risk, presence of seed dispersers and existing species richness or plant diversity, all contribute to the potential for success in tropical forest conservation or restoration. The type of remaining species (e.g. in soil seed banks) on degraded forest areas can influence the potential rate or regrowth, and may add complicating factors depending on whether or not invasive species are present (Lamb, 2014, p. 69). This in turn influences the amount of weeding that may be required to allow seedlings to become successfully established, and can therefore have an impact upon the human resources required within a community conservation project.

3.7 Conclusion

This chapter has reviewed the literature exploring factors shaping the policy environment for degraded tropical forest conservation in Africa, with sections introducing some of the research which has been done in each of the case study countries. Table 3.1 summarises the factors identified within the literature that are likely to enable or constrain the work of conservation NGOs in Ghana, Kenya and Uganda to varying degrees depending on the local context.

Table 3.1 Issues arising from the literature with relevance to conservation NGOs in Ghana, Kenya and Uganda

Category	Factors arising from the literature
Institutional	Land tenure
	Stakeholder participation in forest management
	Capacity of state forestry authorities
	Economic drivers
Social	Demographic pressures
	Lack of alternative employment for subsistence farmers
	Energy dependency
	Hunting of bush meat
Ecological	Soil quality
	Water availability
	Fire risk

The following chapter will outline the methodology employed by this thesis to investigate these issues further, before Chapter Five presents the results of the investigation and discusses these in light of the literature that has been reviewed here.

Chapter 4: Methodology

4.1 Introduction

This chapter provides an overview of the methodology that has been used in this thesis. A strong methodology is very important because it ultimately determines the robustness of any research. Firstly, the research design, including the choice of case studies, is explained. The next section outlines the different methods of data collection employed, including field interviews, direct observation, remote interviews and document analysis. The third section explains why and how the social structurationist framework was used to analyse the data collected, along with an account of the framework's strengths and weaknesses. Finally, the chapter concludes with a section describing the limitations of the study.

4.2 Research design

According to Yin (2009, p. 26), good research design should take into account the following four elements: what questions to study, what data is relevant, what data to collect and how to analyse the results. This section addresses each of these elements.

4.2.1 The research questions

The two research questions this study seeks to address are:

- How do institutional, social and ecological factors enable or constrain NGOs from achieving community conservation goals?; and
- To what degree are state-owned, degraded tropical forests available for conservation management by NGOs?

In this study, conservation management is understood to encompass multiple goals including biodiversity conservation, promoting sustainable livelihoods, environmental education, and climate change mitigation. This definition was developed based on interviews with staff of A Rocha International (ARI). To inform ARI's decisions about future potential projects in these countries, the study sought to evaluate factors within

the policy environments that enable or constrain NGOs attempting to achieve these goals in degraded tropical forests in Ghana, Kenya and Uganda.

4.2.2 Case study research

Yin advises that a case study methodology is most suitable to 'how' and 'why' questions (Yin, 2009, p. 13), and also for understanding complex phenomena (p. 4). Because the first research questions is a 'how' question and the second addresses complex, overlapping phenomena, it became apparent at the outset of the research that a case study approach would be a suitable method for this project. Yin (2009, p. 19-20) also makes a strong argument for the validity of case studies in evaluation research, because they are able to:

- Explain causal links in real-life scenarios that are too complex for survey or experimental research methods;
- Describe a phenomena in its context;
- Illustrate topics within an evaluation; and
- Enlighten situations where the object of study has no clear, single set of outcomes.

Finally, the case study approach is useful when the researcher wants to understand a real-life concept in depth, but such understanding encompasses important contextual conditions because they are highly pertinent to the phenomenon of study (Majchrzak, 1984, p. 63; Yin, 2009, p. 18). The method is highly appropriate for a broad research brief because it copes well with a situation where there are many variables of interest which are not necessarily exactly the same for different cases (Gerring, 2007, p. 57). For these reasons a case study approach was chosen as the most suitable methodology for this research.

Two main types of case study research exist: single case designs and multiple case designs, and each of these can be either embedded or holistic (Yin 2009, pp. 53-59). Single case designs use just one case study and multiple case designs use more than one, while a 'holistic' design means that each case study can include the collection and

analysis of separate quantitative data whereas in an 'embedded' design, all the data is collected as part of the same process (Yin, 2009, p. 60). This research adopted the methodology of multiple, embedded case studies.

4.2.3 Relevant data and collected data

Ghana, Kenya and Uganda are the only countries in Africa to have A Rocha national organisations. The case study countries were chosen based on the locations of these organisations, each of which could be a potential partner of A Rocha International in a future forestry project. Three case studies were chosen because this gives a broader range of information for consideration by A Rocha International, in evaluating the opportunities for future projects as well as the potential challenges involved in operating in each of the different national contexts. Examples of other NGOs operating within the forestry sector in Ghana, Kenya and Uganda were also deemed relevant to the study.

Despite there being a broad range of relevant data, due to limitations of time and resources the study was only able to collect data from the following three dimensions of the policy environments: ecological, institutional and social, thereby excluding financial data. In addition, the ecological factors were only briefly considered, with the majority of the research effort focussing on the institutional and social categories. There was also asymmetry in collection of data between the three case studies, with field research possible in Ghana, face to face interviews possible in Kenya, but only email interviews possible for the Uganda case study, as discussed in detail later in this chapter.

4.2.4 Analytical framework

Several types of analysis may be employed within case study research (Yin 2009, p. 156). Of these the cross-case synthesis approach was deemed the most appropriate this study because it allows comparison between multiple case studies. It was felt that this would provide A Rocha with useful material upon which the organisation could draw when deciding whether or not to initiate a proposed community conservation

project on degraded tropical forest in Africa, and if so, which of the countries where there is a local AR organisation to partner with would provide the most favourable policy environment.

Case study research encompasses its own logic for data analysis, including reliance on multiple sources of evidence, with an expectation of data converging in a triangulating fashion (Yin 2009, p. 18). The method is assumed to be adaptable throughout the study period (Majchrzak, 1984, p. 66). Considering these factors, it was decided that a modified version of the 'social structurationist' framework of analysis would be adopted as a tool through which to achieve cross-case synthesis for the three countries' policy environments. This framework was chosen because it was developed to represent the structure in which policy actors operate and have to navigate successfully (Aalto, 2012). The social structurationist framework was originally developed by Aalto (2012) to explain energy policy formation. The model, initially applied to a Russian context, conceptualises the policy environment in terms of structural dimensions and then identifies enabling and constraining factors within each dimension (Tynkkynen, 2014, p. 577). This holistic approach provides a helpful way of analysing the many policy-related elements that would influence an NGO attempting to operate a forestry-based community conservation project. This study takes the original structural dimensions employed by Aalto (2012), which will be outlined in Section 4.4.1, and with some modifications uses them to analyse the forestry policy environments in Ghana, Kenya and Uganda.

4.3 Methods of data collection

This section describes how data for the case studies was collected through interviews and direct observation conducted during a field visit to Ghana, attendance at a conference in Kenya, and through remote interviews with key stakeholders in Uganda. It also describes the use of state policy publications and secondary data, as well as explaining the ethical considerations that guided the research.

4.3.1 Interviews

A significant amount of primary data was collected via informal individual and group interviews, and direct observation in Ghana. This was made possible through the provision of a travel grant allowing me to spend seven days in Ghana, accompanying my ARI project supervisor, Dr Jeremy Lindsell (ARI's Conservation Science Manager) and ARI's Conservation Science Director, Dr Martin Kaonga. This trip took place from 27th April - 3rd May, 2015. We visited a total of five degraded tropical forest sites (known as concessions) within several state forests in the vicinity of Kumasi, which is Ghana's second largest city and is located near the centre of the country, several hours drive north of the capital, Accra. The forests visited were: Boumfum Forest Reserve in Kumawu District (Appendix Four), Dome River Forest Reserve in Juaso District (Appendix Five), and Chirimfa Forest Reserve in Mampong District (Appendix Six). The locations of these forests are indicated in Figure 4.1.

Figure 4.1: Location of forest reserve sites visited in Ghana. ***Source: Forest and Wildlife Policy (Republic of Ghana, 2011)***

We were hosted and accompanied on the forest visits by A Rocha Ghana (ARG) staff including the National Director and the Kumasi Programmes Director (see Figure 4.2).

Figure 4.2: The research party and several FSD staff visiting a very degraded concession near Mampong (ARG Kumasi Programmes Director, far left; Martin Kaonga, ARI Conservation Science Director, in bright green shirt; me to his right wearing a backpack).

The ARG staff had pre-arranged with local Forest Services Division (FSD) staff which concessions we would visit within the three districts, with the understanding that ARI was considering managing one or more concessions for the purposes of a joint community conservation project with ARG; therefore the international organisation needed to visit the sites to evaluate their ecological potential. My role was to investigate the local forest governance capacity, as well as social and policy conditions, which would affect any forthcoming project. During the course of the field visits I had the opportunity to interview the FSD staff with whom ARG had contact. Interviewees included two district forestry officers, one deputy district forestry officer, two technical officers, a ranger and a cartographer who worked for the FSD (see Figure 6). I also took part in a group interview with a staff member of a large forestry company operating in the vicinity, as well as speaking to ARG staff themselves. Questions were asked

regarding interviewees' perspectives on forest management challenges and local practices, the state forestry policies, and the resources available to them for carrying out their workplace responsibilities, among other things.

Figure 4.3: Visiting a concession with ARG and FSD Staff (The foreground left to right shows an FSD technical officer, a ranger, myself and another ranger).

In addition, with ARG staff translating, I was able to conduct spontaneous, informal interviews with both a bushmeat hunter and several farmers (see Figure 4.4), some of whom were operating illegally inside the state concessions.

Figure 4.4: Interviewing a maize farmer.

We were also fortunate to conduct an informal interview with a highly knowledgeable administrative staff member who worked for a large international forestry company operating in the Kumasi region.

My visit to Kenya was for the purposes of attending the East and Central Africa Regional Conference on Creation Care and the Gospel, held at Brackenhurst Conference Centre just outside Nairobi, in Limuru. The conference took place from 17th - 21st May, 2015. The conference encompassed presentations on Christian eco-theology as well as knowledge-sharing and reporting on practical conservation projects carried out by Christian NGOs in the region. Staff from A Rocha Kenya and another similar organisation called Care for Creation Kenya were present. I was able to use the opportunity to conduct semi-structured interviews with the directors and other members of both conservation NGOs, including a former ARK staff member and ARK's Community Conservation Manager, who was particularly experienced in the subject area.

To gather data about the forestry policy environment in Uganda, in lieu of being able to travel to the country, I conducted remote interviews in the form of tailored questions sent to key informants via email. These informants were selected based on the contacts I had made through A Rocha, but were designed to cover a range of relevant perspectives. I interviewed the Director of Natural Forests from Uganda's National Forest Authority, as well as the Programmes Coordinator from Ecotrust, a prominent Ugandan environmental NGO, and the Director of Plan Vivo, a carbon-offsetting accreditation agency partnering Ecotrust.

I also interviewed ARI's Conservation Science Director, Martin Kaonga in Cambridge following our return from Ghana, to capture his knowledge and perspective as a soil scientist with much African experience regarding the ecological conditions across the three different case study countries. Finally, I added to my understanding of the Kenyan context by interviewing via email a former employee of a large Kenya conservation NGO, Wildlife Works. Appendix Six provides a list of the interviewees relating to each case study.

4.3.2 Direct observation

During the week I was in Ghana, I was fortunate to observe processes, relationships among people, events, and the sociocultural contexts that impact management of state-owned, degraded tropical forest. Case study research and exploratory studies benefit from such "direct experiential and observational access to the insiders' world of meaning" (Jorgensen, 1989, p. 12-13). For example, I witnessed an interaction between an FSD technical officer and some migrants who were farming illegally on a concession that the officer was responsible for but rarely visited, as well as her discussions with local rangers when illegal chainsaw logging was discovered. These occasion revealed nuances of body language and tone that would not have necessarily been recounted in a second-hand report of the incidents. Other examples include the way ARG staff followed cultural protocol and expectations by giving tips to the poorly paid local forest rangers for their help in showing us the concessions. It was particularly insightful to walk around the concessions and witness different levels of degradation, as well as

patches of remnant virgin forest and areas of secondary growth that demonstrated phenomena associated with regeneration, such as invasive weeds. Our party was able to identify clear evidence of hunting, such as empty cartridges from bullets, and sites where charcoal was being illegally produced.

Initiating informal group discussions during car journeys to the forest concessions in Ghana, and over meals with the ARG staff and local technical officers and forest rangers, provided many valuable insights into the local context. The advantages to these group discussions were similar to those attributed to focus groups, namely the ability to clarify responses gathered in individual interviews, ask follow-up questions and probe more deeply regarding issues where opinions between respondents had differed (Stewart *et al.* 2007, p. 42-43). Again, I was able to observe non-verbal responses such as facial expressions and body language, which could support or contradict verbal responses. Respondents could speak in a safe and natural conversational environment, which created more freedom to share their own opinions and experiences regarding the local district forest office, the impact of local culture on forestry practices, and other more potentially controversial thoughts. The synergistic effect of group discussion is likely to have resulted in the production of ideas and data that may not have been uncovered in individual interviews due to my lack of knowledge as an outside researcher.

As a result of these direct observations, the Ghanaian case study became richer and more robust than the other two country case studies. Some observation of native forest conditions was possible during the conference in Kenya, but only in the area directly local to the conference venue, which was a private area of regenerated native forest rather than state-owned land. I also attended a workshop at the conference about indigenous forestry, which offered some insights into phenomena occurring in other parts of the country. Unfortunately, no direct observation in Uganda was possible.

4.3.3 State policy publications

Relevant current forestry policies produced by the governments of the case study

countries were selected by three processes. Firstly, by reading recently published secondary documents (peer-reviewed journal articles) that described the current and historical policy environments of each country and noting which policies were cited as being relevant to forestry. Majchrzak (1984) highlights the importance of analysing legislative history and tracing the process of previous research and change efforts to acquire an understanding of the sociopolitical environment (Majchrzak, 1984, p. 33). Relevant policies were also found by searching on the websites of the state forestry authority in each country (the Ghana Forestry Commission, the Kenya Forest Service, and the Uganda National Forestry Authority). The websites tended to only have a selection of recent, relevant policy documents available for download and the assumption was made that these documents were more important than others because they had been made publicly available. Finally, the selection of policy documents was informed by directly asking key informants 'Which policy documents, in your experience, have the most impact on day-to-day management operations in degraded state forests your country?' The content of these documents provided much background data for each of the case study countries, as well as evidence of the historical development and current goals of state forestry policies.

4.3.4 Secondary data

Documents are an important source of information for corroborating and augmenting evidence in case study research (Yin, 2009, p. 102). For this study, peer-reviewed articles and books providing general background information about each country context, as well as articles that located the national forestry policy contexts of sub-Saharan Africa within a global context, were sourced via library database searches and by general internet searches. Some secondary data was directly selected for their relevance and provided or recommended by Jeremy Lindsell, Conservation Science Manager at A Rocha International, and Caroline Pomeroy, Director of Climate Stewards, a carbon offsetting organisation.

4.3.5 Research ethics

Analysis of the ethical risks involved in data collection was undertaken through Massey

University's human ethics evaluation process. After considering possible ethical issues presented by the project, it was concluded that the project was low risk. The two main ethical considerations that needed to be addressed were ensuring informed consent and ensuring that participants' responses remain confidential unless otherwise agreed. Strategies undertaken to address these issues included:

- Selecting contacts for informal interviews/discussions/questionnaires based on the advice of local A Rocha staff.
- Ensuring each conversation began with an introduction by an A Rocha staff member, who clearly explained the project and its purpose.
- Direct personal observations that were made during a six-day visit to Kumasi, Ghana and nearby concessions of degraded forest, were double-checked for validity via conversations with A Rocha Ghana staff.

I asked some interviewees whether they were happy to be mentioned by name in this thesis, for example Levi Etwodu of the Ugandan NFA, and have included their names if permission was given. Other interviewees are referred to only be their position or occupation.

4.4 Methods of data analysis

4.4.1 Introduction to the social structurationist policy analysis framework

Pami Aalto and a group of scholars developed the social structurationist analytical model to understand the constant interaction among different actors in the energy policy field in Russia (Aalto, Dusseault, Kennedy, & Kivinen, 2014). Their aim was to consider the practices (intentions, interests and schemata) by which these actors acquire knowledge and information about the policy environment within which they operate, elements which combine to create complex structures that either enable or constrain the actors' ability to pursue their actions and goals within the regional, national and global policy environment.

The work of Aalto and his colleagues was informed by the theory of structuration developed in 1984 by the sociologist Anthony Giddens (Fortin, 2014, p. 3). This theory

states that the creation and reproduction of the social system is based on the complementarity between the actions of agents, who are human actors, and structure. The latter is comprised of the conditions of the social system that link actors' current behaviours and patterns, building on cumulative experience to determine a set of rules and resources (Giddens, 1984, p. 17 cited in Fortin, 2014, p. 3). According to Giddens, these rules are the techniques and procedures that enable the development and reproduction of social practices, and there are of two types of resources: allocative and authoritative. Allocative resources are based on the ability to transform and organize some resources, goods or material phenomenon, and authoritative resources rely on the ability to transform resources into goods that give authority to an actor to direct or command the actions over other individuals and specific actors (Giddens, 1984, p.33 cited in Fortin, 2014, p. 3). Fortin (2014, p. 3) describes how Aalto *et al.* primarily engages with the former, in the sense of energy resources such as oil and natural gas.

Although this theory was developed for analysis of energy, rather than forestry policy environments, its basic components are transferable and may be applied to forestry policy with only minor modifications. Not only does the present study focus on forestry, rather than energy policies, but it also differs from Fortin's in that the framework is being primarily applied to existing policies rather than for the purpose of analysing policy formation.

4.4.2 Advantages and disadvantages of the framework

The social structurationist framework is advantageous as a method of analysis because it offers a realistic and holistic representation of the policy environment (Tynkkynen, 2014, p. 580). For example, when applied to energy policy the theory seeks to build a more realistic evaluation of the development of an energy policy without oversimplifying the role of actors and the influence of the structure in this process (Tynkkynen, 2014). This is done by demonstrating that agents and structure involved in the process-making of an energy project or policy are in constant interaction in the policy environment and that one element cannot be considered without taking into account the influence of the other, since agents' institutionalized practices are always

part of the structure which is reproduced and regenerated through the agents' acts and experiences. For Aalto *et al.* (2014) the social structurationist theory seeks to demonstrate that agents and structure are in constant interaction and that one element cannot be considered without taking into account the influence of the other, since agents' institutionalized practices are always part of the structure which is reproduced and regenerated through the agents' acts and experiences (Aalto, 2012, p. 29).

Although robust, the framework has several disadvantages. Firstly, it has been argued that when identifying the four structural dimensions describing the policy environment in which actors are involved (resource economic, financial, institutional and ecological), Aalto *et al.* (2014) neglected the social dimension faced by specific actors, which can have a significant impact on public acceptability and development of energy policies (Fortin, 2014, p. 1). The social dimension may be understood as the collective features of any policy or development project that carry positive or negative externalities for the living environment, the wellbeing and the security of individuals and communities who are directly or indirectly affected (Fortin, 2014). This social dimension fuels the response and engagement of social and civil society actors towards these issues. Fortin contends that incorporating the social dimension into the framework enables a better understanding of the role and influence of civil society in the formulation of energy policies (Fortin, 2014, p. 1). She provides evidence in support of her argument through applying the modified framework to the example of Enbridge's Northern Gateway pipeline project in Western Canada. To address this problem, the present study also includes the social dimension as one of the three categories of factors within the policy environment that are examined.

Another disadvantage of the framework that is acknowledged by Aalto himself, is that it may be considered unwieldy due to its complexity. The framework operates on a broad, sometimes theoretical scale. This means there is a need for the researcher/s to consciously ensure it is relevant for practical application, something that may be achieved by appropriate fieldwork. Also linked to the framework's complexity is the

difficulty encountered when determining exactly what should be taken into account for the 'institutional' component of the framework. For example, should it include data relating to the financial capacity of institutions, such as recording the annual turnover of the state forestry authorities? Should it include the social elements of state institutions? This study was constrained in its ability to answer these questions according to the information that could be accessed within the timeframe available.

4.4.3 Modifications to the framework made in this study

The framework developed by Aalto *et al.* (2014) has already been applied to a field other than energy policy with appropriate modifications. Tynkkynen's (2014) research provided a useful example of how the framework could be realigned for use in forestry policy analysis. The study sought to answer the question of how Russia's current policy environment enables and constrains the implementation of state environmental policy principles introduced by then President, Dmitry Medvedev, in 2012. She firstly identified relevant actors, then used the social structurationist framework to analyse documents, speeches, news, reports, statistics and interviews, to comprehensively describe the dimensions of the policy environment. To apply the framework to a broader subject than energy policy, Tynkkynen modified it by simplifying the structural dimension entitled 'resource geographic' in the original to 'physical' factors, and changing the dimension entitled 'ecological', to 'ideological'. In a similar vein, it was decided that for the purposes of this study the following modifications needed to be made to make Aalto *et al.*'s model relevant to the context: the 'financial' category would be removed due to difficulty obtaining data, the 'resource geographic' category changed to focus on 'ecological factors' and a new category added to recognise the importance of 'social factors'.

4.5 Limitations

4.5.1 Research design limitations

The visit to Ghana allowed the most in-depth experience of the three case study countries, therefore the findings that emerged from that visit to some degree shaped my understanding of the issues involved in degraded forest policy in tropical countries

and influenced the nature of the other two case studies. Field observation may serve as an analytic tool as well as a method of data collection, since participating in activities and events in the field provides the researcher with a tacit understanding that shapes both observations and subsequent interpretation of data collected (Price, 2010, p. 1). Although this could also be seen as potentially adding bias to the scope of research undertaken in Kenya and Uganda, it also aided the latter two case studies by providing insight for contextually-appropriate questioning.

4.5.2 Data collection limitations

It already been noted that the field data collection was limited to forest areas within a particular part of Ghana, around Kumasi, which may not have been representative of other parts of that country. Also, very little direct observation was possible in Kenya, and none at all in Uganda. Attempts were made to balance out this limitation by interviewing relevant people who were knowledgeable about the wider country contexts and by using a range of state policy documents and secondary sources.

Qualitative research approaches have been accused of having inherent vulnerability to bias and reactivity (Maxwell, 2005). In this study, such limitations can be identified in the process used to select published state policy documents, as well as in the dynamics of interviews and field observations. In the latter methods, intercultural dynamics and the language barrier may have sometimes hindered me from capturing the true meaning of what interviewees were sharing (for example, all interviews were conducted via a translator or in English, which is usually the second or third language of Ghanaians and Kenyans). Yin (2009, p. 102) describes how interview bias may occur due to poorly articulated questions, and when skeleton field notes are taken and further detail is written up later inaccuracies may occur due to poor recall. A degree of reflexivity is also likely to have occurred, whereby the interviewees gave responses that were in line with what they believed I wanted to hear as the interviewer. This was particularly likely to have taken place during the interviews with individuals whose use of the degraded forest areas for farming and/or hunting could be classed as illegal. Reflexivity may have also have been present in the responses of the district forestry

officers and their staff, whose livelihoods depend on them being seen to be carrying out the government's wishes successfully and without corruption. To some degree this was counteracted by asking the A Rocha staff their opinions of responses given during interviews with the state forestry staff, as our relationship of trust and shared goals allowed them to speak quite freely about what they felt was taking place below the surface of discussions.

4.5.3 Data analysis limitations

The interdisciplinary nature of the social structurationist framework helps it to more accurately reflect reality compared to a less complex model. However, as described above this can also make it harder to compare and contrast variables. The descriptive approach to data presentation makes drawing comparisons and conclusions from the data less straightforward than would be the case with a statistical analysis approach. Attempts were made to ensure consistency through division of data under exactly same headings for each case study, in order to facilitate ease of comparison.

4.6 Conclusion

This chapter began by explaining the research design of this thesis. A multiple, embedded case study design has been used to examine the forestry policy environments in Ghana, Kenya and Uganda. Next, it described the methods of data collection that were employed in the study, including interviews, visits to two of the case study countries which allowed for some direct and participant observation, policy documents and secondary sources. The project's approach to research ethics was then outlined. This study employs a modified version of the social structurationist framework for policy analysis. This is a holistic model that synthesises three dimensions comprising each of the policy environments: namely, institutional, social and ecological factors. Finally, the chapter detailed the key limitations in the study's research design, data collection and data analysis, and the measures taken to address these limitations.

Chapter 5. Results and Discussion

5.1 Introduction

This chapter presents and discusses the results of the fieldwork and document analysis. Following the modified social structurationist framework explained in Chapter 4, it presents each case study in turn by dividing the country's policy environment into institutional, social and ecological contexts, with a particular focus on the institutional and social contexts. This reflects both the data that was able to be captured within the resource constraints of the study and also the fact that the ecological context differs significantly between different localities within each country, making state-level generalisations less helpful. The case studies are each comprised of three key categories with a series of sub-sections, the titles for which were drawn from recurring factors identified in the literature review and field research. The section concludes with a synthesis of the key points emerging from each case study with particular reference to the research questions:

- How do institutional, social and ecological factors enable or constrain NGOs from achieving community conservation goals?
- To what degree are state-owned, degraded tropical forests available for management by NGOs in Ghana, Kenya and Uganda?

The case study findings are collated and further developed in Chapter 6, which also identifies areas where further research is needed.

5.2 The Ghanaian Policy Environment

5.2.1 Institutional context

5.2.1.1 State-published policies and legislation

Ghana's current forestry policy is both coherent and community conservation-focussed, on paper (Wiggins, Marfo, & Anchirinah, 2004). Although the institutional and social environment in Ghana often hinders implementation of state policies

(Wiggins *et al.*, 2004), the fact that the policies exist and encapsulate conservation values may be considered an asset by NGOs seeking to partner with the state. NGOs can refer to the policies in negotiations with the state and can use them to hold the state to account with regard to the prioritisation of community conservation goals. For example, Policy Objective 2 of the Forest and Wildlife Policy (2011) is "promoting the rehabilitation and restoration of degraded landscapes through plantations development and community forestry" [emphasis added] (Republic of Ghana, p. 19). The policy states that efforts will be made to promote both "community and private sector investments in Forest Plantations [sic] establishment for multiple functionality including biodiversity, agriculture productivity and soil and water conservation" (p. 20). The National Forest Plantation Development Plan (NFPDP) was launched in September 2001 to accelerate the rate of establishment of forest plantations in order to develop a sustainable resource base that will meet future demand for industrial timber, enhance environmental quality, and relieve the pressure on the natural forest and increasing forest cover (Ghana Forestry Commission, 2016). This has taken the form of leasing concessions of degraded state forests to private developers, as well as the Forest Services Division (FSD) developing its own plantations (Forest Services Division, 2014) sometimes in partnerships with communities. During its first ten years the NFPDP was primarily implemented within degraded state forest reserves, although its remit has now expanded to include private forests. The Forest Plantation Strategy 2015-2040 tries to unite conservation goals with a large increase in commercial plantations both within and outside of state forest reserve areas (Ghana Forestry Commission, 2013), also using a method of leasing some areas to private commercial developers and forming some public-private partnerships. In this way, Ghana's state policy enables non-state actors to lease degraded state forest and on paper, supports the pursuit of community conservation goals.

5.2.1.2 Decentralisation

As a political process, decentralisation has been occurring in Ghana since the 1990s (Andrew Wardell & Lund, 2006). Decentralisation is supported by its advocates for having the potential to bring increased transparency, efficiency and the promotion of

local democracy (Mohammed, 2016). The literature on state forestry governance in Ghana indicates that there remain significant challenges to successful decentralisation; namely, a lack of financial control and resources at the district level, an undemocratic method of appointing local governors, and conflict between customary chiefs and state-appointed staff at District Assemblies, where local resource governance decisions are taken (Debrah, 2014). ARG staff confirmed the importance of District Assemblies (ARG Kumasi Programmes Director, personal communication, April 29, 2015) and it can be extrapolated that decentralisation in the forestry arena embodies similar challenges compared to those in the wider political sphere. During the field research one FSD officer was noteworthy for referring to head office as responsible for all actions and decisions suggested during interview (District Forestry Manager, Mampong, personal communication, May 1, 2015). Another, when asked what his thoughts were regarding the Forest Plantation Strategy 2015-2040, said "It's a well-written policy document but the reality is that its impact won't filter down because there is no money at the district level to enact it" (District Forest Officer, Kumawu, personal communication, April 28, 2015).

Due to these challenges, it remains to be seen whether decentralisation is an enabling or constraining factor for NGOs operating alongside local governmental staff who have in theory a great degree of autonomy and authority. It may provide the NGO with leverage for expecting good governance, leadership and accountability from the local FSD rather than having to engage with the Forestry Commission (FC) headquarters, which is located in the capital, for routine and locally-contextual decision-making.

5.2.1.3 Increasing community participation

Ghana's Forest and Wildlife Policy (2011, p. 4-5) explains that "the focus of forest management in Ghana is shifting from a government-led system to a community-government collaborative management approach." Ghana's District Assemblies aim to provide a platform for local representation in resource management decisions (Wiggins *et al.*, 2004). However, according to policy analysts, community participation in forest management is not yet being successfully achieved in Ghana despite the fact that since

the 1990s there has been a shift in policies to support it (Husseini, Kendie, & Agbesinyale, 2016; Wiggins *et al.*, 2004). For example, even though forest reserves in the Northern region are said to be managed collaboratively, fringe communities are only involved in maintenance activities of the reserve boundaries and seedling planting in plantation programmes (Husseini *et al.*, 2016, p. 245). Their participation was found to be passive and tokenistic. Capture of forest benefits by elites within communities, such as traditional chiefs, regularly occurs in negotiations with FSD or private commercial developers (Marfo *et al.*, 2012, p. 168). Any NGO should be aware of these limitations and seek to address them. However, the fact that community participation is encouraged and enshrined in printed policy can be viewed as an enabling factor for NGOs wishing to work with local communities on state land.

Interestingly, much evidence from the field visit suggested that there is a kind of informal, ad hoc method of community engagement operating whereby technical officers work with local communities to manage the forest according to their own needs/whims rather than through following specific governmental procedures. This engagement takes the form of mutually beneficial relationships and usage of the law in a flexible way that takes into accounts the needs of the community to some degree. For example, one FSD technical officer explained that she aimed to have good, non-antagonistic relationships with the local farmers, some of whom were farming illegally on state forest land, because it was easier to manage them this way (personal communication, May 1, 2015). She deliberately allowed some families to live and farm on-reserve even though it was technically illegal, because they continued to care for the neighbouring teak plantation that they had been involved in planting (she was also witnessed receiving “gifts” in the form of agricultural produce from this family). This phenomenon has been known to occur in other African countries, and can be seen as a way of forestry officials making the best use of social relationships to carry out their responsibilities where they are not adequately resourced to operate otherwise (Funder & Marani, 2015).

5.2.1.4 International influences

In recent years human rights and biodiversity conservation have become features of the international forestry policy agenda that exerts influence in countries such as Ghana, where tropical state forest still remains. Evidence for this can be seen in Ghana's Forest and Wildlife Policy (2011, p. 30), which lists fourteen international environment and forestry conventions and treaties that Ghana is a signatory to. These include a number of United Nations (UN) and World Bank conventions, as well as membership of bodies such as the International Tropical Timber Association. The document also highlights how the state Forestry Commission receives a large part of its budget from international funding (p. 6). These international influences provide a top-down political imperative in favour of NGOs wishing to manage degraded state forest.

5.2.1.5 The FSD's capacity

A factor likely to constrain the work of conservation NGOs in Ghana is that the FC, under which the FSD functions, suffers from limited funding for resources and staff recruitment and training (A Rocha Ghana staff and FSD staff, personal communication, April 28 – May 1, 2015). This can be seen in the evidence of a lack of expertise and training for staff, and limited access to resources needed for adequate monitoring and protection of forests. This was supported by several observations and interviews that took place during fieldwork in Ghana (April 29 – May 1, 2015), including:

- The equipment and uniforms of rangers had not been replaced since they were first hired, sometimes many years ago, and they lacked transport suitable for visiting the forest areas they were responsible (for example, a bicycle to visit and secure forest boundaries of areas 20km away from where they live, on poor roads).
- A lack of ongoing staff training in current forest policies and how to implement them (FSD technical officer, personal communication, April 30, 2015).
- Out-of-date maps of forest boundaries were shown as the most current geographical resource at all three FSD offices visited. This observation is corroborated by Armah et al (2014, p. 1736), whose findings indicate that "FC

staff rely on cadastral maps which may be 20 years out of date, and are not easy to interpret to field reality." This confusion over forest boundaries fosters an environment where many smaller patches of forest are encroached on without the FC's knowledge.

- The number of staff assigned to execute the forest protection mandate is inadequate. Vast areas of forest are monitored by a single technical officer (T.O.) with a motorbike and his/her team of rangers, resulting in some areas being visited only once or twice a year.

The FSD's lack of capacity causes it to seek partnerships with other organisations that have profitability and financial strength as key qualifying factors, rather than goals of biodiversity conservation. It can also contribute to complicity between poorly paid FSD staff and those enacting illegal forest activity (this will be discussed further in Section 5.2.1.7). Interviews with FSD officers suggested that there is an expectation that NGOs prove that they have adequate financial capacity to provide their own rangers to protect any forest they manage from illegal encroachment, rather than relying on the state to perform this function.

5.2.1.6 Land rent and reporting demands

During the field research a district forest officer reported that an NGO wishing to manage state degraded forest would be expected to pay $2 USD per hectare per annum to the FSD (District Forest Officer, Kumawu, personal communication, April 28, 2015). It was difficult to establish through interviews exactly how much, if any, of this fee would be distributed to local communities (see 1.2.1.8) or whether it would be necessary to guarantee the partnership and support of local customary leaders through a separate 'fee', for any proposed project. Varying responses were given by different interviewees. Monitoring requirements were described as including an annual check where the NGO is held accountable to the forest concession management plan, which would have been agreed between the FSD and the organisation prior to the commencement of any project (District Forest Officer, Kumawu, personal communication, April 28, 2015).

When questioned, FSD officers tended to refer to the financial arrangements published by the FC for public-private partnerships (PPPs) regarding monetary charges for managing state forest (Kumawu and Mampong District Forest Officers, personal communication, April 28 and May 1, 2015). The NFPDP Annual Report for 2013 explains that 90% of any profit would go to the developer and 10% to the FC, which keeps a small portion and distributes the rest to both the local community and the traditional (customary) land owner (NFPDP, 2013, p. 10). These rules are were not necessarily designed with NGOs in mind, but rather developed for partnerships between the state and private individual farmers, plantation owners, and commercial foresters. Therefore, it could take some trial and error for an NGO to make them work in a satisfactory manner. In fact, the an interview with a representative from Miro Forestry Company revealed that even the Company, as a large commercial enterprise, the company had had difficulty dealing with the FSD when negotiating its forest management plan. For example, they had felt obliged to hire their own cartographer to verify and ascertain the GPS coordinates of the concession they were managing because the FSD was not able to produce accurate coordinates. They warned that an NGO conducting similar negotiations with the FSD should expect similar challenges and should expect hidden charges when embarking on a project (Administrative Manager, Miro Forestry Company, personal communication, 28 April, 2015).

5.2.1.7 Corruption

Evidence of corruption in forestry governance in Ghana was clearly demonstrated on a number of occasions during fieldwork. For example, an FSD Technical Officer was witnessed accepting agricultural goods (such as yams, maize etc.) from several families who were farming illegally on forest land that was within her remit to protect (Personal observation, 1 May, 2015). This T.O. had a positive relationship with the farmers and explained that she is deliberately non-antagonistic because it is easier to negotiate with them that way, however by accepting their gifts of appeasement she demonstrated that she is clearly compromised in her capacity to enforce legal restrictions in dealing with the encroachment. Other examples of corruption included the confiscation and apparent on-selling of timber for profit that had been illegally harvested by chainsaw

from a concession we visited, by a T.O. and several FSD rangers (observation and interview with Prosper Antwi, 1 May, 2015). ARG was also obliged to pay several unofficial fees in order to gain the FSD's support in accessing the concessions that we visited. These were in the form of filling the local FSD officer's Land Rover with petrol and giving 'tips' to the rangers who accompanied us (Personal observation, 29 April – 1 May, 2015). Evidence of the commonality of these small occurrences where the lines of legality are blurred was also seen in the general acceptance and lack of surprise that ARG staff demonstrated when these behaviours were witnessed. However such practices may also be analysed in light of social, cultural and political nuances to reveal some helpful understandings of the approaches often taken by under-resourced environmental officers in order to carry out their challenging mandates (see Section 5.3.1.7 regarding parallel phenomena in Kenya). According to Marfo *et al.* (2012), unaccountable authority caused through land tenure confusion in Ghana also contributes to the presence of corruption.

Despite the apparent evidence of corruption in Ghana, it should be noted that the country has been internationally rated as having only a moderate-level of corruption compared with many others. It was ranked 56th out of 183 countries for transparency by Transparency International's 2015 Corruptions Perceptions Index (Transparency International, 2016), with a score of 47 (a country's score indicates the perceived level of public sector corruption on a scale of 0 (highly corrupt) to 100 (very clean)). By contrast, Uganda and Kenya are given an equal ranking of 139th, both scoring 25. This indicates that of the three case study countries, theoretically Ghana may provide the 'cleanest' political environment for a conservation NGO to operate within.

5.2.1.8 Land tenure confusion and complex benefit-sharing rules

Ghana's legal system asserts that forest revenue should be shared between customary leaders, the FSD and the Office of Administration of Stool and Skin Lands (OASL) (ClientEarth, 2013). The influence of customary tenure can be illustrated by the example of Juaso District, one of the areas visited. This area is under the customary oversight of the Kwabese Traditional Council (ARG Kumasi Programmes Director,

personal communication, April 29, 2015). Traditional regulations that are followed by people in the region include:

- Tuesday is a day dedicated to the gods, so people must not go into the forest on Tuesdays.
- Roughly once a month is the chief's celebration day, so people will not go into the forest on that day either.
- People are not allowed to carry maize in the local forest, because it is believed that the gods do not like it and therefore if they take maize in, they will become sick or suffer harm (ARG Kumasi Programmes Director, personal communication, April 29, 2015).

Clashes between customary and statutory tenure results in confusion over benefit sharing and can lead to doubling-up when it comes to gaining management rights and access to forest concessions, as well as reducing the motivation of local people to plant or protect trees because they are not sure who will end-up benefiting from their effort (Marfo *et al.,* 2012). This could be time-consuming for an NGO to navigate and may be a challenge to effective community partnership. On the other hand, customary land tenure fosters some feeling of ownership and responsibility of local populations towards local forest health and protection. This may be encouraged by an NGO wishing to implement community-led conservation.

5.2.2 Social context

5.2.2.1 Poverty

The appearance of some illegal farmers who were observed working on state forest indicated that they were very poor; for example, their clothes were ragged and they were very skinny. This interpretation was confirmed by the FSD and ARG staff (Personal communication, April 28- May 1, 2015). Poverty drives people to take whatever actions are available to generate income and a steady food supply, even with associated forest conservation costs (Blay, 2012). Therefore, poverty in Ghana may constrain a conservation NGO's operations as people prioritise their material needs for fuelwood,

for example, over tree-planting or protection efforts that have a longer-term benefit. This effect may be mitigated to some extent if livelihood opportunities are incorporated in any potential project, for example through an agroforestry approach.

5.2.2.2 Demographic pressure

Ghana's population is increasing rapidly, which is increasing pressure on natural resources including forests (Blay, 2008). The problem is also exacerbated by internal migration caused by climate change, which has increased the incidence of drought in the already less fertile north (Kalame, 2011, p. 524). This has resulted in subsistence farmers from the northern regions being forced to move southwards and without having access to land they often settle illegally on areas of state degraded forest. This was evidenced in the interview with a man found farming illegally in Chirimfa Forest Reserve, Mampong District (Personal communication, May 1, 2015).

A study was conducted in Ghana to analyse the prospects of a community-based plantation using taungya systems and indigenous trees as means to forest rehabilitation and livelihood improvement (Blay *et al.*, 2008, p. 503). The top three issues given by a wide survey of the participants as motivational factors for engaging in the project activities were: Restoring forest quality as a timber resource and associated values, getting money, food stuff and timber and non-timber for domestic use, and having access to fertile land for farming. This demonstrates that successful projects aimed at forest restoration need both local involvement in tree planting and tending, as well as activities that addresses livelihood needs and environmental concerns.

5.2.2.3 Forest fuel as primary energy source

There is an acknowledged dependency on woodfuel and charcoal as the main form of fuel for cooking and heating for most households in Ghana, and for communities located near state forests it is very common for these resources to be sourced illegally from within the forests (Republic of Ghana, 2011). During the field visits, charcoal production sites were observed on several state-managed concessions in plain view (Boumfum Forest Reserve and Chirimfa Forest Reserve, April 29 & 30, 2015). The FSD is

aware that this is occurring and indeed it is openly reported in policy, however the forest authority is incapable of enforcing the penalties for charcoal manufacturing that are captured in legislation. Because private forests cannot meet the demand for forest fuel, the state is driven to turn a blind eye to the practice of illegal extraction. This factor could constrain the efforts of a conservation NGO, unless provision of alternative or sustainable sources of primary energy are incorporated into a project. Otherwise, even if the NGO is able to protect a leased forest concession from illegal woodfuel and charcoal extraction, it may only displace this extraction to alternative locations thereby perpetuating the problem of degradation.

5.2.2.4 Domestic demand for timber (processed wood)

Paradoxically, alongside the impact of poverty, increasing economic affluence within Ghanaian society is also putting pressure on degraded state forests by encouraging the development of plantations to meet the huge demand for timber for infrastructure development in the country (Republic of Ghana, 2011, p. 5). This has been exacerbated by earlier policies that failed to address domestic utilization of timber products by focussing primarily on exports. The NFPDP and the Forest Plantation Strategy 2015-2040 both attempt to address this problem (Ghana Forestry Commission, 2016), and it was interesting to note the preference for Teak (*Tectona grandis*) as a plantation species during the field visits due to its economic value for domestic electricity poles (Personal observation, 28 April – 1 May, 2015). NGO's should be aware that conservation projects could be viewed as a distraction from, or superfluous to, the policy emphasis upon using degraded state forests to meet the country's timber demand. Project design and/or engagement with the FC may need to be tailored accordingly.

5.2.3 Ecological context

Local climate is a key influence on soil condition as it determines the inputs of temperature, sunshine and water needed for growth of forest species. In turn, the production of leaf litter and decomposition of vegetation species creates the layers of humus that ensure healthy soil conditions, with an appropriate balance of nutrients

(ARI Conservation Science Director, personal communication, 7 August, 2015). In central Ghana where the concessions that were visited are located, the climate is tropical, as in the southern part of the country. This is favourable for soil conditions compared to the hotter, drier regions in the north of the country if sufficient vegetation still exists on the concession. In areas where the vegetation is already significantly degraded, exposing the soil to erosion and leaching of nutrients, or where a monoculture plantation has been planted replacing the original diversity of the primary forest species, then soil conditions may be depleted or the nutrient balance disturbed and reforestation will be hindered. Severe vegetation loss can also reduce the water content of the site due to lack of surface vegetation area for evapotranspiration. Sometimes, the soil may have already been too stripped of nutrients for agroforestry to be successful (ARI Conservation Science Director, personal communication, 7 August, 2015).

The concessions around Kumasi varied from some with remnant forest cover (e.g. Compartment 216 in Boumfum Forest Reserve), others with secondary regrowth (e.g. Compartment 32 in Dome River Forest Reserve), and others that were almost entirely devoid of trees (e.g. Compartments 35-39 in Chirimfa Forest Reserve). The more trees that remain on a degraded site that is adopted for management by an organisation, the greater the potential for faster regeneration. Because such variation was observed between the concessions (known in Ghana as compartments), it would be essential for an NGO to visit specific sites being considered in order to evaluate their capacity for regrowth based on existing tree cover. Therefore, generalisations about the ecological availability of degraded state forests in Ghana are unhelpful.

In the high forest zones in Ghana, some tree species have a very fast rate of growth. For example Teak (*Tectona grandis*), the most popular plantation species, can grow to a harvestable height in five years, in the tropical conditions that exist in the central and southern parts of the country (Interviewee, 28 April, 2015). Although indigenous species are the best species for fostering biological conservation of resilient, diverse local ecosystems, these are slower growing than the species that have been introduced

for economic profitability. Teak is followed by Eucalyptus in popularity and is especially valued for its fast-growing, fire-resistant properties.

The Ghanaian government favours agroforestry as a suitable option for community conservation because it supports diverse ecosystems through a mixture of trees and crops as well as providing for local livelihoods (Marfo *et al.*, 2012, p. 168). However, with such a system, using indigenous trees, ARI's Conservation Science Director estimated that it would take at least 30 years and up to 60-80 years for trees to reach full maturity (Interview, 7 August, 2015).

Many of the sites we visited had a water source on site or within the nearby vicinity (Personal observation, April 28 – May 1, 2015). The presence of water sources is an important factor in aiding reforestation projects, particularly for seedling nurseries. However there is also a Ghanaian law in existence that disallows concessionaires from building permanent structures on state forest land, which could complicate the siting of a nursery near any available water sources (Administrative Officer, Miro Forestry Company, personal communication, April 28, 2015).

Maintenance of saplings is of vital importance to the success of a community conservation project, because weeds choke out the light and steal nutrients needed for young trees. Invasive weeds tend to invade areas where pre-existing forest has been degraded or destroyed (Lamb, 2014, p. 69). According to ARG staff, ensuring sufficient maintenance through ongoing weeding is the weakest area in most forestry projects (ARG Kumasi Programmes Director, personal communication, April 28, 2015). Factoring in recruitment of labourers for ongoing weeding would need to be a serious consideration for any NGO-led community conservation project.

For the purposes of ecosystem restoration it is desirable to have a large area of contiguous forest area in which conservation management can be conducted, because water sources and climatic conditions. In Ghana, the state forest concessions that were presented by local FSD staff as available for lease by ARI during the fieldwork were 120ha each in size. This was felt by ARI to be insufficient area to make significant ecological improvements, because biological phenomena occur across landscape-scale

areas and the condition a small portion of forest is heavily affected by its surroundings (ARI Conservation Science Director, personal communication, May 2, 2015).

Forest fires occur regularly in Ghana and remain a very significant threat to seedlings, cultivated crops and planted trees. This is something that any conservation project needs to take into account, as the FSD's fire mitigation measures are limited. Miro Forestry Company said that they dealt with fires by having special pick-up trucks driven around during fire season with huge, specially-imported fitted bags in the back full of water (Administrative Manager, Miro Forestry Company, personal communication, April 28, 2015). To emulate such a procedure would be expensive for a smaller organisation.

Climate change can constrain the ecological availability of sites for reforestation by altering the length of the growing season through changing temperatures and therefore restricting species productivity. It may also alter rainfall patterns and improve the conditions that are favourable to weed species. Climate change is already having an impact in Ghana, as evidenced in the literature and through interviews (ARG staff, personal communication, May 1, 2015; Kalame *et al.*., p. 524).

5.3 The Kenyan Policy Environment

5.3.1 Institutional context

5.3.1.1 State-published policies and legislation

Kenya has several key policies that govern the management of forests to varying degrees. The Forest Act (2005), enacted in 2007, was highly influential in promoting a shift towards community engagement and decentralised management of state forests (Resource Conflict Institute (RECONCILE), 2014, p. 1). This was achieved through the establishment of Community Forest Associations (CFAs) and Forest Conservancy Committees (FCCs) at the local and regional level respectively. In 2014 the Forest Act (2005) was revised and aligned to Kenya's Constitution in the Forest Policy (2014), which in turn was legislated for in the Forest Conservation and Management Bill (2015). The Constitution of Kenya chapter 5, part 2 deals with environment and natural resources. Other policies relevant to the work of a conservation NGO in Kenya include

the Wildlife Conservation and Management Act (2014) which protects wildlife habitat, the Climate Change Bill (2014), the National Climate Change Action Plan and subsequent NCC Response Strategy, and the Climate Finance Policy (Conservation Landscape Manager, Wildlife Works Kenya, email communication, 21 August, 2015). Theoretically all of these pieces of legislation impact the management of state forests, although as in Ghana and Uganda, implementation is sometimes less than successful. The Forest Policy (2014) lists the following among its main aims: "to increase and maintain forest and tree cover to at least 10% of the total land area and for the rehabilitation and restoration of degraded forest ecosystems", "recognition of customary rights and user rights to support sustainable forest management and conservation", and "to support community forest management" (Republic of Kenya, 2014, p. ii). All of these goals support the kind of community conservation effort that NGOs such as ARI aspire to. One interviewee captured a general conclusion that emerged from the conservationists who were interviewed, arguing that "…it is safe to say that KFS and KWS have the policy "tools" that they need –[however] their application is sometimes wanting" (Conservation Landscape Manager, Wildlife Works Kenya, email communication, 1 August, 2015).

5.3.1.2 Decentralisation

In 1983 President Moi initiated a decentralisation policy in Kenya intended to curb the concentration of power present among MPs and Provincial Commissioners at the time, which had developed following the colonial administration (Funder and Marani, 2015, p. 90-91). This resulted in the district level gaining greater importance as a locus for planning and implementation, and as an arena for local actors to access funds and influence. Yet most districts were understaffed compared to their mandates and the structure did not truly devolve decision-making power. Following the Environmental Management and Coordination Act (1999) a more inclusive approach was instituted with Environment Committees as the main vehicle for planning and management, which had a strong representation from the public and civil society. Finally, in 2010 an even greater degree of fiscal devolution was achieved following the mandate of Kenya's Constitution, which had been adopted that same year along with a

restructuring of local government. According to one local conservation NGO practitioner, it has become easier to manage the forests through CFAs since the devolution with the Forests Act (2005) (ARK former staff member, personal communication, May 19, 2015). The downside of these measures has been a proliferation of environmental governance bodies now with overlapping mandates for environmental, and forestry, management (p. 94). Decentralisation has been shown to have increased the potential for local politics to heavily influence the implementation of forestry policy in Kenya (Funder and Marani, 2015, p. 93-94). One Kenya conservation practitioner who was interviewed blamed local politics for some forest communities' lack of take-up of the opportunity to form CFAs between 2005 (when it became legally possible) and 2010 (ARK Community Conservation Manager, personal communication, May 20, 2015). This is a serious issue for any NGO to face when operating in the country.

5.3.1.3 Increasing community participation

Originating with the Forest Act (2005), CFAs draw management plans for areas of around 10000 ha, entering into a formal agreement with KFS about how they will manage the forest (ARK Community Conservation Manager, personal communication, May 20, 2015). The CFAs are allowed to utilise the forest resources as long as they meet certain standards for maintaining its preservation. But the CFAs do not always have the skills, expertise, or organisational capacity necessary to carry out the plans they sign up to with KFS. KFS sees CFAs as a way to devolve themselves of some responsibility for management of the forest and the expenses that entails, however they do not supply adequate training and/or resources for the communities, who nevertheless are then expected to meet certain standards of forest management. To combat this, A Rocha Kenya has been trying to equip, empower and resource five CFAs to meet the criteria they have agreed to for forest management.

When asked, "What are the regulations controlling engagement with local communities near the forest?", an interviewee who had much experience in working with CFAs explained that

> It varies by areas. A lot of forests are not under KFS as they are not state forests and fall on community land, or private land. The Forest Act guides the interaction (broadly) with community forest groups, but is not prescriptive and has some interesting challenges to it. For example, it has definite issues around the scale of extraction for firewood and cartels have formed around this. Additionally, it shifts a lot of responsibility to the CFA but doesn't allow them to really earn much money from the forests. (Email communication, August 21, 2015)

It is important to note that since 2005, NGOs have not been able to manage state forest; instead everything is done through CFAs. For example, after 2005 ARK had to hand over the Mida Creek ecotourism centre that they had established on the forest reserve to the local CFA. This is an example of why ARK has to work with CFAs as it is the best way to have a say in the management of the forest to ensure its protection (ARK Community Conservation Manager, personal communication, May 20, 2015). Part of what ARK are doing is helping the CFAs to consider how they may be financially self-sustainable e.g. through carbon offsetting or ecotourism schemes. This led ARK to take a CFA group to visit Wildlife Works, which has a carbon offsetting project with thousands of hectares. Although this may be on a far larger scale than the CFAs could achieve, it provided a good example of what was possible.

5.3.1.4 International influences

Kenya's Forest Policy (2014) states that there are "emerging opportunities for sustainable forest financing both at national and international level which the country needs to take advantage of" (Republic of Kenya, 2014, p. i). It also explains that Kenya is a party to a number of multilateral and regional agreements, protocols and conventions, which compels the country to integrate elements of these agreements into its forestry programmes, strategies and plans (p. 17). This obligation to comply with international agreements is legally upheld in Article 76 (1) of the Forest Conservation and Management Bill (2015, p. 50), under the direction of the Cabinet Secretary. This reveals an intention by the Kenyan government to engage in international agreements including those that are for the financial benefit of the country, a goal shared by all three case study countries, as they seek to profit from international carbon finance schemes. Therefore expectations of the international

community regarding the place of biodiversity conservation within reforestation carbon offsetting, will determine to some extent how favourably the Kenyan government looks upon community conservation projects. For example, if monoculture plantations on state degraded forest meet the international criteria for carbon projects, there is less reason to support the more resource-intensive community conservation initiatives even though they create better conditions for biodiversity.

5.3.1.5 The KFS's capacity

KFS's mandate is to protect state forests, a role the organisation shares with the Kenya Wildlife Service (KWS) when those forests fall under their jurisdiction (i.e. in national parks/reserves). KFS's main focus is on the 'water towers'[4] of Kenya and is therefore mostly montane in nature. Several interviewees reported that KFS provides good support for forest protection within the senior level of the organisation but has a lack of capacity at the district level to implement their own guidelines; for example at the level of the supervisors who oversee the rangers. This is evidenced by corruption and neglect of duties. Another interviewee recounted how the Kijabe Forest Trust (KFT), an NGO they worked for, had encountered a lack of support from KFS. Staff from the forestry authority had denied that deforestation was as big a problem as KFT were asserting. So KFT hired a team of 8-10 men to go through the forest marking with red paint all the trees that had been illegally cut down in the last two years (it was possible to roughly identify them according to the size and tree rings). The job took 3-4 weeks and they marked over 10000 trees, which they reported as evidence to KFS (Director, Care for Creation Kenya, personal communication, May 19, 2015). This is a somewhat aggressive way of engaging with the forestry authority, however environmental education initiatives had also been implemented to encourage local community care of the forest. Unfortunately despite these efforts, people from outside the communities come and log illegally and the interviewee felt that there is little that the local NGO could do to prevent this apart from having their own armed guards, which they now

[4] Kenya's five main forest areas, namely Mt. Kenya, the Aberdare Range, the Mau Complex, Mt. Elgon and the Cherangani Hills, are known as the country's water towers because they encompass the main water catchments for nearly all the main Kenyan rivers.

do.

In the opinion of one interviewee, because KFS is only a few years old there is hope for improvement. He notices that things are already improving, especially "as more of the old guard retire" (Conservation Landscape Manager, Wildlife Works Kenya, email communication, August 21, 2015). This interviewee believes that in state forests the KFS is relatively successful in implementing conservation management, but that success depends heavily on development partners and local charities. This indicates that the KFS's lack of capacity may both enable and constrain the operations of a conservation NGO.

5.3.1.6 Land rent and reporting demands

Conservation practitioners in Kenya reported different experiences regarding the availability of state degraded forest areas for NGO operations, and therefore it was not possible to reach definite conclusions here regarding the rent and reporting demands for state degraded forest concession. More research needs to be carried out. One interviewee explained that at least in the area near Nairobi that they were familiar with, it is possible to apply for a licence to use portions of the state forest reserve, which you have to pay for (ARK former staff member, personal communication, May 19, 2015). With the licence, activities such as tree cutting are apparently allowed to take place as long as strict regulations are followed i.e. which trees, how many, and when etc. This person thought that a community-forestry management plan could potentially include similar uses of the forest but would probably need to follow similar rules. Another explained how the Management Plan, which is agreed with KFS following the formation of a CFA, is the only place where specific obligations of both parties are laid out (ARK Community Conservation Manager, personal communication, May 20, 2015). This Plan is developed based on a resource assessment of the forest area. Then both parties sign an Agreement, where implementation expectations from the Plan are stipulated. No money changes hands when a CFA forms an agreement with KFS, but KFS does retain rights to take the profit from any ecotourism activity carried out on the land, because they as the 'State' still legally own the land and the

CFA is just given a long-term lease/management rights. NGOs should be aware of difficulty caused by the absence of clear instructions in the Forest Act (2005) to explain exactly how CFAs should be formed and how they would operate in relationship with the KFS. Consequently, the exact nature of arrangements has varied between different districts within the country. The Forest Conservation and Management Bill (2015) is intended to offer some improvements in terms of clarifying the legal structure of CFAs, however it is too early to determine the Bill's effect.

5.3.1.7 Corruption

Kenya has been identified as having a comparatively high level of corruption (Transparency International, 2016), and this is evidenced in the forestry sector. One interviewee, who was a former ARK staff member, described how he had seen people walking out of the state forest reserve with donkeys carrying loads of charcoal and KFS staff in uniform were walking with them (ARK former staff member, personal communication, May 19, 2015). As extraction of wood for charcoal manufacturing is illegal on state forest, the fact that the KFS staff had not confiscated the charcoal is likely to point towards corruption. Another interviewee managed to capture the photo below showing KFS staff playing a game in the background (circled) while illegal firewood is transported past the ranger post from the directions marked with arrows (Figure 5.1).

Figure 5.1 KFS officers play a game while firewood is carried out of the state forest reserve unnoticed (*Source:* Craig Sorley, Care of Creation Kenya Director, taken 2014)

Figure 5.2 Charcoal is transported by bicycle along a Kenyan road (*Source:* Craig Sorley, Care of Creation Kenya Director, taken 2014)

As a conservation NGO, KFT offered to pay for their own guards because there is too much corruption among the local KFS rangers for them to act effectively. KFT guards have recently been allowed to carry handcuffs for making citizens arrests on illegal forest users, which are common (ARK former staff member, personal communication, May 19, 2015). But it is a dangerous role for them because sometimes the hunters, charcoal burners, loggers and others fight them with weapons.

KFS assigns rangers from outside the local community to carry out forest protection and also relocates them regularly, to avoid corruption (ARK Community Conservation Manager, personal communication, May 20, 2015). However, this brings problems of its own such as the fact that guards feel like outsiders to the local community, often not speaking the local language and potentially facing tension/resistance of the local community. Compared to guards from local communities, they may not have a personal affinity with the local forest and value it in the same way, therefore they could actually be more susceptible to corruption. Needless to say, corruption within forest protection and use is a complex issue that any NGO operating in Kenya will encounter.

ARG's Kumasi Programmes Director corroborated the experience of Care for Creation, explaining how the CFAs that ARK works with have also appointed their own forest guards (rangers) who are local volunteers, because the KFS forest guards were not carrying out their duty to protect the forest (personal communication, May 20, 2015). He also attributed this to KFS's lack of capacity and corruption. For example, apparently the local community may approach KFS to report some illegal activity going on but the Forest Manager or his/her rangers will say, "Oh, we don't have a vehicle..etc so we can't do anything" (ARK Community Conservation Manager communication, May 20, 2015).

5.3.1.8 Land tenure confusion

Land ownership is one of the most emotive issues in Kenya (Republic of Kenya, 2014, p. 2). The constitution of Kenya classifies forests into three categories: public, community and private forests (Forest Policy 2014, p. 14). However, the breakdown into these three categories oversimplifies the situation because private forests may be managed

by CFAs as community forests, and community forests can be either under customary (traditional) management or part of (public) central forest reserves. More than two thirds of Kenya's total land area is governed by customary tenure rather than under formal title (Wily, 2012, p. 4). Despite land distribution being addressed in Kenya's 2010 Constitution, there is every reason to believe that in the future, highly politicized land conflict will continue based on the strong links between land governance and state power in the country (Boone, 2012, p. 75). Uncertainty over land rights, including forest reserve boundaries, is a key reason for why poor conservation management practices continue. This is due to perceived threats to the equitable distribution of benefits long-term from practices such as tree-planting and forest protection. A conservation NGO must convince project stakeholders that the long-term benefits of conservation are worth investing energy and resources into, even when competing with pressing short-term needs.

5.3.2 Social context

5.3.2.1 Poverty

Forestlands provide an important resource base for rural people's livelihoods, many of whom are subsistence farmers and among the poorest in Kenyan society. Poverty and its associated livelihood strategies put pressure on forests by forcing many rural poor to resort to poor land use practices (Republic of Kenya, 2014, p. 2). Therefore providing alternative sources of income or enhanced agricultural practices may be a component of a successful NGO conservation project, reducing pressure on forested land or regenerating areas.

5.3.2.2 Demographic pressures

A rapidly increasing population is noted in the Forest Policy (2014) as one of the factors contributing to Kenya's forest degradation (p. 2). Due to population pressures in the arid areas with higher economic productivity, there is migration into the dryland areas of Kenya that is resulting in degradation of fragile ecosystems and highly erodible soils (p. 8). It is not possible to meet the demand for forest products such as fuel wood and fodder for the growing population from state forests alone (p. 10), therefore the

government is addressing in policy the growing interest with regard to private and customary forests. The degree to which non-state forests are available to meet the demands of a growing population may impact upon the availability of degraded state forests for an NGO conservation project.

5.3.2.3 Forest fuel as primary energy source

Over 80% of Kenyans rely on woody biomass for their energy requirements (Republic of Kenya, 2014, p. 4). Despite being illegal in Kenya, charcoaling is a widespread practice and the base of many livelihoods, as well as a major cooking fuel across the entire country (Veronesi *et al.*, 2015, p. 47). Charcoal production is the key driver for forest degradation. It also paves the way for deforestation, as the land becomes easier to clear for agriculture once a charcoal producer removes all hardwood trees (p. 48). A key feature of integrated conservation and development approaches is to divert labour away from the activity proving ecologically destructive, in this case charcoal manufacturing. The idea is that the increased opportunity cost of labour through off-farm jobs could lead to a reduction in deforestation by an increase in incomes. Eco-charcoal schemes have been tested in Kenya, where households are given the opportunity to collect dry scrap wood from outside the forest or from the forest ground and sell it to an eco-charcoal factory (Veronesi *et al.*, 2015, p. 48). At least one study has shown that eco-charcoal policies can significantly decrease the amount of household time allocated to charcoaling (Veronesi *et al.*, 2015, p. 48). Whether by incorporating such eco-charcoaling or other schemes, an NGO conservation project will need to consider how it may address the dependency on forest fuel that is common across the country.

5.3.2.4 Domestic timber demand

There has been a great decline in Kenya in investment in the processing of forest products due to a previous 10-year ban on timber and bamboo harvesting, as well as low efficiency. The proportion of state forest being managed as public forest plantations remains static while the national dependency on timber imports increases (Republic of Kenya, 2014, p. 4). This illustrates the heightened domestic demand for

timber. The sector does export timber, however there remains a need to meet international certification standards of sustainability in order to increase the size of the export market (p.4).

The wood industry in Kenya includes pulp and paper, sawn timber, transmission poles, composite wood products, furniture and joinery, building and construction and many other products (p. 10). In addition, key industries such as tea, tobacco, edible oils, soap and cottage industries increasingly rely on fuel wood for their energy supply due to the increasing cost of electricity and fossil fuels (p. 11).

5.3.3 Ecological context

High levels of erosion, siltation and soil degradation are a major challenge in Kenya, where the fertility of the soil is being negatively affected (Republic of Kenya, 2014, p. 5). Kenya is considered to be a water scarce country, by international standards (p. 5). Arid and semi-arid areas cover about 80% of Kenya's total land surface and hold 25% of the human population (p. 8). While it is more difficult to grow trees in the lower rainfall areas, a variety of species have the potential to make tree growing in these areas profitable (p. 10). Climate change is having a direct impact on forest ecosystems and people's livelihoods, through flooding, landslides and drought. There is a lack of shared knowledge between academic institutions and the public forest agencies (p. 5).

Although insufficient data was gathered to make a generalisation regarding the rate of regrowth for degraded forest areas in Kenya, it may be extrapolated from the interview with Care for Creation's Director that even within degraded areas living stumps remain which are able to be utilised for a potential community conservation project. Based on his extensive knowledge of Kenya's ecological conditions, Sorley recommended the method of Farmer Managed Natural Regeneration (FMNR) as a suitable form of reforestation for ARI (Director, Care for Creation Kenya, personal communication, May 19, 2015). This method requires finding stumps of indigenous trees that are sprouting seedlings and pruning them to encourage growth of the strongest, before using these seedlings for planting (World Vision United States, 2016). In this way, FMNR can be an inexpensive and relatively fast process. He also recommended grafting fruit trees,

because it is a sustainable livelihood alternative that creates tree cover. Both of these approaches suggest that degraded forests in Kenya, at least some areas, are not completely devoid of remaining vegetation.

5.4 The Ugandan Policy Environment

5.4.1 Institutional context

5.4.1.1 State-published policies and legislation

In Uganda, forest management is divided into Central Forest Reserves (CFRs) which are looked after by the National Forestry Authority (NFA), local forest reserves and forests on private land, for which district councils are responsible, and community forests, which are managed by communities themselves. The NFA manages Uganda's Central Forest Reserves (CFRs) for production, ecological and biodiversity conservation objectives, according to the organisation's Director of National Forests, Levi Etwodu (Email communication, June 21, 2015). This is demonstrated by the content of current forest policy publications including the Forest Policy (2001), the National Forestry and Treeplanting Act (2003), and the National Forest Plan (2012), and their corresponding guidelines for implementation. These policies apply to all forestry operations in the country, guiding and affecting the activities in the districts as well as providing the roles of district forestry officials and communities in forestry management (Email communication, Levi Etwodu, June 21, 2015). The National Forestry and Tree Planting Act 2003, Section 41 subsection (1) states that a responsible body may, subject to the management plan, grant a licence to an interested person for the sustainable utilisation and management of the forest reserve or community forest. By 2012, nearly 149 000 ha of CFRs had been licensed to private tree growers (Republic of Uganda, 2013b, p. 16), of a total 612 710 ha managed by the NFA (p. vii). However only 10% of this had actually been planted (p.16).

The existence of policies supporting community conservation goals, and the legal backing for interested parties to take on concessions of the forest reserve, mean that degraded state forest is available to an NGO such as ARI. Etwodu affirmed that in his opinion, although the NFA requires further capacity building and support, at least the

administrative and legal mechanisms are in place to deal with challenges presented by national forest management (Email communication, Levi Etwodu, June 21, 2015).

5.4.1.2 Decentralisation

The District Forestry Services Handbook (Republic of Uganda, 2013a) describes how, after the promulgation of the Constitution in 1995, the Government of Uganda launched a programme for public sector reforms including policy, legal and structural reforms aimed at promoting decentralised accountable governance, increasing the roles of civil society and the private sector. The forestry sector is among those that was reformed, with the Ministry of Water, Lands and Environment (MWLE) formulating the new Uganda Forestry Policy in 2001. This aimed to enhance the governance of the forest sector through "partnerships", seeking to develop new institutional relationships, enhanced efficiency, transparency, accountability and professionalism and building confidence in forest stakeholders. Specifically, the policy devolves some responsibility to the private sector and local communities in management of CFRs. The policy is committed to decentralisation in the areas of decision-making, regulation and arbitration, with appropriate systems of accountability to forest stakeholders. On paper, collaboration between the production and environment committees at various levels of local government and local community institutions is promoted on all forestry matters, with a strong emphasis on "public involvement in sustainable forest management…as a basis for sharing forest benefits to improve livelihoods" (Republic of Uganda, 2013a, p. 1). However, it has been noted by some that despite these ambitious goals, during the last 10 to 15 years forest management has suffered by becoming short term and restricted in its aims, with forest working plans out of date and management systems for controlling activities in forest reserves becoming ineffective (Obua & Agea, 2010, p. 73). In this way decentralisation could constrain an NGO's operations due to the DLGs lack of sufficient resources and/or skills to act as an effective forest management partner.

5.4.1.3 Increasing community participation

The capacity and working relations of the district level forestry personnel and

communities influence the level to which attainment of the broader objectives provided in the national forestry policies are achieved. Interestingly, the NFA's Director of Natural Forests confirmed that the capacity of his own organisation is currently very inadequate in most districts in the country, which has negatively impacted forest management (Levi Etwodu, email communication, June 21, 2015).

The NFA partners with community-based organisations (CBOs) through a mechanism called Collaborative Forest Management (CFM). Under CFM, the NFA negotiates and signs agreements with forest adjacent communities to determine each party's roles, responsibilities, rights and returns/benefits from the forest management. The agreements are supposed to provide support to community development initiatives in return for the communities' collaboration in forest management and protection (L. Etwodu, email communication, June 21, 2015). This is very similar to the practice in Kenya with CFAs.

To give an example of this partnership, the Programmes Director of Ugandan NGO, Ecotrust, was interviewed about Ecotrust's relationship with the NFA (Programmes Director, Ecotrust, email communication, August 17, 2015). Ecotrust have implemented CFM projects in partnership with NFA over several years. The NFA has a memorandum of understanding with the community groups to manage part of the forest reserves. Ecotrust works with these communities under CFM, with NFA, to restore heavily degraded forests through tree planting, enrichment planting, and assisted regeneration. This is usually with communities that are neighbouring state protected areas such as forest reserves and national parks. So, although not directly on state-owned land, the intervention is targeted to reduce pressure on protected areas by ensuring neighbouring communities have a land use plan for their land (Programmes Director, Ecotrust, email communication, August 17, 2015). Kuganyirwa explained that the partnership has been successful from Ecotrust's point of view.

5.4.1.4 International influences

The UNFAO financed the production of the District Forestry Services Handbook, published in 2013 by the Ministry of Water and Environment (Republic of Uganda,

2013a). This demonstrates a reliance on international finance, and therefore international forestry values, in Ugandan policy and implementation. Other articles make inference to the interests of global actors in preserving Uganda's remaining intact tropical forest, and equally, to reforestation practices in the country (Turyahabwe & Banana, 2008, p. 650). It is considered that these international interests may threaten the delicate balance currently being struck between conservation and economic development agendas (Turyahabwe & Banana, p. 650).

The Forest Plan 2012 (2013b, p. 28) mentions influential international instruments such as the United Nations (UN) Millennium Development Goals (replaced in 2015 by the similar Sustainable Development Goals), the Kyoto Protocol, the Clean Development Mechanism and the REDD+ initiative. It also includes references to the UN Non-legally Binding Instrument on All Types of Forests (focussed on sustainable forest management and reversing loss of forest cover), the UN Convention to Combat Desertification, the UN Convention on Biological Diversity, and the East African Community Protocol on Environment and Natural Resources Management (p. 48-50). The Forestry Policy (2001, p. 1) also mentions some of these along with at least five other key international obligations which affect the forest sector.

5.4.1.5 The NFA's capacity

Although the NFA has a strong administrative structure, it lacks capacity on the ground. Indeed, like Kenya's Forest Service, it appears 'top heavy', is semi-autonomous and generates its own resources. In 2015 it had a total of 320 staff, of which 240 are field based (Etwodu, 2015). This sounds comprehensive, yet they are managing 506 CFRs that cover an area of over 1.2 million ha (Etwodu, 2015). As a results, there are serious challenges in providing transport and work equipment and other logistics for restoration and law enforcement. Because of the limited revenue sources resulting in low staff levels relative to the large management areas, the organisation is motivated to seek partnerships with other stakeholders and organisations who can take on some of the management burden. However, as Etwodu notes (2015), these partnerships also require the NFA to have sufficient resources for effective collaboration and

coordination.

It is interesting that Ecotrust reported no challenges in working with the NFA. According to Ecotrust's programme coordinator,

> ECOTRUST have implemented successfully collaborative forest management with communities neighbouring Mubuku central forest reserve, Budongo and Bugoma forest reserves in Masindi districts respectively. These have been possible with (sic) a good partnership with NFA. Some farmers under CFM have been recruited and are benefiting from sale of carbon credits under the 'trees for global benefit' program implemented by ECOTRUST. (Programmes Director, Ecotrust, email communication, August 17, 2015).

This would suggest that there are no problems with the NFA's capacity to carry out their mandate, however, Kuganyirwa went on to explain that although the NFA always consults the relevant forestry policy whenever it is implementing activities like CFM with communities in forest reserves, ECOTRUST mediates the relationship between the community and the NFA such that the understanding is not dominated or biased to the stronger side, which is usually NFA. A similar role is carried out by A Rocha Kenya, as described in the previous case study. This situation may possibly reveal a lack of resources by the NFA, because it does not include sufficient capacity building for communities to ensure they are able to act as an equal management partner.

5.4.1.6 Land rent and reporting demands

The NFA licenses private commercial developers for the objective of increasing production and forest cover in the CFRs. It was not possible to obtain specific details about the reporting and monitoring arrangements that developers make with the state, however it is presumed that these vary depending on the location of the concession due to decentralised responsibility and also according to the individual management plan made between each developer and the state. Etwodu from the NFA explained that a total area of at least 110000 ha has been licensed out and about 60000 already planted under the arrangement (L. Etwodu, email communication, June 25, 2015). The scheme includes both small and large scale developers and has attracted a lot of interest.

Etwodu cited the following companies as examples of these public-private partnerships: Global Woods, Green Resources and New Forest Company. These companies were briefly investigated to gain some knowledge of the NFA's experience of working in partnership with other organisations. An initial web search revealed that Global Woods is a forestry company active in the Kikonda Forest Reserve. The organisation's website explains: "More than 12000 ha were given to us by the Ugandan state under a tree farming license to establish and manage a forest that will supply timber strongly needed. We are dedicated to making Uganda greener"(Global Woods AG, 2016). Green Resources has two plantations in Uganda, in Bukaleba and Kachung. Both plantations have been established within government-owned Central Forest Reserves that have been set aside for forest plantations (Green Resources, 2016). New Forest Company is a huge enterprise extending across several countries in East Africa and employing thousands of individuals (New Forests Company, 2016). The company faced challenges when they took on management of a portion of state forest where 22000 people had been living for many years despite their residence being officially illegal. The people were expelled from the forest in order for the company to commence timber plantation operations, with the backing of the Ugandan government. However following the intervention of international bodies to counter what they framed as 'land-grabbing', the company was forced to engage in a mediation and settlement process with the communities (Grainger, M. & Geary, K., 2011). These examples demonstrate that regulation of the management partnerships between the NFA, the organisation taking on management of a portion of state forest, and the local communities, is not always straightforward in Uganda. Any organisation attempting a community conservation project in Uganda should be aware of this.

5.4.1.7 Corruption

Uganda's ranking of 139th out of 183 countries by Transparency International reveals the widespread existence of corruption within the country (Transparency International, 2016). The National Forest Plan (2012) itself mentions corruption as a weakness in forestry management, manifested in embezzling of money or forest products by the custodians of the forest resources and "fuelled by greed, bribery and influence

peddling" (2013b, p. 36). This has resulted in sale of forest produce at less than market value, causing revenue losses, and has weakened the motivation for forest managers to carry out responsible forest management. Therefore, the date indicates that corruption would negatively impact an NGO project in the Uganda, as in Ghana and Kenya.

5.4.1.8 Land tenure confusion

It is widely acknowledged that the degradation occurring on central forest reserves in Uganda is the result of illegal encroachment of forest dwellers, driven by poverty and made possible by the lack of enforcement of forest boundary protection (Ainembabazi & Angelsen, 2014, pp. 48-49). These forest dwellers may be extracting forest products or using the forest reserve as space in which to carry out agricultural crop production. Unclear forest boundaries add to the high levels of encroachment (Ainembabazi & Angelsen, 2014, p. 54). The considerable uncertainties over land and tree tenure in Uganda are also attested to within the Forestry Policy (2001, p. 7). This document blames wilful or genuine ignorance of the laws and location of boundaries, which are not marked or where demarcation has become obscured. This results in lack of incentive for tree planting or forest management.

The Ugandan Constitution 1995 and Land Act 1998 recognise customary land ownership and also provide legislation allowing groups of people and communities to hold property in common (Republic of Uganda, 2001, p. 7). Certificates of customary ownership may be granted to individuals or groups. Also under the Land Act, District Land Boards, District Land Tribunals, Land Committees and Sub-County Land Tribunals are vested with considerable powers. These bodies are entirely autonomous of central and local government and cannot be directed by the executive on any land tenure matters (Republic of Uganda, 2001, p. 7). This system offers a mechanism for local wishes to be promoted with regard to forest protection, especially outside of state protected forest areas, however the parallel systems may engender confusion when it comes to ascertaining responsibility for different types of boundary and forest protection.

5.4.2 Social context

5.4.2.1 Poverty

More than 80% of forest encroachers are smallholder cultivators and cattle keepers – mainly immigrants from overpopulated districts of south western Uganda (Ainembabazi & Angelsen, 2014, p. 54). Households situated near to [or in] central reserves have been shown to extract less illegal forest products compared to those further away, because they have smaller landholdings and livestock quantities and are benefiting from the better soil condition of the reserves. Such smallholder cultivators operating in or near CFRs extract forest products for free from any remaining forest within the CFR and therefore if an NGO restricts access to such forest resources for conservation purposes, they risk threatening the fragile livelihoods of the farmers. For this reason, any conservation project in Uganda would ideally ensure forest-dependent communities are benefiting in some way from the method of conservation/restoration chosen.

5.4.2.2 Demographic pressures

According to the National Forest Plan (2012, p. 2), Uganda's population has had a high annual growth rate, at least 3.2% in 2010 (compared to the average world growth rate of 1.3% (Obua & Agea, 2010, p.80) and growing from 24.2 million in 2002 to 31.8 million in mid-2010. The increasing population brings greater demand for agricultural expansion, increased pressure on forest lands and consumption of forest products such as timber, charcoal and firewood. Along with the need for more land to be brought under cultivation to feed the increasing number of people, forest habitat clearance has occurred as a result of armed conflict and civil unrest in Uganda and neighbouring countries. This has caused refugees to seek land on which to settle and wood to build new homes, and for cooking and heating (Obua & Agea, 2010, p. 81). These demographic pressures are ongoing and must be taken seriously due to the increasing threat they will present throughout any project's lifecycle, particularly with regard to projects that include restricting access to seedlings to allow them to grow past an economically harvestable age.

5.4.2.3 Forest fuel as primary energy source

In Uganda, biomass is the dominant energy resource for households, small and medium scale industries such as lime, brick and tile making, as well as a number of agro-based industries (Republic of Uganda, 2013b, p. 6). 92% of Uganda's energy needs are met from woody biomass, and there has been a huge increase in charcoal and firewood consumption in recent years, with the value of charcoal consumption more than doubling between 1996/7 and 2005/6 (Republic of Uganda, 2013b, p. 6). This again creates an imperative for NGOs to carefully consider whether access to alternative fuels can be incorporated into project design and/or to be aware of the concerns of local forestry officers, who may themselves be relying on forest fuel for cooking and heating in their own homes, when engaging in joint management proposals.

5.4.2.4 Domestic timber demand

For more than 10 years, the construction industry in Uganda has been growing at a rate of 5-8% and uses a large amount of timber, wood and poles (Obua & Agea, 2010, p. 70). Major government programmes such as the construction of power dams, schools and resettlement programmes have consumed large amounts of wood products. Timber demand for the Ugandan construction sector is also mentioned as an influence in the National Forest Plan (2012, p. 7), and in the Forestry Policy (2001, p. 5), where the need for wood products for the domestic construction and manufacturing sectors is attributed to a growing economy and associated consumption.

Domestic demand for timber is a central reason why the NFA is planting plantation species in areas that are more severely degraded (which results in monoculture of fast-growing, usually exotic, species rather than slower regeneration with indigenous or diverse species). According to Etwodu, the NFA needs to meet "production objectives for forest products which are in high demand." This may be due to the semi-autonomous structure of the NFA, which creates the imperative to sometimes prioritise commercial enterprise over conservation values in order to make itself self-financing. Any NGO that desired to use degraded state land for conservation without

producing timber, would be competing with this imperative and may therefore need to work harder to 'sell' itself as a suitable partner for the NFA.

5.4.3 Ecological context

As in Ghana and Kenya, Uganda has a range of ecological habitats, ranging from tropical forest zones to dry savannah. There are increasing pressures on important watersheds due to their high agricultural potential and changing landuse (Republic of Uganda, 2001, p. 6). Soil erosion is extensive in many places due to poor crop and management practices, including the cultivation and over-grazing of steep slopes and riverbanks. This sometimes leads to landslides. Destructive harvesting of forest resources in watershed catchment forests is further contributing to soil erosion and sedimentation, and to a reduction in the quantity and quality of water (Republic of Uganda, 2001, p. 6). Climate variability caused by climate change is having an impact in Uganda, as in the other case study countries (Republic of Uganda, 2013b, p. 69).

The degraded areas within state forests are apparently capable of regrowth within a period of about 20 years, according to Etwodu. The NFA is investing in protection and restocking of the degraded forests with some of the indigenous species with fewer seed trees to ensure that they re-establish. The areas that are more severely degraded will be planted with plantation species in order to meet production objectives for forest products which are in high demand (Etwodu, June 21, 2015).

5.5 Syntheses of findings

5.5.1 Ghanaian context

In Ghana degraded state tropical forests are made available for use by non-state actors such as NGOs and companies, because the state is interested in sharing responsibility for forest protection and management. Conservation values are enshrined in current state policy. However the literature and interviews with FSD staff suggest that, at least in the area where the fieldwork took place, there is yet little precedent for the FSD dealing with NGOs such as ARI, with its stated goals of biodiversity conservation and community engagement. Most literature about forestry management on degraded

state land refers to state partnerships with companies and individuals, who have profit-driven goals rather than conservation priorities. This is reinforced by a lack of reference to partnership arrangements with conservation NGOs in state policy documents.

The long-term investment required for successful forest restoration in a Ghanaian state concession will ultimately be determined by the commitment of local actors, such as forest-adjacent communities and FSD staff. Many examples of this were encountered during the field research, however one occasion that is worthy of note took place during the visit to a concession in Chirimfa Forest Reserve, Mampong District. The T.O. responsible for this concession said she was able to easily and immediately call together all key members of a village situated adjacent to the forest by speaking with just one person, the village leader (Personal communication, May 1, 2015). She used her relationship with this leaders to engage with the community and control their forest use according to her own mandate, and offered to lend her influence through this relationship to ARI staff too. Any NGO project in Ghana must ensure that key stakeholders are engaged and benefiting, which will take significant investment in local relationships to achieve.

Although several significant challenges were noted that would constrain the easy implementation of any potential NGO project in Ghana, such as corruption, land tenure confusion and the FC's lack of capacity, there are also many enabling factors. The latter include strong published government forestry policy that may be used as the basis for negotiations with the FC and FSD, as well as suitable ecological conditions on a general level (although site-specific visits would be necessary to gauge the nature of the local ecological contexts, which can differ significantly even between neighbouring concessions). Factors that an NGO would need to take into consideration during project implementation and design include poverty and population pressures, which lead to informal conversion of forest land to agriculture and increased demand for forest fuel and timber.

It would be a strategic for any NGO interested in conducting a community conservation project in Ghana to adopt as part of its mandate an ambition to support local and

national government in addressing and improving upon the governance challenges that exist in the policy environment. An organisation that combines staff possessing local socio-cultural knowledge with those who have international expertise, reputation, financial capacity and experience is likely to be in a good position to achieve this. A Rocha International, an organisation that embodies the above characteristics, may be able to set a positive example to other non-state actors, NGOs and businesses alike, regarding what it is possible to achieve in terms of community conservation on Ghanaian state-owned, degraded tropical forest.

5.5.2 Kenyan context

Kenya's forestry policy environment has many parallels with the policy environment in Ghana. The Forest Act (2005), enacted into law in 2007, aimed to promote a significant shift towards community engagement and decentralised management of state forests. Unfortunately local politics and power struggles, influenced by the state forestry authority's lack of capacity, complicate the outworking of such policies. The policy environment is host to corruption and faces the same demographic and economic pressures as Ghana. There is great demand for forest resources, yet while trying to enforce conservation policies KFS faces financial and human resource limitations. For example, this lack of capacity was verified by an interviewee of Wildlife Works, which is a non-profit REDD initiative operating in Kenya as a carbon offsetting organisation with other conservation and community goals. A former staff member explained that a key issue faced by Wildlife Works is the lack of forest boundary enforcement on the part of KFS, especially in keeping both the charcoal cartels and the other illegal activities to a minimum (Conservation Landscape Manager, Wildlife Works Kenya, email communication, August 21, 2015). Any community-focussed, conservation NGO operating in Kenya would face similar constraints to those in Ghana. The importance of local relationships with forestry authorities and community stakeholders in conservation projects has also been demonstrated in Kenya, as in Ghana. If positive relationships exist then NGOs may be enabled to achieve their goals due to the ad hoc nature of policy implementation, which has as much potential to act in favour of NGOs as it may constrain them.

It is important to note that in Kenya NGOs cannot directly lease portions of state-owned degraded forest; only through supporting a CFA can NGOs influence management of such forests. However, the relationship between NGOs and the CFAs they train and empower to carry out conservation has been shown to have potential to be very fruitful (ARK Director, personal communication, May 21, 2015). Therefore, this may be considered a suitable operational arrangement for NGOs wishing to ensure conservation of threatened biodiversity and benefit to local populations. Concessions of 10 000 ha are given to CFAs (ARK Community Conservation Manager, personal communication, May 20, 2015), which is an ecologically-substantial area for conservation purposes compared to the concessions 120 ha available in Ghana.

5.5.3 Ugandan context

In Uganda, the process of decentralisation of forest governance is reasonably advanced and local communities are given management rights via CBOs (Community-Based Organisations). A Ugandan conservation NGO, Ecotrust, reported a positive experience of working with the NFA, however it is difficult to determine whether this is fully representative of the situation as the interviewee may have felt it was inappropriate to criticise their governmental partner to the researcher. Also, Ecotrust's experience is not necessarily representative of the situation more generally. Indeed, the NFA's Director of Natural Forests himself critiqued the ability of the NFA to carry out their mandate on the ground due to lack of capacity.

In order to conserve the CFRs, the NFA still needs support to build capacity. Etwodu cited the following as desirable methods of sustainable financing: through non consumptive use of the forests, for example through payments for ecosystem services; providing alternatives for forest dependent communities and strengthening forest governance. A conservation NGO can potentially assist the NFA to meet these goals.

The example of Ecotrust and Uganda's NFA demonstrates that NGOs may, under certain conditions, effectively partner with state institutions to improve technical practice of forestry governance. The director of the international carbon offsetting organisation, Plan Vivo, explained:

> I know that the [Ugandan] Ministry of Water and Environment are very supportive of the Ecotrust initiative. They have helped Ecotrust to set up a carbon fund, a PES fund and an endowment fund earlier this year to ensure the sustainability of the organisation in delivering on its objectives. These efforts show that when projects scale up sufficiently they are increasingly looked at by national bodies to provide learning, to help shape policy and feed into new developments (Head of Operations, Plan Vivo, email communication, July 14, 2015).

Finally, as seen in the examples of Global Woods, New Forest Company and Green Resources, in Uganda the state has leased large areas of degraded forest to stakeholders. Although these examples are all private commercial organisations, there is no reason to believe that similarly large concessions may be granted to an NGO that meets the NFA's criteria for a management partnership.

5.6 Conclusion

This chapter has presented and discussed data on the forestry policy environments in Ghana Kenya and Uganda. Each case study has analysed factors within the institutional, social and ecological dimensions of the national policy environments that could enable and/or constrain the operations of a conservation NGO in the different countries. These dimensions were chosen according to the social structurationist framework originally devised by Pami *et al.* (2012), which aims to holistically assess the policy environment that controls management of a national resource, in this case degraded state forests. The results show that state-owned, degraded tropical forests in Ghana and Uganda may be leased for management by NGOs for the purposes of community conservation, and in Kenya NGOs can influence management through supporting community forest associations. State policies are generally supportive of community conservation, although national forestry authorities lack capacity to protect forests and are expected to raise funds to become financially self-sustainable, which can cause their conservation values to be compromised. Field observations, interviews, and secondary research reveal a number of factors that NGOs operating in these countries will need to address. These include the influence of poverty, population pressures, corruption, dependence on forest energy sources and construction materials. The findings and conclusions are further detailed in the next chapter.

Chapter 6. Conclusions and Recommendations

6.1 Introduction

This research has demonstrated that the policy environments in Ghana, Kenya and Uganda share many important similarities, due to the historical and current conditions that have shaped state forestry policy and continue to determine its implementation. These similarities are summarised below in a section presenting general, overall conclusions, along with an explanation of the key differences between the policy environments in the case study countries that may affect a NGO's ability to manage a successful community conservation project. The chapter then goes on to consider how the conclusions may be applied firstly to conservation NGOs in general and then to the work of A Rocha International, the organisation which provided the primary motivation for the study. Finally, some important areas for future research are suggested with associated reasoning prior to the chapter's conclusion. In this way, the chapter draws together and applies the various threads of the research in a useful manner.

6.2 General Conclusions

The social structurationist model provided a framework by which this study could analyse the policy environments in Ghana, Kenya and Uganda in a holistic manner. By requiring inclusion of factors from the institutional, social and ecological dimensions of the policy environments, the framework provided a depth of insight beyond that revealed simply in published state documents. As a result, it became clear that factors influencing implementation are at least as important, if not more so, than the policies themselves.

Ghana, Kenya and Uganda have all published robust state forestry policy documents in recent years, influenced to some degree by international bodies and wider conservation trends. These documents codify and uphold values that align, by and large, with the community conservation goals of an NGO such as ARI. The countries are all former British colonies and have shared relatively similar policy trajectories

throughout their histories, as can be seen in Appendix One. This has shaped their current policy goals, as problems created or neglected by the previous governance methods are addressed along with issues such as the need to sustainably meet growing domestic timber demands, pressure for land for agricultural expansion, provision of primary energy from forest fuel and increasing community participation in forest governance. The countries are all influenced by international conservation agendas and agencies, and they seek to profit financially from global carbon offsetting schemes through forestry governance. Decentralisation has also occurred in recent years to varying degrees, in all three countries. It is within the varied and often conflicting realm of these state aspirations and structures that a conservation NGO must operate.

The three countries' state forestry authorities, with responsibility for allocating and monitoring external management of degraded forest, share many similarities (Appendix Two). All three countries initiated the practice of leasing out portions of degraded, centrally-controlled state forest to individual, private contractors at around the same time (beginning in the early 2000s) and in all three it is primarily commercial interests that motivate actors to lease these concessions. There appears to be little precedent for conservation NGOs taking on the management of concessions of state forest, and indeed in Kenya it is not directly possible (instead, there are examples of conservation NGOs supporting and training community-based organisations, who are legally encouraged to manage such concessions).

Despite the fact that published state policy is generally supportive of community conservation initiatives, in all three countries, it is evident that the limited implementation of these policies would have the greatest impact on any proposed project. Socially, pressures on forest governance stemming from corruption, demographic pressures, poverty and energy dependency are common to all three countries. It was noted in secondary research that overall Ghana is less corrupt than Kenya and Uganda; yet interviews and field observations suggest that in day-to-day operations within the forestry sector this may not be very noticeable.

Ecologically, on a broad scale, reasonably similar conditions exist across the three countries. All three case study countries have roughly comparable climatic conditions, with hotter, drier northern regions and more tropical climates in the central and southern regions. It is worth noting that there appears to be more potential for an ecologically-significant size of concession to be given by the state for reforestation in Kenya (10 000 ha) and Uganda (examples of 12 000 ha) compared to the smaller concessions available in Ghana (120 ha). Although in Kenya an NGO cannot undertake management of state concessions directly and must support a local CBO to manage their conservation project through training and capacity-building, this type of approach may actually be best practice when it comes to fostering long-term sustainability and contextuality of the project.

Although more extensive research is needed, based on the results of the present study it is possible to conclude that no "killer issues" exist in the policy environments of the case study countries; that is, no factors which would absolutely prevent the success of an NGO-led community conservation project with goals such as ARI's. Instead, this research has identified a number of favourable conditions shared by the case study countries that increase the availability of degraded state forests for such projects. Institutionally, there is clear alignment between the goals of the Ghanaian, Kenyan and Ugandan governments as published current state forestry policies and the goals of ARI. Ecologically, each of the countries has appropriate areas of state degraded forest that the state is seeking management partners for, if a number of factors are taken into consideration (e.g. size of concessions etc). In terms of the social context, this study has found that in areas where the state's forestry governance lacks practical support of community conservation goals, if strong relationships exist between the NGO, the state, and community partners, then more is possible than appears viable on paper. For example, in Ghana, local ARI staff were confident of the possibility of securing larger portions of land than were initially presented by the state Forestry Commission due to their good relationship with the FC Plantations Director.

According to Kenya's Forestry Policy 2014, "non-state actors have the advantage of

being more independent of political pressures than governmental agencies and play a leading role in agenda setting, policy development and resolution of resource conflicts at the local level."(Republic of Kenya, 2014, p. 16). The Uganda Forest Policy 2001 also affirms the role of NGOs, saying they "can provide a pivotal role in mobilising and sensitising local people…and in supporting their active participation in the management of forests and trees" (Republic of Uganda, 2001, p. 10). Such favourable understanding of the role of NGOs by these state governments points towards the possibility of an NGO having the ability to influence the way degraded state forests may be used and governed. This is exemplified in the case of Eco Trust and the Ugandan NFA.

6.3 Application of findings for NGOs

Further, local, investigation of current ecological, social and institutional conditions is vital, prior to embarking on any community conservation project in Ghana, Kenya and Uganda. This is because these factors all interact to determine the suitability of different restoration, conservation and livelihood-supporting approaches. A greater level of detail is required for successful project planning than was able to be included in this study.

Micro-politics are extremely influential because they determine the nature and degree of policy implementation, including law enforcement (Funder & Marani, 2015). Therefore time and resources should be invested in the development of local relationships with the state forestry authority and forest-adjacent communities. If successful relationships are built, regardless of the published state forestry policy, all rules appear to be used flexibly by local forestry officials. Complexities of land tenure and competing interests of actors in Ghana, Kenya and Uganda, can lead to challenges in developing successful, equitable long-term partnerships with local communities in a community conservation project. However, community participation is vital because enforcement of forest protection through a command and control approach is expensive and often fuels conflict and antagonism. This was exemplified in the Kenya case study where several CBOs and the Kijabe Forest Trust all hired their own armed

forest rangers because they felt the national forest authority lacked capacity to carry out its responsibilities. In contrast, community-managed projects may reduce the incidence of law-breaking by local people and increase forest protection by developing local interest in the value of forest cover. This approach may not always be effective as for example in the case of non-local people travelling to a protected area to illegally extract forest products, however it is nevertheless beneficial in many cases.

It is possible that conservation NGOs may benefit from borrowing ideas for best practice from the field of development studies, where critical reflection on community projects is better-developed than within the more science-focussed conservation field. Development studies literature that analyses community-level projects would suggest that although many projects attempt a plethora of goals such as those described by A Rocha, few succeed in achieving all such goals within a single project (Brockington & Scholfield, 2010; Fay, 2007; Larson, 2010; Marfo *et al.,* 2012; Russell *et al.,* 2011). A win-win-win solution is extremely difficult to achieve with any long-term sustainability, due to the complexity of having multiple management partners, each with different goals. Instead of NGOs and policymakers approaching forest governance with the attitude that a win-win-win scenario can be achieved for themselves and local community partners, they should instead recognise a 'distributive' gains approach (Fay, 2007). This will avoid artificially 'selling' the project to communities as capable of providing benefits without costs, which leads often to disappointment and disillusionment with the NGO partners. Such an approach also leads to failure of project goals being implemented over the long-term, when it becomes apparent to community partners that costs do exist and must be borne by them (e.g. more time required for weeding around trees than they are reimbursed for through the additional income generated by the project). Instead, an approach that acknowledges the complexities, compromises and sacrifices that need to be made by all parties is more likely to succeed in the long term (Fay, 2007).

Finally, while supportive state forestry policies exist in all three case study countries, it would be prudent to include within the project mandate a primary goal of supporting

the state to improve policy implementation. For example, this may be done by supporting the ongoing training of district forestry officials, encouraging the forest authority to provide better screening of actors wishing to take on a lease of state degraded forest reserve, and supporting the development of landscape-scale forest management plans which all lease-holders must adhere to. The latter endeavour would ensure adherence to conservation goals by more actors beyond simply the NGO in question and their concession area. It would therefore be an effective use of NGO resources.

6.4 Application of findings for A Rocha International

As is the case for any NGO, the relationship that ARI would have with the local forestry authority is absolutely essential to ensuring the institutional and social access needed for a successful community conservation project. ARI could include in their project mandate a primary goal to contribute to increased transparency, accountability and best practice within the state forestry management system, particularly in the local district office. This would have long-term and widespread impact beyond the localised impact of the other goals. Also, even if the other goals are not achieved at the level initially desired by ARI, at least significant benefit from the project would be seen in one arena.

As a faith-based organisation (FBO), ARI may potentially have an advantage over other NGOs for the following reasons:

- Long-term presence in the form of churches, gives more stability than simply the short-term funding cycles of non-FBOs. Restoration of degraded forest areas is a long-term activity. The degree of ongoing, long-term support for any project that ARI can demonstrate through its connections with local churches may contribute to better community relations, which have been shown to be vital.
- Interpersonal connections between ARI conservation practitioners and the local community are real and valuable due to common, shared practices of worship.

This may also help facilitate honest, direct dialogue within governance relationships.

- Intercultural miscommunication regarding finances, goals, and responsibilities may be overcome to some degree through the shared language and egalitarian mandate created by the moral imperative of Christian stewardship.
- Commercial enterprises such as Miro Forest Company are able to attain a level of buy-in from local communities by offering jobs and material benefits through large-scale corporate social responsibility programmes. This is dependent on financial success, however, which may lead to compromising conservation values for economic profit. An FBO may be able to attain good relationships with the community via a shared moral imperative for conservation, rather than by offering only material benefits. If this is achieved, then community relationships may be less threatened in the case of conservation costing them to some degree, especially in the short-term. The promise of material reward may become of secondary importance, rather than a primary motivation for community engagement with the project.

It should be noted, however, that in some cases an FBO may need to be more careful than a secular NGO about the impact/biases embodied in their faith-based identity, when engaging with the values of government policies, in order not exclude any particular groups from their activities.

6.5 Further research

In order to explore the research questions with greater depth and accuracy, further research could include both more specificity and wider breadth, as well as taking into account cross-disciplinary theory. Specific conditions at proposed project sites should be investigated, including the local ecological conditions of each forest concession available for lease and the social relationships existing between district forest officers, customary leaders and the NGO intending to carry out the project (e.g. ARI). Importantly, the financial dimension of the policy environment needs to be investigated. This is a significant driver in the interests and therefore actions of each

stakeholder, but could not be included here.

The present study has looked primarily at the dimensions of the policy environment, however two other elements of the social structurationist framework exist that have only been touched upon in this study; namely 1) actors and their interests and schemata, and 2) events which impact upon the behaviour of actors within the policy environment (Aalto, 2012, p. 26, 35-37). These two elements could be investigated in much greater detail. Regarding actors, further analysis should address the capacity of each national A Rocha organisation, i.e. A Rocha Ghana, A Rocha Kenya and A Rocha Uganda, to determine which one is the most capable of fulfilling the goals of partnership with ARI. It would also be prudent to investigate further the different companies and organisations that are leasing concessions of degraded forest land from the state in the case study countries already (for example Miro Forestry Company in Ghana, Wildlife Works in Kenya, Global Woods and Ecotrust in Uganda), to learn from their experience of operating within the policy environments.

Finally, this research has highlighted the vast literature available within the field of development studies that may inform the design of any future community conservation project. This will ensure that the lessons learned through many years of success and failure by other NGOs are not wasted, nor their mistakes repeated.

6.6 Conclusion

This chapter has drawn some general conclusions from a comparison of the forestry policy environments in Ghana, Kenya and Uganda. Most notably, it has highlighted how 1) parallels between the countries with regard to their historical forestry governance have resulted in similar, conservation-enabling policy goals and institutional structure; 2) the social context in each country determines the degree of policy implementation, which is often limited and nuanced, and 3) a general ecological comparison shows commonalities between the countries, but each site has such specific environmental features that generalisations are insufficient to determine the most suitable ecological location for a community conservation project – localised field visits must be made. These conclusions show that institutional, social and ecological factors are able to both

enable and constrain NGOs from achieving community conservation goals. The balance of enabling and constraining influences determines the degree to which degraded, tropical state forests would be available for an NGO wishing to carry out a community conservation project.

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Appendix One: Historical Policy Development in Ghana, Kenya and Uganda

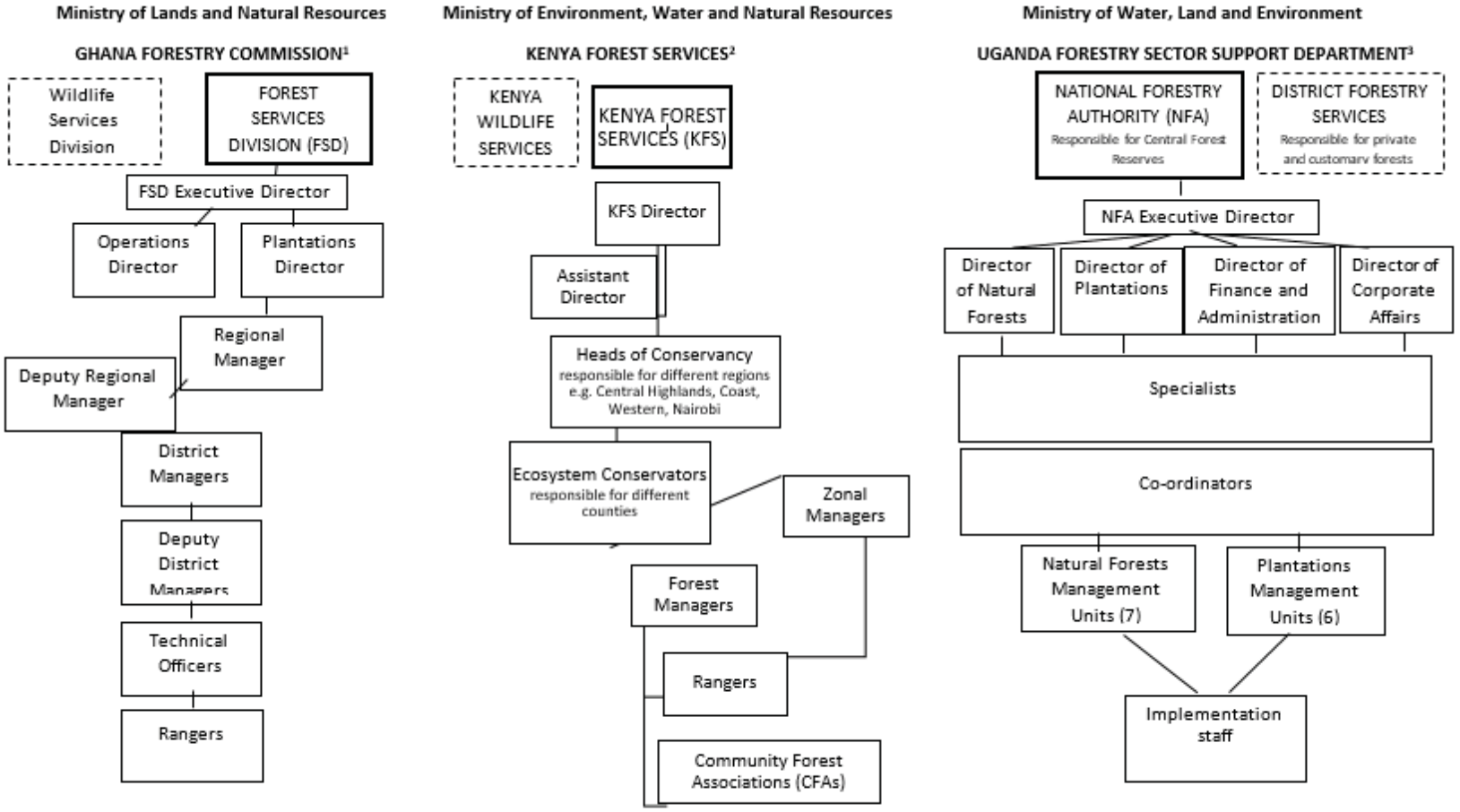
Decade	Period	GHANA[1]		KENYA[2]		UGANDA[3]	
pre 1900s	Pre-colonisation	← Regions governed by kingdoms and chieftancies. Sacred controls moderated forest use. Traditional spiritual and cultural practices upheld. →					
		General characteristics of forest governance	**Policies**	**General characteristics of forest governance**	**Policies**	**General characteristics of forest governance**	**Policies**
	Became official British colony	1874		1920		1894	
1910's	Colonial rule	Extensive indigenous forest estate created in 1920s, in High Forest Zone. Centrally-controlled. Limited stakeholder participation.		Central state control. Settlement occurred on state forests according to government discretion, to relieve population pressure elsewhere.		Highly regulatory, centrally controlled. Industry-biased. Limited stakeholder participation.	1913 Forests Ordinance
20's							**1929 Forest Policy (first)**
30's							
40's			**1948 Forest Policy (first)**		**1942 Forest Ordinance (first complete forest legislation)**		Establishment of forest estate boundaries
50's					1957 Forest Policy		
	Date of independence	1957		1963		1962	
60's	Post-colonisation	Reforestation occurred. Public plantations established in 'degraded' areas using Traditional Taungya System.		Central state control. Reservation and enforced boundary protection for Protected Areas (Pas)	1964 Forests Act, Cap 385	Command and control. Maintainted forest estate in reasonably good condition.	
70's						Idi Amin regime began 1971. Resulted in non-directional governance, economic disruption, insecurity and impaired delivery of goods and services.	
80's				Weak forestry governance			1988 Zoning of forest estate, creation of Protected Areas
90's		Accelerating establishment of forest plantations on degraded areas from 1996. Decentralisation. Community management supported.	1994 Forest and Wildlife Policy, FSD formed.	Decentralisation. Participatory governance introduced.	1994 Kenya Forest Master Plan	Decentralisation. Participatory governance introduced.	1995 Ugandan Constitution 1998 NFA officially formed
00's			2001 Introduction of the National Forest Plantation Development Programme (NFPDP)		2005 Forest Act 2007 KFS formed 2010 Forest policies aligned with Constitution		2001 Forest Policy 2003 Forestry and Tree Planting Act 2004 NFA operational
Current			2012 Forest and Wildlife Policy		2015 Forest Conservation and Management Bill, KFS developed		2012 National Forestry Plan
Future goals		*More plantations by 2040*	2015-2040 Forest Plantation Strategy	*10% tree cover by 2030*	2010 Constitution	*Unknown*	

[1] Data from Ghana Forestry Commission, 2016; Seth Appiah-Kubi, personal communication, April 29, 2016

[2] Data from Resource Conflict Institute (RECONCILE), 2014; Gathaara, G. 2014; Boone, 2012, p. 81

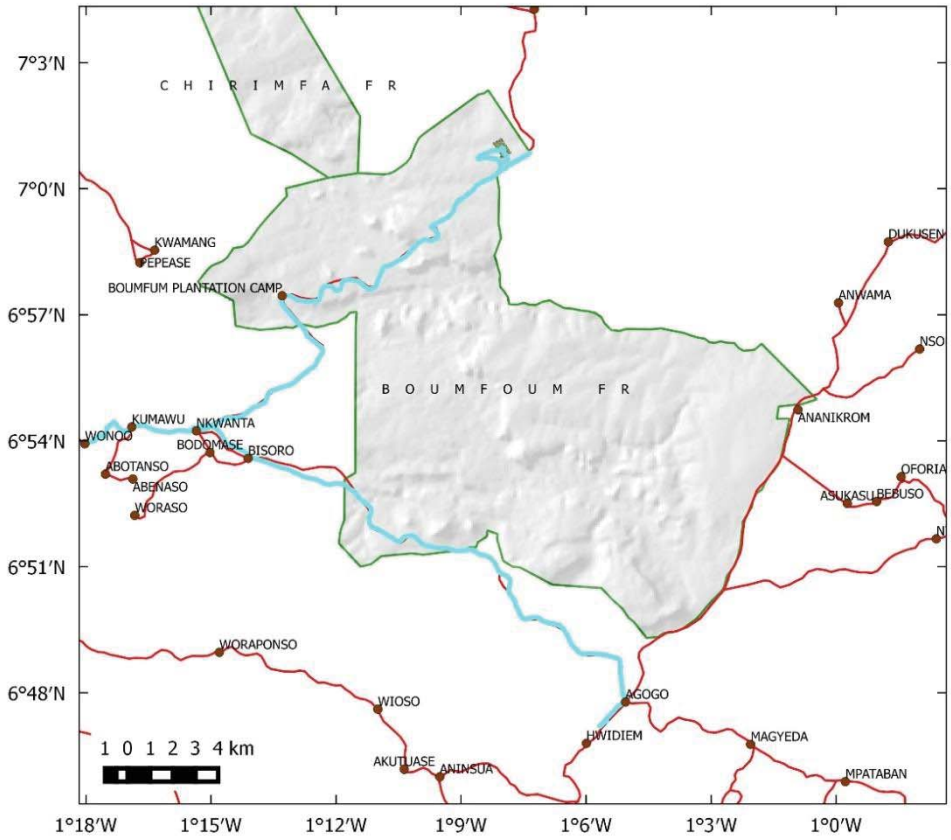
[3] Data from Turyahabwe & Banana, 2008; Levi Etwodu, email communication, June 21, 2015

Appendix Two: Organisational Diagrams for State Forestry Authorities in Ghana, Kenya and Uganda



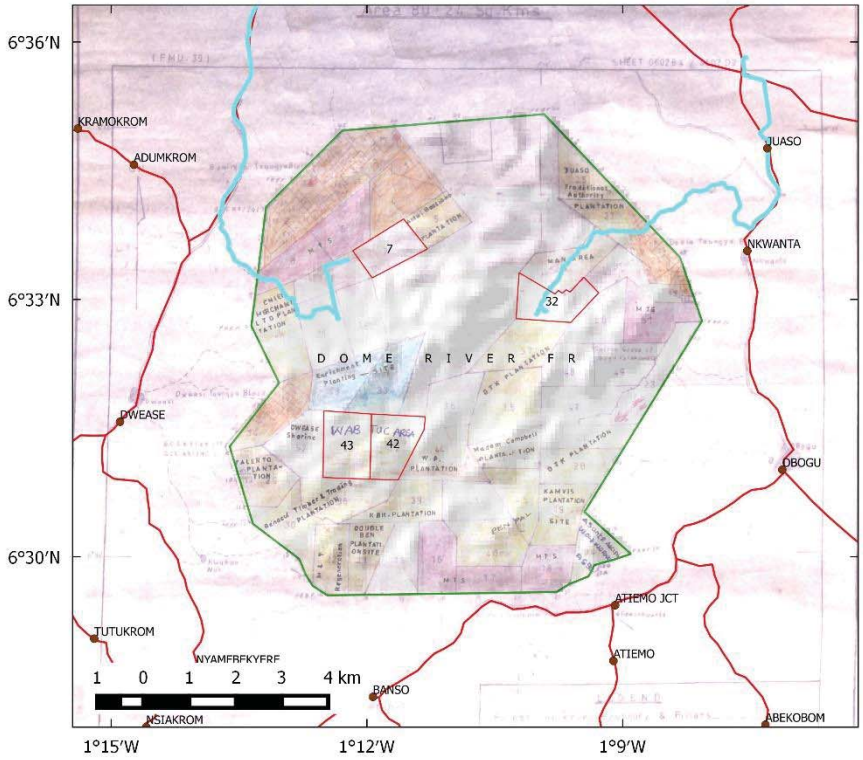
[1] Data from Seth Appiah-Kubi, personal communication, April 29, 2015
[2] Data from Stanley Bava, personal communication, May 20, 2015
[3] Data from Republic of Uganda (2013); Levi Etwodu, email communication, June 21, 2015

Appendix Three: Map of Boumfum Forest Reserve in Kumawu District



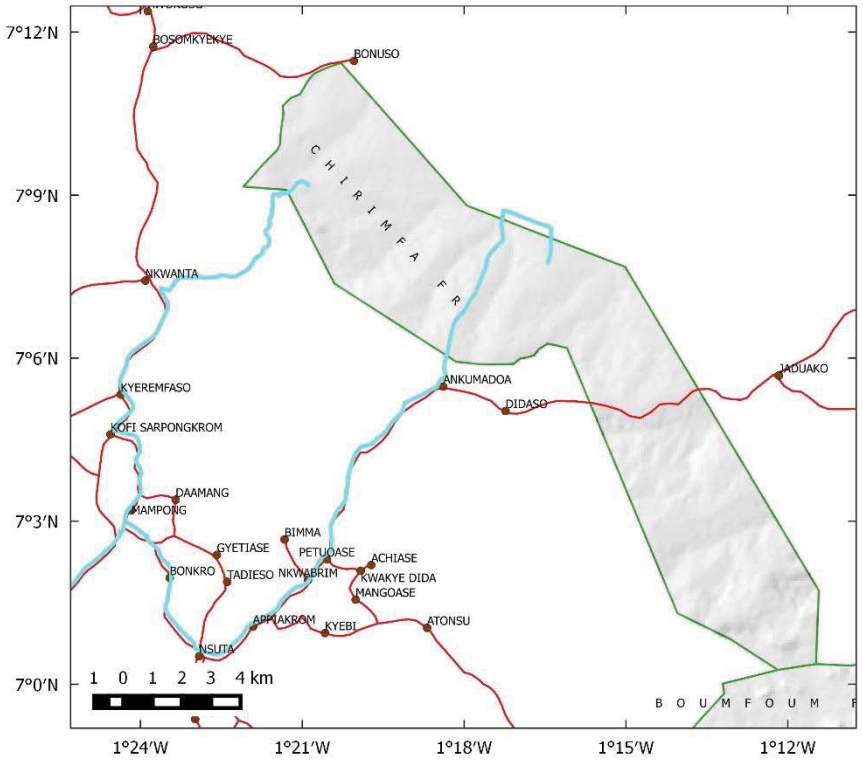
Map used with permission by Jeremy Lindsell, 2015

Appendix Four: Map of Dome River Forest Reserve in Juaso District



Map used with permission by Jeremy Lindsell, 2015

Appendix Five: Map of Chirimfa Forest Reserve in Mampong District



Map used with permission by Jeremy Lindsell, 2015

Appendix Six: List of Interviewees

Ghana Case Study	Date and Method	Kenya Case Study	Date and Method	Uganda Case Study	Date and Method
District Forest Officer, Kumawu	28.04.15 In person	Former staff member, A Rocha Kenya	19.05.15 In person	Director of Natural Forests, NFA (Levi Etwodu)	21.06.15 Email
Forest Ranger, Kumawu	28.04.15 In person	Director, Care for Creation Kenya (Craig Sorley)	19.05.15 In person	Programmes Director, Ecotrust	17.08.15 Email
Director, A Rocha Ghana	28.04.15 In person	Community Conservation Manager, A Rocha Kenya	20.05.15 In person	Head of Operations, Plan Vivo	14.07.15 Email
Kumasi Programmes Director, A Rocha Ghana	28.04.15 In person	Director, A Rocha Kenya	21.05.15 In person		
Administrative Manager, Miro Forestry Company (MFC)	28.04.15 In person	Conservation Landscape Manager, Wildlife Works, Kenya	21.08.15 Email		
Technical Officer, Dome River Forest Reserve	29.04.15 In person				
Farmer and hunter, Compartment 32, Dome River Forest Reserve	29.04.15 In person				
District Forestry Manager, Mampong	01.05.15 In person				
Technical Officer, Mampong	01.05.15 In person				
Farmer, Compartment 10, Mampong	01.05.15 In person				
FSD Cartographer, Mampong	01.05.15 In person				
Other:	Conservation Science Director, A Rocha International (Martin Kaonga)				07.08.15 In person