Master's thesis

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Norwegian University of Science and Technology
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Department of Geography

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Problem or Panacea: A Probe Into the Co-management Practice and Experience in Boabeng-Fiema Sanctuary for the Conservation of Wildlife Monkeys.

Master's thesis in Natural Resources Management
Supervisor: Haakon Lein
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Summary

Boabeng-Fiema Monkey Sanctuary, over the years, has welcomed and witnessed multiple external stakeholders assisting with the management of the wildlife conservation. External stakeholders, including the wildlife division, district assembly, Ghana tourism board, and a legal expert, gravitated to the dual communities. In addition to the stakeholders, the conservation area has also welcomed the formation of organizations such as the management committee (MC) and the board to facilitate management activities. These stakeholders' arrival required sharing management functions, adjusting of positions, and ensuring power distribution between the various stakeholders available in the twin villages- making it a *co-management* system.

However, the practice of co-management over the years in Boabeng-Fiema Monkey Sanctuary has produced multifaceted outcomes. For this reason, this study aims to uncover the pluralistic management approach's impacts by identifying the challenges and benefits of co-management and ascertain the type of co-management utilized in Boabeng and Fiema's protected area. In other to accomplish this task, the study adopts an interview technique for data collection. Face to face interview was used to gather data from local residents/stakeholders in both Boabeng and Fiema communities. On the other hand, a focus group *interview* was employed to obtain information from management stakeholders, including the management committee members, the five external stakeholders (board).

Respondents agree in their numbers that the pressing challenges residents and external stakeholders face together in the co-management system include the hike in conflict, unfair benefits, and costs allocated and break down in relationships among actors. On the bright side, many respondents also admitted having benefited from the co-management structure because it has helped create a conflict mitigation platform and has equally helped improve the relationship between stakeholders and encouraging grassroots participation. The field results indicate that the type of co-management practiced in the conservation area management is the *coordination*. In discussing some of the results, Human-Wildlife Conflict (HWC) is employed to analyze conflict issues in the communities between wildlife-human and human-human. Political Ecology is also used to discuss benefits and cost allocations present in the sanctuary co-management. Lastly, the results of grassroots participation improvement and *coordination* co-management are equally addressed in the discussion chapter.

Acknowledgement

A special thank you must go to the almighty God for the strength and health experienced throughout the thesis writing period. A huge thank you must also go to my supervisor Haakon Lein for his important comments provided towards this project. I also reserve thank you to the chief of Boabeng and Fiema communities, the board members, management committee members, the manager, the wildlife division officer, the residents I interviewed, and all those I could not interview.

I want to thank my incredible parents: Stephen K. Ankamah (father) and Fofie Janet (mother), for all the financial support and advice given to me throughout my life and educational journey. Also, a reserved thank you to my irreplaceable siblings: Bernard Ankamah, Frank Owusu, Justina Ankamah, Pius Twene, Esther Ferkaa, Urban Ankamah, Gloria Ankamah, and our late sister Clara Ankamah.

This project is also dedicated to Richmond Akuafo and Michael Ogbe for their relentless assistance provided during the period of fieldwork and thesis writing. Lastly, the final thank you is reserved for all the names I forgot to mention who have helped me up to this point in my life. This project would not have been possible without any of you.

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Abbreviations

BFMS…….Boabeng-Fiema Monkey Sanctuary

CBE……Community-Based Education

CSC……...…….Christian Savior Church

DISEC……District Assembly Security Council

HWC……...Human-Wildlife Conflict

MC……..Management Committee

NGO……Non-Governmental Organizations

PA……Protected Area

Chapter one

1.1.0 Introduction

Boabeng-Fiema Monkey Sanctuary (BFMS) is found in the Bono East region of Ghana. The conservation area has served as a habitat for multiple species for more than four decades. It has become an attraction for tourists and researchers mainly due to the presence of two specific species: mona monkeys (*Cercopithecus campbelli*) and black and white colobus (*Colobus vellerosus)* (Attuquayefio and Gyampo 2010).

Boabeng and Fiema villages used communal values, customs, and traditions, which forbid natives from harming or killing wild monkeys. With local knowledge, the community governed and sustained the conservation area before the nineteen seventies. Saj et al. (2006) argue that community members consider wild monkeys to be the children of the gods who protect the villages. In return, the communities establish taboos to protect the sanctuary, and those taboos carry with it the requirement of ‘‘caring for the monkeys’’, which translates into a hunting ban (Saj et al. 2006).

This harmonious coexistence began to crumble in the early nineteen seventies when members of a zealous religious sect, the Christian Savior Church (CSC), came to settle in the area and started disregarding the age-old taboos (Attuquayefio and Gyampo 2010). Indiscriminate killing of the monkeys drastically reduced the numbers of monkeys, rampant illegal logging, and encroachment of forest habitats for farming prompted concerned residents, particularly Mr. D.K Akowua, to seek help from the Department of Game and Wildlife (Attuquayefio and Gyampo 2010). According to Attuquayefio and Gyampo (2010), these issues, with encroachment problems for farming, illegal hunting, and human-wildlife conflict rendered any conservation effort mostly ineffective.

Different management strategies have been tried over the years in Boabeng-Fiema Monkey Sanctuary. Eventually, those attempts led to the birth of co-management, which has been one of the primary strategies employed by park administrators worldwide since the nineteen nineties (De Pourcq et al. 2015). The structure is described as the process of solving-problem in which actors at different levels and scales interact to adjust their positions, roles, and activities to harmonize with emerging contexts and circumstances surrounding a natural resource (Dung 2019).

Multiple stakeholder groups with pro-conservation ideas gravitated towards the community to assist with management. The District Assembly, Ghana Tourism Authority, and Non-

Governmental Organizations (NGOs) all offered support to the community to manage the conservation area. At this point, management power was disseminated among the available stakeholders (co-management).

This involvement of stakeholders in the decision-making process is thought to improve both the knowledge available for rule making and the legitimacy of the rulemaking process (Pearson and Dare 2013). In terms of participation, the co-management arrangement engages local community groups or resource users in decision-making, implementation, and enforcement (Dung 2019). Embracing the different stakeholders aims to maximize several potential benefits in the effective implementation of co-management initiatives, such as enhanced equity, efficiency, and legitimacy in the decision-making process, and enhanced community capacity for collective action and conflict management (Akamani and Hall 2019).

To understand the use of co-management in Boabeng and Fiema Monkey Sanctuary (BFMS), and how it has evolved over the years and to identify its impact on the local people and the conservation. Both internal and external stakeholders interested in the conservation area were interviewed using face-to-face and focus group guided by unstructured interview questionnaires. Some of the results obtained during the interview in Boabeng and Fiema were discussed using the human-wildlife conflict (HWC) and political ecology perspectives.

1.2.0 Research questions

In other to understand the pros and cons associated with co-management, three research questions are employed for the study:

1. What are the challenges of using a co-management approach in Boabeng-Fiema Monkey Sanctuary?
2. What are the benefits of using a co-management approach in Boabeng-Fiema Monkey Sanctuary?
3. What kind of co-management approach is utilized in Boabeng-Fiema Monkey Sanctuary?

1.3.0 Thesis structure

Chapter one gives an overview of co-management and how it has evolved over the years in Boabeng and Fiema. The chapter provides the three research questions for the study, the problem statements, and the justification.

The second chapter provides a historical account of the protected area (PA) and sheds light on the study area. The chapter addresses physical, social, economic, and cultural events and characteristics that make the twin villages and their allied communities unique. It also provides details on the two central establishments/bodies that co-manage the PA: the board and management committee (MC).

Chapter three talks about the methodology of the study. It provides reasons for the adoption of a qualitative research design. The chapter gives information on the various qualitative tools applied in this study. It offers details of the strength and the weaknesses of the qualitative approaches and tools used here. The third chapter also shed lights on the ethical considerations for the study.

The fourth chapter provides the literature review and theoretical framework for the study. The chapter gives an account of a series of literature on the concept, features, and co-management types. It continues by providing a literature review on both Human-Wildlife Conflict and political ecology.

Chapter five provides the results obtained from the field. It shares results on co-management challenges, including the rise of conflict, breakdown of relationships, and the unfair costs and benefits allocated in the twin communities. This chapter equally provides the benefits accrued for co-management practice: improvement in participation, conflict management platforms, and relationship improvement. There is also results in *coordination* co-management as the type of co-management used to manage the study area.

In the sixth chapter, there is a discussion of results. Human-Wildlife Conflict is employed to discuss the conflict issues emanating from the management of the conservation area. Political ecology is also used to analyze how political and power structures in BFMS helps to maintain unfair benefits and cost allocations to actors in the twin villages. Participation improvement from grassroots and *coordination* co-management type are equally addressed in the discussion section in this chapter.

The seventh chapter talks about the conclusions and possible areas for future research. It also highlights the limitations and recommendations for this study.

1.4.0 Problem statement

The governance of protected areas is often complex and contentious, requiring a delicate balance between conservation outcomes and community development (Pearson and Dare 2013). Cobbinah (2015) adds that the impossibility of separating human activities from natural resources makes natural resources management an important strategy in achieving a sustainable balance between socio-economic development and environmental conservation. These reasons make the management of protected areas challenging to handle by a single actor like the government or resources users. Since the establishment of the conservation area in BFMS, there have been varieties of management approaches: from an exclusively community-based approach to one highly dominated by the state, and a shared management system practiced now.

Recent evidence suggests that protected areas inhabited or managed by traditional communities are generally better preserved than areas governed by exclusionary conservation policies (De Pourcq et al. 2015). However, this does not imply that such areas are devoid of problems (De Pourcq et al. 2015). There is a continuous search for novel management approaches because the protected area in BFMS and many other places are embedded into environmental problems, including conflict among stakeholders, resources overexploitation, poverty, environmental degradation, and human-wildlife conflicts. It is evident that over the years in BFMS, several management strategies have been attempted in an effort to bring out the ideal conservation management approach with the potential to solve the countless constraints that continuously stifle the success of the conservation area.

Despite the knowledge accumulated so far in conservation co-management, knowledge gaps still exist that require further scientific exploration. Insufficient knowledge in co-management includes where and when to implement co-management and the specific signals that indicate that a set of specific natural resources and resources users are ready to embrace co-management are as vital as the co-management tool itself. Again, it is still unclear how much responsibility and power should be disbursed to stakeholders for the smooth running of conservation areas. Power-sharing among key actors in conservation has become one of the ultimate sources of conflict today in BFMS. Today we still do not have adequate knowledge of how much duties, rights and privileges are required for relevant actors to manage protected areas. Researching these areas and providing credible knowledge will make it easier to adopt and implement co-management and help

conservation areas flourish. For some of these reasons, researchers are always encouraged to be relentless in their pursuit of knowledge particularly in the less researched areas in co-management.

Consistently, researchers are exploring for the ideal co-management type that will help bring the best out of stakeholders and PAs. This effort is directed towards nature management areas to ensure that a reasonable amount of knowledge gets accumulated in this field. This effort will help us better understand co-management theory. It can also move us closer to curbing, if not all, then some of the pressing challenges conservation areas have embattled over the years and are still struggling with today.

1.5.0 Justification

This study's motivation is to provide a development guideline for government, policymakers, and non-governmental organizations (NGOs) who seek to solve challenges affecting biodiversity conservation in Ghana, particularly in the Boabeng-Fiema Monkey Sanctuary. Government and conservationists are undoubtedly interested in ameliorating many of the conservation constraints in Ghana. More often than not, their major stumbling block has been the implementation plan for management. For this reason, this thesis aims to provide a guideline for the management of conservation areas in Ghana that potentially serve as the impetus for conservation management tool by tapping into the recommendations.

Chapter two

Background of the study area

2.1.0 Introduction

This is the background chapter, and two important issues are presented. First, the chapter will trace the history behind the establishment of the monkey sanctuary in Boabeng and Fiema. The two main bodies (*board and management committee*) that help facilitate co-management activities in the twin communities is presented. The reasons behind establishing (board and management committee), compositions, roles, and weaknesses are presented. In this chapter, the timeline for the creation of the PA is also provided. The chapter ends with the presentation of geographic characteristics of the study area.

2.2.0 History of the study area

The history of BFMS is deeply rooted in the typical Ghanaian culture, tradition, and religion, which embrace values such as sincerity, love for environmental conservation, and spirituality. In eighteen twenty-seven, the chief of Boabeng-Nana Kwaku Damoah welcomed new migrants to his area who are currently recognized as residents of Fiema. The communities had fetish priest/traditionalist whose ultimate responsibility was to advise the residents on all important matters including issues of conservation and the use of natural resources.

Around eighteen thirty- one, the two monkey species- mona monkey and the black and white colobus currently found in the PA area were discovered in the forest surrounding the two communities. Daworo, the fetish priest admonished the communities that the monkeys discovered were god-sent; therefore, no harm should be inflicted on any of the monkey species. At the time, there was a strong recognition and respect for the voices and commands of the traditional values and institutions. This motivated and marked the beginning of sanctuary conservation. The PA flourished, though a reasonable amount of forest resources could be removed by the communities at the time. A subchief who served on the management committee

revealed that the two monkey species showed a sharp increase in numbers over the years while the forest became very rich in diversity, relying on communal norms, values, and

Figure one: A field photo that shows a black and white colobus monkey (Colobus vellerosus) in Boabeng community.

local ecological knowledge rather than the use of formal laws. The arrival of Christian Savior Church in nineteen seventy marked a turning point in the management history of the protected area. The Christian Savior Church was built upon doctrines that disregarded traditional beliefs and indigenous values. The Church became a threat to the conservation area as it undermined the conservational norms which have existed over the years. Few years after the arrival Christian Savior Church, Eshun and Tonto (2014) note that the Sanctuary faced attacks from

members of the Church, which resulted in the killing and eating of some of the monkeys at the time. This threat led to an unprecedented decrease in monkeys' numbers and illegal chopping down of trees around nineteen seventy-one.

Figure two: A field image showing mona monkey (Cercopithecus campbelli), who sits on the edge of tree in the forest of Boabeng-Fiema Monkey Sanctuary.

In nineteen seventy-one, Mr. D.K Akowua, having witnessed the horrific act of killing and harming the wild monkeys felt the urge to do something. Being a concerned resident of Boabeng, he wrote a letter to the Wildlife Division office to have the forest and the wild monkeys become fully protected. His effort was rewarded four years later on the first of May nineteen seventy-five, when a bylaw was passed that prohibited the slaughter of the monkeys (Eshun and Tonto 2014) and extraction of any form of resources from the protected area. The wildlife division provided staffs who assisted the community in all the management processes of the PA by giving professional and scientific conservation advice to communities. At the same time, communities also helped the staff with some local ecological knowledge.

Due to this managerial change, the protected area entered a new phase, the co-management phase where– the chief priest, chiefs, residents, and wildlife division all became stakeholders. Around nineteen ninety, the sanctuary management was altered to help embrace people and groups who had been unintentionally left out by the previous set up. Two members from both Boabeng and Fiema, and one representative from the District Assembly were added to the existing management set up to capture more voices and authority, especially from the district assembly. The name Boabeng-Fiema Monkey Sanctuary (BFMS) was born after the management shakeup.

Many activities occurred in the late nineteen nineties. There was a remarkable surge in the number of tourists and researchers in BFMS, triggering high revenue levels. Monkey population had taken a new turn: monkey numbers started to increase. A guest house was built in nineteen ninety-six to provide accommodation for tourists and researchers (Eshun and Tonto 2014). By two thousand and two, the BFMS had become very popular such that Boabeng was set to receive community-based education (CBE) phase one project financed by the United States AID. The late two thousand were earmarked with power distribution and other management changes. At this point, community members had advocated for more control and responsibilities at the district assembly and wildlife division expense.

Community members and local stakeholders took charge of managing the tourism industry and revenue collection. In contrast, the external stakeholders, including the district assembly, and wildlife division dealing with the protection of the sanctuary by twenty-ten. To strengthen the number of community members and effectively manage the sanctuary, BFMS increased its management members; the Chief Warden, Assembly member, and three individuals from Boabeng and Fiema communities were added (Eshun and Tonto 2014).

Still, a lot needed to be done, according to the stakeholders. Relevant issues such as transparency, accountability, equal participation, and distribution of benefits was lacking which required a second thought. There was also a call for broader involvement of the five allied communities to include women and youth in the co-management system. The response to these demands led to the establishment of the management committee (MC).

2.3.0 Management committee (MC)

Second, to the board, the most powerful system managing the sanctuary is the MC, which was created in twenty sixteen. The MC provides a broad and equal platform where ideas on the sanctuary are shared, grievances and new conflicts are resolved, and sanctuary projects are supervised. The MC comprises representative each from the six *allied* communities in addition to Boabeng and Fiema: Bonti, Konkrompe, Senya, Busunya, Akrudwa 1 and, Akrudwa 2. These communities are socially, economically, and ecologically affected by the presence of the protected area in BFMS. The MC also serves as a bigger platform where a wide range of issues about wildlife conservation are discussed and filtered by the affected communities and individuals. The MC is not without weakness. It is criticized for being ineffective in policy implementation. In addition to this, the MC is comprised of people with social class and some form of economic power and does not include the ordinary individuals.

2.4.0 The Board

By twenty eighteen, there was the pressing need to have a new system to assist the MC because it had not lived up to its expectations. A wide range of issues still faced the management of the sanctuary. A strong, experienced, legal, and respectable arrangement that wielded more power and responsibilities to manage the sanctuary became necessary, leading to the birth of the board in twenty-eighteen. The board is an essential part of the co-management system in BFMS today. The board is composed of five members from each of the recognized stakeholder groups. It includes the officer of the wildlife division, the main chief of Boabeng community representing the traditional council, a legal adviser, a representative from the district assembly, and a member of the Ghana tourism board. The board has a final says on everything that goes into the sanctuary. It also controls the management committee. The board exclusively controls the final decision regarding which project and ideas to implement, when sanctuary revenues should be shared, who should be employed in the sanctuary, and many others. Residents and MC have criticized the board from many angles: It is criticized for its deficiency in equal gender representation. The board has neither a youth nor a woman. The MC also accuses it of operating beyond its limits and endlessly abusing its powers.

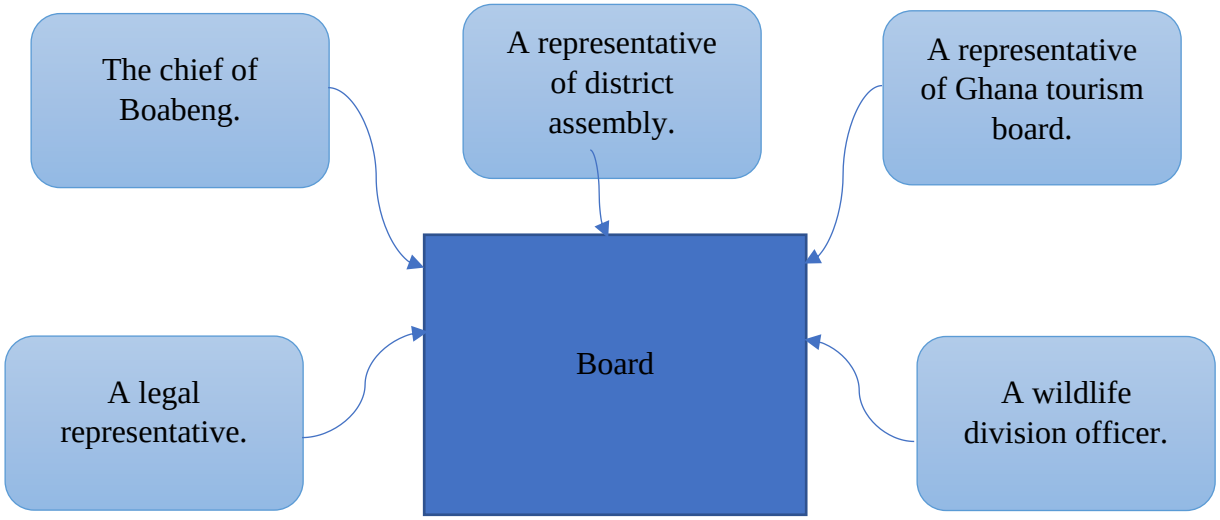

Figure three: A figure which shows the composition of the board members in Boabeng-Fiema Monkey Sanctuary.

Despite the board and the MC's existence in recent years, their contribution has not mitigated most of the challenges for which they were created. Both the board and MC have failed to be the panacea residents thought they would be for co-management of BFMS. Members of the MC have relentlessly complained over abuse and overuse of power from the board, whereas the board also sees the MC as an obstructing arrangement that does nothing but stifles and delay important management actions. The friction between the two parties has led to a broken relationship between the two parties. Conversely, the board and the management committee have helped gather support, improved transparency, encouraged grassroots participation and, aided in the elimination of new conflicts in BFMS, which have all had tremendous effects on the growth of the co-management model in BFMS. Details on the challenges and successes of co-management in BFMS are presented in the fifth chapter, page fifty-one.

2.5.0 Emergence of co-management in Boabeng Fiema Monkey Sanctuary

The use of co-management for the PA in Boabeng and Fiema started long before establishing the board and MC. Co-management is a management tool that has continuously evolved in Boabeng and Fiema. A healthy co-management approach is susceptible to changes and adaptions over time in response to its stakeholders' demands. The arrival of the external stakeholders, including the wildlife, district assembly, legal expert, and many others, contributed substantially to the development of the co-management approach in the dual communities. External stakeholder's presence sparked the beginning of the co-management process in the nineteen seventies. Imperatively, the inclusion MC and the board aided the co-management process by helping in the mobilization, empowerment, and distribution of management functions to the relevant stakeholders.

These different actors arrived with varying conservation ideas different from what is known to the residents. The external actors and local stakeholders needed to negotiate with each other about their responsibilities and powers. For instance, who should formulate policies, who must implement the policies formulated, are vital issues that need to be sorted out by stakeholders. Therefore, negotiating, sharing, and distributing responsibilities between local stakeholders and external stakeholders is referred to as co-management. The co-management machinery is in full operation as long as every relevant stakeholder in BFMS, especially local stakeholders, is empowered, considered, and, allowed to participate in the governance of the PA.

Table 1: Tabulation of co-management evolution over the years in Boabeng-Fiema Monkey Sanctuary

(Author's creation, 2020).

Year	Occurred events	Stakeholders involvement/power and duty sharing.
1831	The Boabeng community was established, and two monkey species: black and white colobus and mona monkeys, were discovered. Communities are admonished not to harm any of the two monkey species.	Stakeholders include the chiefs, chief priests, and the entire community. Power and duties are with local people.
1970	There is a rise in the killing and harming of monkeys due to the arrival of the Christian Savior Church (CSC).	Stakeholders include chiefs, chief priests, and the entire community. The community controls power and duties.
1975	A bylaw is passed to prohibit the killing of monkeys and the extraction of any resources from the forest. Boabeng-Fiema Monkey Sanctuary is officially formed.	The stakeholders include; chiefs, chief priest, the community, and the wildlife division. There is power-sharing between community and wildlife division, marking the beginning of co-management.
1980s	Early expansion of co-management system.	Stakeholders consist of the chiefs, chief priest, the wildlife division officer, two representatives from Boabeng and Fiema. There is power-sharing between the community and the external actors.
2000s	The protected area becomes popular and there is a surge in tourism.	External stakeholders are gaining control. Wildlife division and district assembly have become part of the management system.
2016	Establishment of the management committee to give a broader platform to excluded people.	Stakeholders include the chiefs, wildlife division, NGO, District Assembly, Chief warden, and a member from the seven allied communities, youth representative. But it is still a community-based management system because the community still has control here.
2018	Establishment of the board.	The board is formed comprising of the Chief, District Assembly, the Wildlife officer, a Legal Advisor, Ghana tourism board representative, and the Management Committee. Management power and responsibilities are entrusted into the hands of the board.

2.6.0 Geography of the study

Boabeng and Fiema are twin villages found in the middle belt/middle part of Ghana. The two towns are precisely located in the Brong East region, and forms part of the Nkoranza North District. In between, the two communities sit the protected area or monkey sanctuary, which serves as habitat primarily for the two main species of monkeys: the mona monkeys, the white and black colobus. The protected area stretches over 1.9km^2. In addition to the two kinds of monkeys, the protected area is host to other biological diversities, including birds, trees, snakes, and other flora and fauna. This study is tailored to just Boabeng and Fiema, though the co-management composition for the sanctuary management extends beyond the twin villages. There are six other communities affiliated with BFMS, including: Bonti, Konkrompe, Senya, Akrudwa 1, Akrudwa 2, and, Busunya have representatives on the management committee.

The case study area of Boabeng-Fiema Monkey Sanctuary (BFMS) is 71,430 N and 11,420 W; 350 m above sea level, and is located 22 km north of Nkoranza, and 230 km from Accra, the capital of Ghana. The study area used to be part of the Nkoranza District until 2008 when a legislative instrument was activated, and it was then carved out of the Nkoranza District (Tonto and Eshun 2014). The District has a total land area of about 2,322 km^2 and lies within longitudes 1o 10` and 1o 55`West, and latitudes 7o 20` and 7o 55`North (Tonto and Eshun 2014). In 1975, according to Eshun and Tonto (2014), a bye-law was passed, which prohibited the hunting of the monkeys within 4.5 km^2 Boabeng and Fiema communities. The vegetation in the area is known to be the original rainforest. But due to anthropogenic activities such as human settlement expansion, agricultural activities, bush fires, climate change and other forms of land-use changes, there is progressive desertification in the district, resulting in what Attuquayefio and Gyampo (2010) described as “northern grassland transition zone”. The vegetation also comprises a mosaic of degraded forest, woodland, and savanna.

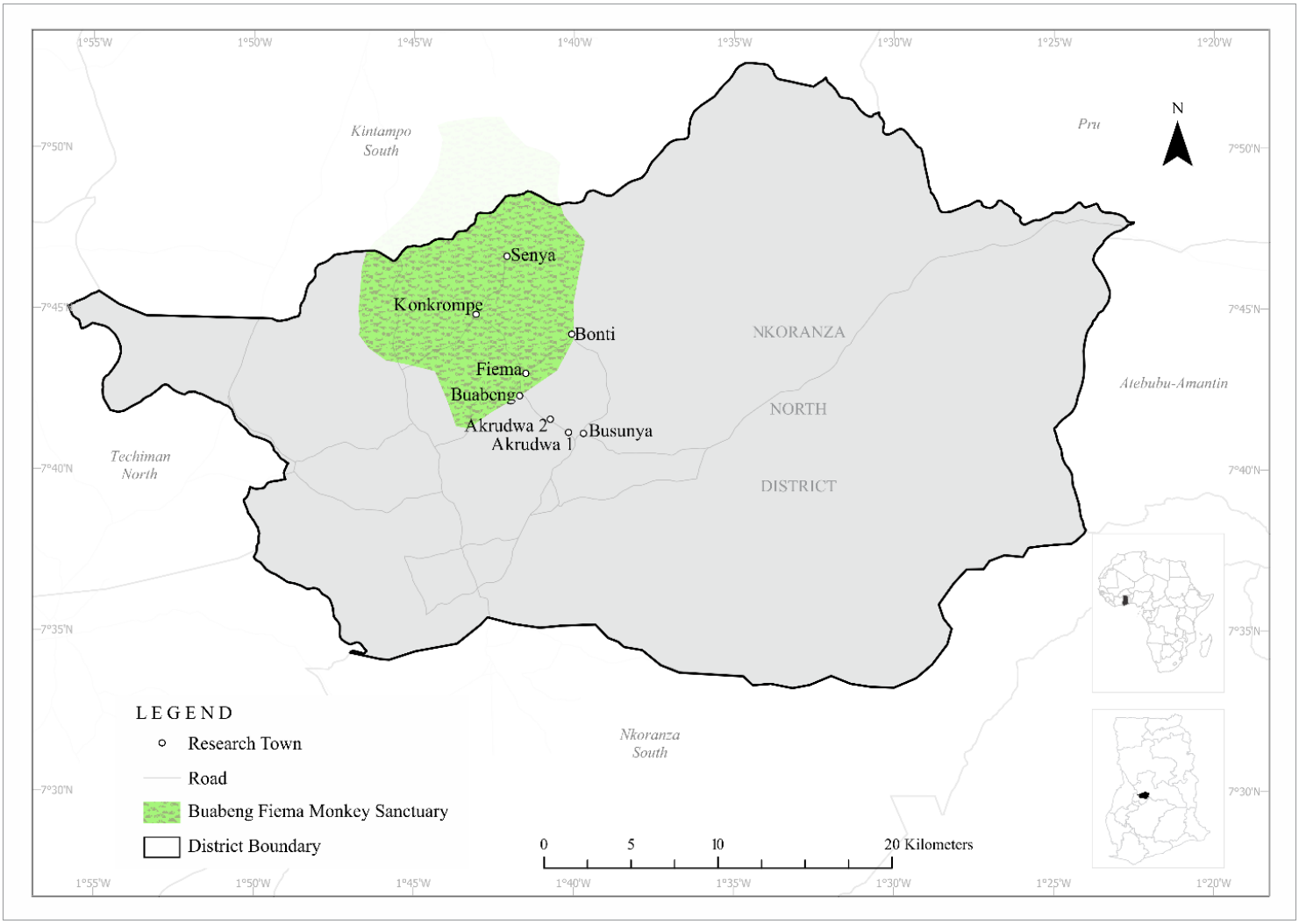

Figure four: Nkoranza north district map indicating both study communities (Boabeng and Fiema), together with Senya and Komkrompe in the green zone. The green zone shows the coverage of the Boabeng-Fiema Monkey Sanctuary.

There is regular rainfall in Boabeng-Fiema and its allied communities. The District lies within the wet semi-equatorial region, having a mean annual rainfall level ranging between 800-1200 mm (Eshun and Tonto 2014). The area receives a dual rainfall almost every year. The massive and long precipitation occurs from March to June, whereas intermittent/shorter rainfall pattern happens from September to November. The shorter rainfall season is followed by the harmattan season from November until the end of February. The harmattan season is characterized by the shedding of tree and grass leaves. It is the only season where there is an amount of dew and moisture concentrated in the atmosphere. Harmattan is known to be a period with pervasive bush burning across the district, which had previously threatened the monkey sanctuary. The temperature in the District has

been predominantly warm and high over the years, and even today, the annual average temperature in BFMS is consistently around 26 °C (Eshun and Tonto 2014).

The people of BFMS, together with the Nkoranza North District, are distinguished by their demographic characteristics. More than half of the labor force are engaged in subsistence agricultural farming- where they farm to feed themselves and their immediate families and sometimes their extended families. Residents are primarily into the cultivation of crops such as yams, cocoa yam, okra, pepper, maize, cassava, etc. A handful of the Boabeng and Fiema residents are also engaged in petty trading in the villages, including food selling, driving, and other small-scale businesses. The majority of the population can rightly be described as poor because they do not have any sustainable income sources or earn an insignificant amount of income from their economic activities. This sheds light on why there is always a conflict among stakeholders. Residents, due to their economic plights, have higher benefits expectations from the sanctuary. Community members are often left disappointed when such expectations are not met.

Residents in Boabeng and Fiema have a pyramid shape population. The two communities are dominated by young people under the age of twenty, with fewer people in older demographics. Fertility among young people continues to soar. The number of females exceeds that of males in the two communities. Literacy among young people seems to be improving compared to the aged generation who have a higher level of illiteracy. Until the arrival of the Christian Savior Church, most of the residents worshiped the traditional Ghanaian religion. But the religious trend today has by far shifted towards the Christianity faith. The adoption of this new belief system posed a threat to the sanctuary some decades back as it encouraged the killing and endangering of wild monkeys, eventually threatening the existence of the protected area. The dual communities are also home to Muslims and traditionalist populations. In contrast to their religious shift, there are other cultural aspects of the residents that have never been altered: for example, their Bono language. Boabeng and Fiema residents are natives of the district and constitute about 60 percent of the district's population, and the main language spoken is Bono, one of the Twi dialects of the Akan origin (Ghana statistical 2014).

Chapter three

Methodology for the study

3.1.0 Introduction

In this chapter, there is a presentation of the methods used in this study. First, I will talk about the general argument for the choice of a qualitative approach. The chapter further presents individual interviews and focus group as the two main methods used for data collection. Provision is made to justify the use of interview techniques. After that, there is a presentation of the whole process involved in data analysis, together with critical ethical considerations that have guided the fieldwork and the entire study. Finally, the chapter ends with a summary of the methodology.

3.1.1 Qualitative research design

To understand the pros and cons of co-management in Boabeng-Fiema Monkey Sanctuary, it is imperative for a researcher to reach out for the appropriate research design that offers him/her the opportunity to probe into respondents' inner meanings. According Creswell (2009), the selection of research design is based on the nature of the research problem or issue being addressed, the researchers' personal experiences, and the audience for the study. The pendulum of geographical methods within human geography swung firmly from quantitative to qualitative methods (Hay 2016) because it offers the researcher a unique medium to interact with subjects and connect well with the study setting.

Geographic researchers have often resorted to the quantitative approach to study nature management in the past using surveys, questionnaires, and experimental designs. The quantitative approach is often credited for its usefulness in examining the relationship between and among variables is central to answering questions and hypothesis through surveys and experiments (Creswell 2009). It also assures objective data results from empirical observations and measures as well as guaranteeing ‘validity and reliability of scores on instruments lead to meaningful interpretations of data (Creswell 2009, p. 145). But beyond the numbers and figures which define quantitative design are other substantially humanistic areas that deserve exploration. In these areas, the quantitative approach has proved to be a handicap or seem never to pay any attention. These

areas include digging into the thought, feelings, and emotions of respondents who provide the numbers. These are the missing links that qualitative design offers.

Interestingly, qualitative inquiry employs different philosophical assumptions; strategies of enquiry; and methods of data collection, analysis, and interpretation (Creswell 2009, p.173). It allows the researcher to engage with respondents on the field while he also lives through the issues being studied. The qualitative researcher can equally draw from multiple data collection sources, including images, maps, interviews, observation, and many others relevant to the study. The qualitative design involves in reporting multiple perspectives, identifying many factors involve in a situation and generally sketching the larger picture that emerges (Creswell 2009). To obtain the requisite data that shed light on the role of co-management in BFMS, there is the need to adopt suitable qualitative tools. In this regard, this study uses qualitative tools such as an unstructured interview guide, face to face, and focus group interview. These tools allow the researcher to interact with respondents whiles he/she makes meaning from their emotions and body language and what they say during interviews.

3.2.0 Timeline for fieldwork

Fieldwork for this thesis span over almost a month in Boabeng and Fiema. By early October, twenty nineteen, I had been assigned a supervisor and had completed drafting an unstructured interview guide for data collection. I arrived in Accra, Ghana, on the 20th of October twenty nineteen. After a couple of rest days, I visited the study area to officially introduce myself as a researcher. This became necessary following management failure to respond to electronic mails I sent months before. On my first day in the community, I had the duty to meet Nana Kwaku Damoah, the main chief of Boabeng. I was introduced to the chief via the assemblyman to deliberate on the dos and don’ts that a researcher must comply with to have a smooth and safe data collection exercise in the communities. This became necessary in other not to contravene the customs and rules in both communities and conservation areas.

I endorsed agreements and made payments required by management. The chief and the management team assigned a male resident (gatekeeper) who led, guided, and toured us throughout the data collection period. Creswell (2009) points out that it is important to gain access to research or archival sites by seeking the approval of gatekeepers, individually at the research sites that

provide access to the site and allow or permit the research to be done. We departed from Boabeng to Sunyani, the regional capital, after the introduction phase.

Notably, the effects of the gatekeeper on the process of data collection cannot be overrated. The respect accorded to him, his popularity in the communities, and his knowledge and experience on very pertinent issues related to the community enormously aided every single stage of field work. He led us to *difficult to reach homes* that would not have been reached under normal circumstances to participate in this study. The gatekeeper did not just introduce us to local stakeholders, he also stressed the importance of residence, giving us every ounce of information we needed, if possible. This encouraged the stakeholders to participate in quality and quantity to this study. Via the gatekeeper, we had very patronizing and accommodative respondents throughout the fieldwork. The gatekeeper also schooled us through the rules and regulations that guide the community, which shielded us from trouble while conducting the study.

Three days later, which happened to be on 26th October twenty -nineteen, we reported back to the Boabeng community to resume the data collection exercise. It was a bit late in the evening, which meant that the start of the data collection exercise had to be postponed to the next morning of 27th October. We arranged as part of the payment to live in the tourist accommodation facility available in Boabeng. On the 28th October, we were taken on a transect walk in both Boabeng and Fiema villages. As we take strides in the communities, the gatekeeper confided in us where to go and where not to go in the community, how to behave and react if you contact mona monkeys, what to feed the monkeys with, and whatnot. Born and bred in the same region, some of the customs and traditions were not strange to me except for one: how one must interact with the wild monkeys. The transect walk lasted for half of the day.

The interview commenced right after the transect walk when our presence had been felt by most of the residents in the twin communities. We began data collection with local residents because it was much easier to meet them, unlike management stakeholders. We managed to access data from just three respondents who were natives of Boabeng on the first day. Each face to face interview with respondents lasted over twenty-thirty minutes. The entire seven days after 28th October was spent on interviewing residents of Boabeng. The data collection of Fiema residents was carried out in the subsequent weeks, which lasted until 12th November 2020.

Having gone through the twin villages' streets and into households to gather information from residents earlier, our presence had been widely recognized by almost all the stakeholders. We had booked an appointment with all the stakeholders we could reach for a focus group interview. On 19th November, we had a focus group interview with seven stakeholders, including internal and external stakeholders. It included both board and management committee members, including wildlife division officer, management committee chairman and secretary. After the focus group interview, one on one interview was done with each stakeholder as part of the agreement. Although not all the invited stakeholders showed up on 19th November, those who did not show up were pursued for interview, such as the district assembly representative.

A vital part of the fieldwork was performed three days later when a departure ceremony was organized to say goodbye to the communities, the chiefs, and some important leaders in the community on the 23rd of November. As a final tradition, we were toured through the protected area to have a feel and visualization of various kinds of monkeys and other wildlife species conserved. We exchanged contacts with persons who assisted us through the interview process, in case a clarification of whatsoever would be needed during analysis. On the 24th of November, we departed the community to Sunyani.

3.3.0 Data collection tools

The credibility, reliability, and dependability of field data are more connected and dependent on the suitability of the approach that a researcher applies in collecting information from its respondent. With the use of an unsuitable data collection tool, one is assured to come home with biased data for its consumers. After thoughtful consideration of the kinds of respondents needed, the type of data required for the study, everything points to face-to-face and focus groups interview.

3.3.1 Interview

Interviewing has been one of the well-known methods for data collection in geography. But the meaning of interview goes beyond what we often assume. To have a successful or productive interview in a qualitative study, a lot of work must be embarked on right before, during, and after the interview. Hay (2016) argues that a successful interview requires careful planning and detailed preparation. Interview for research is made up of more than just interaction between people. An interview is defined as face to face verbal interchange in which one person, the interviewer,

attempts to elicit information or expression of opinion or belief from another person or persons (Hay 2016, p.149).

Interviews have been predominantly face to face over the years, but there seem to be changed in the landscape today as telephone and computer-mediated communications based interviews are continuously reshaping the traditional modes. Interview technique is selected out of the many based on the reasoning that it helps the researcher collect diversity of meaning, opinion, and experiences (Hay 2016, p. 150). Creswell (2009) concedes that interviews offer the participants the opportunity to provide historical information as well as allowing the researcher to control the line of questioning. Outside the benefits interview offers, its critics believe that the presence of researchers on the field may promote bias responses whiles at the same time becoming problematic for respondents who are not very articulate (Creswell 2009).

Opinions and experiences vary enormously among people of different class, ethnicity, age, and sexuality (Hay 2016). For these reasons, different interview techniques were assigned for different stakeholders co-managing the BFMS.

3.3.2 One on one interview with resident stakeholders.

Residents of Boabeng and Fiema were interviewed one on one with the use of an unstructured interview guide. In the Boabeng community, twenty respondents participated in the individual interview, whereas fifteen respondents participated from Fiema. There was a variation in the settings for each respondent, which depended on wherever each respondent wanted to have the interview. Most residents that were met in their homes had their interviews there. Some young people who decided to participate were interviewed individually in a public park where many young guys play football and hang out.

There were quite few respondents who agreed to be interviewed on the streets while we walked along. For each respondent, between twenty-five to thirty minutes was spent for an interview. This was not the case for every interviewee; few of them who were uncomfortable demanded less time by providing short answers to questions without taking time to elaborate. The interview with locals aimed to uncover issues such as the extent to which ordinary residents could participate in decision making in the co-management arrangement. It also investigated matters relating to benefits and cost allocation, compensations, and conflict resolution borne out of the management system.

Figure five: The field image above shows a one-one interview section with a Boabeng community resident who sits in front of his house.

This style helped build a rapport between the researcher and the respondents. The connection turned into trust, which encouraged respondents to give more information than expected. The one on one environment gave interviewees the time and freedom to spill information that probably would not have been revealed if there was an additional resident(s). That is, face to face interview provides the medium for one on one encounter in qualitative research between the researcher and the researched. Another rehearsed argument for an individual interview is that the researcher gets every attention, patience and can even ask a backup question for the sake of clarification. The criticism leveled against individual interviews has to do with the power play. One important outcome of the social character of qualitative research is that research is also interwoven with relations of power (Hay 2016). During interviewing, power played a crucial role. The dominant or superior figure (me) tends to influence the other, which inevitably affects the produced information. There were the feeling and exhibition of shyness as well as discomfort from some residents during interviews, which sometimes shortened the amount of time and the kind of information, they intend to give due to asymmetrical power relations. Hay (2016) believes that those being studied may be in a position of influence in comparison to the researcher.

3.3.3 Focus group and management stakeholders

The focus group involves a small group of people discussing a topic or issue defined by researcher (Hay 2016). A Focus group was applied in BFMS to elicit information from just the stakeholders. Stakeholder here means that individuals who directly play specific roles on the management committee and on the board. Some of the members included the three sub-chiefs, the wildlife division officer, and the management committee chairman. Ideally, the focus group should have six to ten people who sit facing each other around a table (Hay 2016). The group comprised of seven stakeholders and ended after three hours. It was organized under a tree near the tourism accommodation center in the Boabeng community.

Figure six: A field image was taken in Boabeng community involving some management stakeholders who participated in the focus group interview.

Each respondent was given the platform to answer the same questions posed to everyone. There was complete control during answering of questions as respondents had not more than five minutes to give their opinion on each question. I moderated the entire discussions, which enable us to establish control over the meeting. While we continued to discuss issues with respondents, note

was been taken. At a point, it became much difficult to moderate, record, and take notes at the same time.

During the focus group discussion, vital co-management related issues ranging from participation, conflict management, allocation of benefits and many others were discussed. Even more important were how beneficial and challenging co-management has been for the stakeholder's whiles they work together. The Focus group was very helpful during interviews as it offered an opportunity for in-depth deliberations. The focus group provided an avenue where individual comments prompted a chain of comments from other respondents. It is described as the *synergistic effect* of focus, and some propose that it results in far more information being generated than in other research methods (Hay 2016). Bringing all those stakeholders together, deciding where, and when to hold focus group meeting remained some of the challenging moments. Despite the few setbacks, the discussion was always guided towards the unstructured interview topics, which guaranteed quality data in the end.

3.4.0 Unstructured interview schedule/guide

Interview demands some form of guidance to steer a researcher through the path of data collection. Nothing makes a social science researcher calm and collected than the one with organized questions for people under study. Researchers are forgetful sometimes, and more so during tense situations, it is crucial for them to have a standard set of questions for intended respondents. Hay (2016) points out that the most competent researchers need to be reminded during the interview of the issues or events they had intended to discuss. Documented questions tend to remind the researcher of the details of what he/she intends to dig into.

As the interviewer you may allow the conversation to follow as "natural" a direction as possible, but you will have to redirect the discussions to cover issues that may still be outstanding (Hay 2016). A developing argument around interview guide is that it should embrace some elements of dynamism. As research project progresses, a researcher should be able to alter the order and wording of unstructured questions to make it more suitable for a specific context. This study makes use of an unstructured interview guide. Different forms of unstructured interview have prevailed over the years. They include the oral history, life history and some types of the group interviewing and in-depth interviewing (Hay 2016, p. 158). Rather than being question-focused like a structured interview or content-focused as in a semi structured format, the unstructured interview is informant

focused (Hay 2016). The unstructured guide for Boabeng and Fiema residents capture people perception, history, attitudes on how they manage the protected area.

This type is similar to a conversation in which the interviewer might ask a single question, and then the interviewee has the choice with regard to the extent to which s/he responds (Alsaawi 2014). With an unstructured interview, the questions you ask are almost entirely determined by the informant's response (Hay 2016), whiles interruptions on the part of the interviewer are kept to a minimum (Alsaawi 2014). According to Alsaawi (2014), consequently, this would provide a more relaxed atmosphere for the interviewees. It is agreed that one of the advantages of an unstructured interview guide is its flexibility (Hay 2016). It enables each participant to elaborate, explain as much as possible. The uniqueness of the unstructured interview technique in Boabeng and Fiema was evident during data collection. Each response was completely discrete from one another. Whiles some chose to stress and connect answers to their personal life experiences; others did not.

This interview tool has received a warm reception from many social science researchers. Through these interviews we can "find out about" event and places that had been kept out of the news or that had been deemed of no consequences to the rich and powerful (Hay 2016). A different argument for this approach is the opportunity it offers for in-depth seeking researchers. Although this type of interview may end up with a huge amount of data, it is appropriate for researchers who want to focus on a specific phenomenon in-depth (Alsaawi 2014). Meanwhile, there is a growing complaint against the use of an unstructured interview. There is the fear that the researcher may return from the field with a bunch of chaff and needless data. This issue manifested itself in Boabeng and Fiema as some respondents occasionally became emotional and spoke about issues that were unrelated to the questions asked. Hay (2016) also adds that you must spend time sitting in nasty archive rooms or scrolling through digital archives gaining a solid understanding of past events, people, and places related to the interview.

3.5.0 Selection of study sample

Qualitative research methods differ from quantitative approaches in many important respects, not the least of which is the latter's emphasis on numbers (Baker and Edwards 2012). Qualitative researchers generally study many fewer people but delve more deeply into those individuals, settings, subcultures, and scenes, hoping to generate a subjective understanding of how and why people perceive, reflect, role-take, interpret, and interact (Baker and Edwards 2012). Underlying

all of this must be a concern to identify who it is that has, does, or is the experiences, perspectives, behaviors, practices, identifies, personalities, and so on that your research questions will require to investigate (Hay 2016). A more appropriate sampling technique for qualitative research is non-probability sampling, where generalization of a broader is neither possible nor desirable (Hay 2016).

It has always been challenging to predict the number of respondents a researcher can lay his hand on. As sometimes, some events on the field go beyond the control of the researcher: for instance, the number of people who avail themselves to be part of the study is, in most cases, uncontrollable. The best answer is simply to gather data until empirical saturation is reached; however, this is not always possible or practical (Baker and Edwards 2012). Researchers are advised to be mindful when selecting a sample for a study in qualitative research by observing two criteria. The first one is sufficiency, which can be felt by the interviewer him/herself (Alsaawi 2014). The other criterion is saturation, in which the interviewer begins to hear the same information he/she has already obtained from previous interviewees. According to Alsaawi (2014), these two criteria are more accurate than pre-determining a particular number of participants, especially in terms of interviews.

3.5.1 Purposive sampling

For some of the reasons mentioned above, participants for the study in Boabeng and Fiema were selected purposively. Since the study investigates the burdens and benefits which come with the use of co-management, the most important pool of respondents was the individuals entrusted with management functions. There was a deliberate effort to first target management stakeholders: that is, individuals who occupied both the board and management committee. Moving from management stakeholders, the study also had an interest in selecting residents whose everyday lives are influenced by sanctuary management decisions and the presence of the conservation area.

Purposive samples are the most commonly used form of non-probabilistic sampling (Alsaawi 2014). It is a form of non-probability sampling in which decisions concerning the individuals to be included in the sample are taken by the researcher, based upon a variety of criteria which may include specialist knowledge of the research issue, or capacity and willingness to participate in the research (Rai and Thapa 2015). A common characteristic of this technique is that it looks out for individuals with common behavior that connect to a study, for instance, people with in-depth

knowledge about the management endeavors and have lived in the community for a reasonable amount of years to understand the challenges and benefits emanating from the wildlife sanctuary. Rai and Thapa (2015) amplify this by arguing that the main goal of purposive sampling is to focus on particular characteristics of a population that are of interest, which will best enable you to answer your research questions. The determinants of the appropriate sample and sample size are related to the scope, nature, and intent of the research and to the expectations of your research communities (Hay 2016). It is believed that it provides a wide range of sampling techniques that can be used across such qualitative research designs; purposive sampling techniques that range from homogeneous sampling through to critical case sampling, expert sampling, and more (Rai and Thapa 2015). Purposive sampling is earmarked to be time conscious and less expensive to use sometimes. It is very useful when some of the units are very important and must be included (Rai and Thapa 2015).

The non-probability sampling has received its share of criticisms. One of the popular criticisms of non-probability sampling is the possibility of bias. The idea that a purposive sample has been created based on the judgement of the researcher is not a good defense when it comes to alleviating possible researcher biases, especially when compared with probability sampling techniques that are designed to reduce such biases (Rai and Thapa 2015). The purposive sampling is again condemned according to Rai and Thapa (2015), that the knowledge of population may not always be available. Finally, this sampling technique is accused on the front of subjectivity. The subjectivity and non-probability-based nature of unit selection (i.e., selecting people, cases/organizations, etc.) in purposive sampling means that it can be difficult to defend the representativeness of the sample (Rai and Thapa 2015).

3.5.2 Snowball sampling

Research into hidden populations is not new (Waters 2015). Fishing out management stakeholders from Boabeng and Fiema monkey sanctuary for data collection was a major constraint. Tracing stakeholders who lived in the two communities and beyond seemed like a mirage initially. The need to build a social network to connect with these stakeholders became more than necessary. This left us with just one choice: adopt the snowball sampling tool to locate valuable yet hidden stakeholders.

A sampling procedure may be defined as snowball sampling when the researcher accesses informants through contact information that is provided by other informants. This process is, by necessity, repetitive: informants refer the researcher to other informants, who are contacted by the researcher and then refer her or him to yet other informants, and so on. Hence the evolving 'snowball effect (Waters 2015). Waters (2015) furthers his argument by saying that the method is well suited for a number of research purposes and is particularly applicable when the focus of study is on a sensitive issue, possibly concerning a relatively private matter, and thus requires the knowledge of insiders to locate people for the study.

Almost all the board members reside in the district capital, Nkoranza. Luckily, the majority of the management committee members lived in the twin communities of Boabeng and Fiema. The chief, together with the *gatekeeper*, became our first point of contact with the management stakeholders. Through them, the snowball effect was established. Various initial contact points, chiefly friends and colleagues, were contacted in order to locate potential participants to start off the sampling process (Waters 2015). Two main criteria were used to capture or recruit respondents in Boabeng and Fiema villages. First, the gatekeeper described the project to friends and colleagues who had some professional or personal contact with board and management committee members, asking them to spread the word about the research and to refer to us any stakeholder who might possibly be considered (Waters 2015). Secondly, stakeholders who had gone through the interview were advised to refer any other stakeholder who was interested to participate in the data collection. The *gate keeper* helped us through phone calls to some board members when the need arose. We managed to reach out to seven stakeholders with the snowball sampling, including management committee members and key board members.

Moving forward, adopting snowball sampling in Boabeng and Fiema was useful in many ways. Within the qualitative toolbox, snowball sampling provides one such way for researchers to study marginalized populations by harnessing the power of social networking and personal connections, which allows for the more thorough analysis of individuals and groups that may otherwise remain inaccessible(Woodley and Lockard 2016). Snowball sampling is equally plunged into some weaknesses. Using the snowball sample tool for sample selection presents some setbacks to the study, particularly via the lenses of representation. It is argued that because samples are not randomly drawn but are dependent on subjective choices of the first contact, samples may then

tend towards a reflexive bias (Woodley and Lockard 2016). Again, snowball sampling is condemned because it complicates the validity of the results obtained.

3.5.3 Convenient or accidental sampling

Convenient sampling tool was adopted to select residents from both Boabeng and Fiema. Unlike the management stakeholders who were hard to find subjects, access to local stakeholders or residents did not present any difficulty. The accidental sampling tool became the most suitable non-probability tool for the task. The choice for such a sampling criterion is because respondents who were needed at this point did not have to satisfy rigorous requirements. Respondents needed to be above eighteen years to qualify for an interview. This was attached just to attract or have matured enough subjects who understood and had lived through the challenges and benefits the protected area unleashes to the twin villages.

Convenience sampling (also known as Haphazard Sampling or Accidental Sampling) is a type of nonprobability or nonrandom sampling where members of the target population that meet certain practical criteria, such as easy accessibility, geographical proximity, availability at a given time, or the willingness to participate are included for the purpose of the study (Etikan et al. 2016). It is widely known to be the technique that requires the researcher to elicit information from subjects in proximity and are readily identifiable. Convenience samples are sometimes regarded as 'accidental samples' because elements may be selected in the sample simply as they just happen to be situated, spatially or administratively, near to where the researcher is conducting the data collection (Etikan et al. 2016).

Contextualizing this sampling in Boabeng and Fiema community required us to select people who were first found in a convenient place, secondly, and were ready to be part of the study. Many respondents whom we met agreed to be part of the data collection exercise. But a handful of them turned us down later. In the process of self-selecting the samples, we moved into popular areas in the communities, including the football park, homes of people, the popular streets, community market centers, and the protected area. These popular places were chosen because they are the *hot spot* for the community, where people easily gather and were ready to be engaged and socialize. Examples of convenience sampling include data taken subjectively near camp, around parking areas, or an areas where density is known to be high (Etikan et al. 2016). These places are often chosen according (Etikan et al. 2016) because it is easier like walking on a road and occasionally

stop to record numbers. The decision to adhere to the convenient sampling technique relies on the fact that many geographic researchers, for some reason, see it as the viable alternative among all the other non-probability sampling techniques. Using it to gather samples in Boabeng and Fiema proved it to be affordable, easy and the subjects are readily available (Etikan et al. 2016). Many of its critics are more concerned about the threat of outliers (respondents who may not be useful in the data collected/research) have on the validity of data collected. Because of the high self-selection possibility in non-probability sampling, the effect of outliers can be more devastating in this kind of subject selection (Etikan et al. 2016).

3.6.0 Respondents for data collection

Two key stakeholder groups were pursued in Boabeng and Fiema villages for information. The kind of information that was required for the research questions was the baseline for selecting these samples and sample units. The study aims to uncover some of the co-management challenges and benefits and the type of co-management used in BFMS. For this reason, people who have been entrusted with conservational management and the ordinary resident who live with the management decisions were the two main respondent groups used for the study.

3.6.1 Board and management committee stakeholders

The people who are appointed to be on the board, as well as the management committee members, were the first group of respondents considered for the research. The board and MC's composition, responsibilities, and weaknesses are captured in chapter two, page ten.

3.6.2 The local resident/stakeholders.

The second informant group used in this study were the local people from both Boabeng and Fiema. They formed majority of the respondents cutting across all sexes and social groups. There was female dominance, with twenty-five been women, whereas the remaining ten were men. Many of them were peasant farmers whose daily livelihood is tied to farming and nature-dependence. In addition to the farmers are local traders, seamstress, teachers, drivers, and many others who are permanent residents of Boabeng and Fiema. People who were disqualified from participating were younger people who were below the age of eighteen. These respondents provided information from multiple fronts. Data was generated from the three key research questions: the type of co-management practiced, benefits, and constraints of co-management. Information was shared on the availability of conflict between them and other stakeholders, co-managing the PA, and how the

conflict was resolved. The subject on how residents suffering damages/property losses due to the conservation area, especially farmers, are compensated. The allocation of other benefits from the wild sanctuary was also talked about with the residents. The degree to which these people are permitted to participate in the co-management set-up was discussed with local stakeholders.

While these respondents went length and breadth to provide information on prevailing issues around co-management, it was not easy for them to ignore bias and subjectivity. Respondents were tossed between leaning towards communal patriotism by defending their livelihood and reject the conservation area. The generic impression from this category of the respondent was that despite the measurable progress achieved by the current co-management system, they still feel the system needs improvement, or at worse, a complete overhaul for a whole new management system to substitute the current set-up.

3.7.0 Data analysis

Interviews chiefly produce voluminous materials that need to be distilled through analysis. After each day of interviews, recordings, and field notes taking, transcribing was carried out. Transcribing means the conversion of audio/video material into text for research. Transcribing of field data was swiftly done because it consumes a lot of time and needed fresh field memory from the researcher. Early transcribing was embraced as it always helped to connect what is being written to what happened on the field. The recorded information presented the most difficult part of the transcribing process as on average, most interviews take four hours of typing per hour of interview (Hay 2016). To avoid confusing one interview transcript with another, each transcript was assigned an artificial name, time, location, date, and other relevant background information that clearly distinguishes a piece of an interview from the other.

Coding is one of the most critical stages in qualitative data analysis, and it quickly followed the transcribing activity. An attempt by the researcher to make a deeper understanding of information collected translates to coding. Tjora (2018) describes codes as the terms and expressions that serve to specify sections or shorter passages of data set. Coding of data from Boabeng and Fiema communities was carried out to enable us extract the essence in the empirical material, reducing the volume of the material and, last but not least enabling the generation of ideas on the basis of details within the empirical data (Tjora 2018). Out of the many ways of coding empirical qualitative data, two main types were applied in this study: descriptive and analytic coding.

The descriptive coding involves the superficial messages that are derived from the empirical data. It reflects themes or patterns that are obvious on the surface or are stated directly by the research subjects (Hay 2016, p.378). They often answer the questions such as who, what, how, where, when from the data collected. When analyzing the empirical data type, descriptive code called ***in vivo codes*** was frequently used. ***In vivo codes*** come directly from the statements of subjects or are common phrases found in texts being examined (Hay 2016). For instance, when respondents in Boabeng and Fiema were asked about some of the challenges they experience with the co-management system for the wildlife sanctuary, most of them stressed on the issue of growing conflict among the management hierarchy. The idea of unrest between various stakeholders was mentioned by most stakeholders. This sheds light on why conflict has stood still and has become one of the descriptive codes and findings from the empirical data. Tjora (2018) views such codes as terms that are already present in the data material, so-called inherent terms.

There was also the application of analytic codes during the data analysis processes after using descriptive coding. The modus operandi here was to look beyond the empirical data for hidden meanings. Analytic codes typically dig deeper into the processes and into context of phrases or actions (Hay 2016). Local stakeholders in Boabeng and Fiema pointed to the rise of unrest, conflict, relationship breakdown with external stakeholders over management of the protected area to signify that analytically; they feel they are gradually losing control of the natural resources to the external stakeholders. External stakeholders consistently pointed out the need to have complete control to bring out the best in the protected area. Analytically, this indicates that none of the stakeholders is ready to surrender the amount of control they possess. To some degree, it is always evident that the descriptive code usually sums up to make analytic codes. It highlights the strong relationship between descriptive and analytic codes. Often descriptive codes bring about analytic codes by revealing important themes or patterns that are obvious on the surface or by allowing a connection to be made (Hay 2016). The empirical data produced in this thesis have all been established because of consistent coding processes conducted on field data. The themes, meanings, and every empirical information gathered and presented in the analysis phase have been made possible through descriptive and analytic coding processes. The dual coding approach was chosen due to its capacity to offer alternative meanings from a singular data source.

3.8.0 Ethical considerations for the study

The study conducted in Boabeng and Fiema was guided by principles and standards that facilitated and helped us through the tough and soft moments of the research, particularly during data collection. Like many other social science-related studies, there are number of ethics that dictate what a researcher should do, how he should do it, when it should be done and where it should be done. These ethical considerations do not only enable a researcher to escape on-field troubles and temptations but equally helps the researcher steer through the research and boost his concentration. Hay (2016) put it that research ethics should be the conduct of researchers and their responsibilities and obligations to those involved in the research, including sponsors, the general public and most importantly, the subject of the research. While conducting this study, some of the necessary standards were used accordingly. They include harmlessness, inform consent, critical reflexivity, subjectivity, and intersubjectivity.

More than any other ethic(s) taken seriously was everyone's safety and security involved in the study. Every reasonable measure that has the capacity to safeguard researchers and the researched from all kinds of danger in the community was diligently observed. On our safety, members of the communities advised us to make good use of the mosquito nets provided in the guest house facilities to cushion us from a mosquito bite that could have led to malaria infection. We were cautioned not to cause any form of danger to the conservation area's resources, especially to the monkeys, because it would have propelled collusion between community members and us. Fieldwork was conducted in the daytime to avoid traffic accidents, attacks, and snake bite, which often occur in the night hours. Beyond the physical danger lies the psychological threat, which is often glued to some social science research. In other not to torment respondents psychologically, everyone had the right to skip any question that had elements of threats to create discomfort.

Moreover, informing to have a consent of potential respondent have become one of the ethical pillars in qualitative research. For most geographical research, participants must consent to be part of your research (Hay 2010). In Boabeng and Fiema this demanded revelation of research intent to the community and individuals who would participate in the study. In this study, there were two levels of informed consent practiced. First, the community level was informed through the chief and other management members. Secondly, respondents were equally addressed before every interview in other to have their consent. Respondents were extensively schooled through what the

study entails. What each participant would be required to provide became necessary and what would not be demanded of them during the interview. The time frame for the study, together with the venue for data collection, was agreed upon. Considering the critical value of informed consent in research, however, it must also be acknowledged that in certain circumstances seeking consent and informing respondents for some studies have shown to be impossible if not unnecessary. In special situations such as observing people in the football stadium or church. And in such cases, there must be an ethics waiver from a recognized body.

Furthermore, critical reflexivity has become a cornerstone for many successful qualitative research, although often ignored in ethical considerations (Hay 2016). It involves commitment to theoretically informed, self-critical ethical conduct, revolving around awareness of how to identify and resolve ethical dilemmas when they arise (Hay 2016). It seeks to remind the researcher what his/her dos and don'ts are related to carrying out research. It demands from the researcher to critically examine every action he intends to take. Critical reflexivity is essential for many researchers because, according to Hay (2016), research is dynamic and a social process that constantly throws up new relations and issue that require constant attention, self -critical awareness of ethical research conduct must dictate our research. In this study, critical reflexivity played an enormous role. With the use of field notes containing: empirical data, what must be done, where it must be done, how to talk to older people, and even when to start and stop recording during the data collection were guided by critical reflexivity. Meanwhile, this ethic is often overlooked by researchers (Hay 2016). Because researchers do not document this piece of work in their respective projects, again, researchers are not accustomed to examining our engagement with our work with same intensity as we regard our research subjects (Hay 2016).

Moving ahead, the discussion around subjectivity and intersubjectivity as an ethical consideration has gain dominance in geographic research in recent years. The impact of subjectivity and intersubjectivity in knowledge production is immeasurable. Subjectivity involves insertion of personal opinions and characteristics into research practices (Hay 2016). The argument around subjectivity is always complete when juxtaposed with objectivity because they tend to oppose and explain each other better. Objectivity, at its simplest, indicates a value-free analysis (Poon and Cheong 2009). Poon and Cheong (2009) stress that objective knowledge is independent of a person's claim to knowledge; hence an objective scholar also observes and analyzes from a distance (that is, from third-person positionality). However, doing objectivity was impossible. Conducting

research in Boabeng and Fiema called for active subjectivity. The nature of data collection required investment of every virtue, time, character that had the potential to convince and encourage subjects to understand and participate in the project. As argued later, subjectivity can be constructed through social interactions and communication with other social actors (Poon and Cheong 2009). It is nearly impossible to have a quality qualitative study while being objective.

Unlike subjectivity, Poon and Cheong (2009) argue that intersubjectivity does not reject an objective world. It refers to the meanings and interpretations of the world created, confirmed, or disconfirmed as a result of interactions (language and actions) with other people within specific context (Hay 2016). This highlights the idea that qualitative data is best produced when there is constant interaction between the giver of the information and the taker. Hay (2016) reiterates that in these dialogues your personal characteristics and social position elements of your subjectivity cannot be controlled or changed, because such dialogue does not occur in social vacuum. It is recognized the nature of knowledge that emanate out of such intersubjective discussion is seen to be the best. It is because this form of knowledge production is connected to dual interpretation and discussion. Intersubjective argumentation and dialogues are central to scientific knowledge production (Poon and Cheong 2009). There is no better space for the utilization of intersubjectivity than through focus group and face to face interview. During the collection of data in Boabeng and Fiema this ethic was held high. There was constant interaction between the researcher and the researched which enriched the information obtained from the field. It unites all subjects, with different viewpoints, toward a shared goal thereby, but when a critical number of members reach a consensus that confidently reflects a shared world, variation in viewpoints (and therefore subjectivities) converges to (Poon and Cheong 2009).

3.8.1 Limitations of the study

Right from the beginning of the study to its end, the task is weakened by a few factors. The limitations encountered in the course of this study emanates from the field. Ultimately, the pressing weaknesses of this study relate to time spent and funding for the study. If time could be reversed, I would reverse without hesitation and adjust the amount of time spent on data collection. Using one month for data collection to gather all stakeholders, including those from within and without the communities, proved inadequate. Finding external stakeholders, particularly board members, was the most difficult part of the fieldwork. For the very few but vital informants who were not found

for an interview would have been reached if we had spent extra weeks in the field pursuing them. Again, the study is limited by the absence of funding. A demand for money characterized the processes involved in data collection. On top of it are the on-field expenses. Accumulation of these costs involved in the research process put a heavy burden on me as a researcher and what I can do in the field. This financial limitation had a tremendous impact on how much time I spent in Ghana and the study area.

3.9.0 Summary

This chapter has captured the methodology used to study the pros and cons of co-management in Boabeng-Fiema Monkey Sanctuary. It encapsulates the reasoning behind qualitative design adoption, being its flexibility and easy accessibility to data. The chapter also takes into consideration the entire schedule for fieldwork, the tools for data collection, sample selection, etc. Qualitative method tools including purposive sampling, focus group, one on one interviews, unstructured interview guide have all aided in eliciting data from the field. In addition to these tools are their strengths and shortcomings. These tools offer the researcher an opportunity to connect with the study participant and document meanings beyond what they say. In this same chapter, the process involved in data analysis is shown. It is demonstrated here how analytic and descriptive codes are used to analyze data from the field. The chapter provides the ethical standards that have guided every step of the study journey. Ethical standards that ensure individuals' safety, informed consent, critical reflexibility, objectivity, and subjectivity were diligently observed in this study and have all been presented in this chapter. Finally, there is also a presentation of a lack of funding and an inadequate amount of time spent on the field to be the study's two main weaknesses.

Chapter four

Literature review and theoretical framework

4.1.0 Introduction

In this chapter, I will first present a literature review of the co-management concept. Co-management has been researched since the eighties and nineties and makes it necessary to investigate some essential definitions. Secondly, human-wildlife conflict is presented, uncovering how human interaction with wild animals leads to unrest and disagreements. After that, there is a presentation of political ecology demonstrating how the economy, power, and politics stimulate environmental and land-use changes, especially in rural areas.

4.2.0 Literature review of co-management

Studies on the co-management of protected areas are few but increasing in number (Zachrisson 2009). Co-management has occupied center stage in natural resource management thinking and practice since the nineteen nineties (Cundill et al. 2013). Historically, natural resources and biodiversity have proved impervious to a single actor management effort. This explains why neither the state nor the local people have been successful in their fight to defeat many challenges related to conservation. Umutoni et al. (2016) remark that given these changing pressures on resource management, these natural resources are facing problem of over-exploitation and degradation, and consequently decline in their quality and productivity.

This move toward co-management is partially a reflection of the perceived failure of many top-down approaches to conservation management; recognizing that local resource users are often better placed to develop and implement rules than policy makers in far-off capital cities, but also that local institutions alone may be insufficient to deal with many of the multi-scale challenges facing natural resource management (MacNeil and Cinner 2013). Umutoni et al. (2016) posit that on the accountability of local customary authority to community members, participation of community members in the development of these local rules has not been addressed adequately despite the importance of community members as custodians and users of the natural resources. For this reason, governance of many kinds of fisheries, forests, grazing lands, watersheds, wildlife, protected areas, and other resources, requires the joint action of multiple parties (Berkes 2009). Zachrisson (2009) emphasizes that co-management studies usually consider several administrative levels.

It is believed that a possible way out of this is constraint is to look beyond government, toward public–private–civil society partnerships, as a way of dealing with the shortcomings of single agency, top-down management (Berkes 2009). Local groups are usually the least powerful actors and need to be granted greater authority and power to check arbitrary actions by governments and other stakeholders effectively (Zachrisson 2009).

In practice, arrangements termed co-management involve various degrees of integration of local and state level management systems, which may be negotiated, legal, or informal (Zachrisson 2009). The guiding ideas and principles of co-management include the participation and empowerment of stakeholders, collaboration and shared responsibility between resource users and managers, process-based instead of result-based management, institutional embedding and the decentralization of decision-making, as well as equity and justice regarding access to and use of resources (Linke and Bruckmeier 2015).

In his assessment of co-management Berkes (2009) paints a clear picture of co-management embracing some of the vital features that cement the theory. He views co-management as a strategy that requires more than one sector or stakeholder to function at its best with balanced power and duty distribution. Berkes (2009) proceeds to postulates that adaptive management and co-management have been evolving towards adaptive co-management. But he paid no attention to the prevailing idea of conflict management and many other pressing issues that are critical today for successful co-management.

Pearson and Dare (2013) conceptualized the theory admitting that co-management requires two stakeholders to operate: the resources users and state-owned actors. At its core, co-management is a sharing of decision-making responsibility between those who use natural resources and the state-based management authorities (Pearson and Dare 2013). This definition of co-management can be questioned for its thinly capture of the concept. Today, in the application of co-management international or non -state-based actors have become an important part of co-management setups and must therefore be given recognition.

De Pourcq et al. (2015) broadly assembled some of the core ingredients for successful co-management today. They posit that effective co-management must recognize all stakeholders and should give each actor an equal platform and opportunity to negotiate for not just power but their roles and rights. Understood as a system of joint decision making between state

agencies and local communities, co-management allows all parties involved to negotiate, define and guarantee equitable sharing of management functions, entitlements, and responsibilities for a given territory or set of natural resources (De Pourcq et al. 2015). However, they point out that co-management is unique from other management styles because of its prioritization of power-sharing and partnership promotion.

From a similar perspective, Akamani and Hall (2019) perceive co-management as set of institution that makes strides with the goal of building consensus in other to have smooth management of natural resources. Akamani and Hall (2019) conceptualize co-management as institutional mechanism or a spectrum of institutional mechanisms in which government representatives and resource user-groups, such as local and indigenous communities, interact to negotiate formal agreements on the distribution of rights, power, responsibilities, and benefits in the resource management process. This has the capacity to motivate and gather support from all actors. They also argue that the best way to understand the theory is to view it in scales: communal, household, and individual scales. Co-management necessarily takes place at multiple levels of decision making, as a focus on the community level alone may not always be appropriate in the management of complex common pool resources (Akamani and Hall 2019).

Dung (2019) views co-management as an arrangement where every actor on the continuum or scale interacts to solve problems associated with management of natural resources. He defines co-management as a process of solving-problem management in which actors at different levels and scales interact to adjust their positions, roles, and activities to harmonize with emerging contexts and circumstances surrounding a natural resource (2019). He contends that co-management should be a situation where power and responsibilities needed to solve these problems are devolved and modified to embrace innovation and ideas from a wide range of people who matter in a management system. Today, it is defined as an arrangement where responsibility and right for resource management are shared between the government and user groups acknowledging the important role of the people who are living around the resources and impacting on resource uses and management (Dung 2019).

4.3.0 Fundamental features of co-management

It can be deduced from the above that in recent years the theory of co-management has been vigorously researched and put into practice for conservation management. It is also evident that all the conceptualization of co-management far agrees on more issues, including the availability of multiple stakeholders, fair sharing of blessings and burdens from natural resources and, many others than they disagree. The assembled definitions and the insight from the study area reveals some fundamental characteristics which are highly indispensable in co-management practice. According to Zachrisson (2009), although a number of definitions of co-management are used in the literature, most of them stress the following: co-management regards the management of natural resources, co-management is some kind of partnership between public and private actors, and co-management is not a fixed state but a process. Also, power and responsibilities sharing, conflict management, the building of quality relationships, so on, and so forth remain the bedrock of co-management today.

The idea that co-management is not static, but a flexible management instrument that expand and contrast overtime must be taken seriously. This is because the theory of co-management evolves in response to social, demographic, economic, and ecological needs. In light of the above, co-management can be re-defined as a process where rights, responsibilities, power, benefits, and cost associated with a set of natural resources are spread fairly among necessary actors in other to establish a successful conservation management system while also paying attention to conflict management and relationship building. A careful review of the literature for this study provides five key features/framework underpinning the theory of co-management. The five-feature framework helps determine the specific form of co-management practiced in a specific context.

Table two: Key features of co-management from literature review

Author's creation (2020)

Feature	Description
Power base and sharing	Co-management thus distinguishes itself from other forms of participatory natural resource management through application of a philosophy of power-sharing (De Pourcq et al. 2015, p.3).
Stakeholder's involvement and availability	Actors at different levels and scales interact to adjust their positions, roles, and activities to harmonize with emerging contexts and circumstances surrounding a natural resource (Dung 2019, p.4).
Mode of participation and representation	In terms of participation, co-management arrangement engages local community groups or resource users in decision-making, implementation, and enforcement (Dung 2019, p.4).
Delivery and policy implementation	This outlines who is responsible for, and undertakes, the majority of on ground activities for conservation (Pearson and Dare 2013, p.14).
Conflict management	There exists a formal, identified, consensual and functioning conflict management mechanism at the local level, where solutions to conflicts can be quickly resolved (De Pourcq et.al 2015, p.4)
Process	Co-management should be viewed not as a single strategy to solve all problems of co-management, but rather as a process of resource management, maturing, adjusting and adapting to changing conditions over time. A healthy co-management process will change over time in response to changes in the level of trust, credibility, legitimacy and success of the partners and the whole co-management arrangement (Pomeroy and Rivera-Guieb 2005, p.10).

However, co-management advocates maintain that the best way to gather support for legitimacy is through collaboration between local (native farmers, sub-chiefs, etc.) and external stakeholders (wildlife division, district assembly, etc.). According to Pearson and Dare (2013) the practice of co-management will also amount to rules tailored to local conditions, higher levels of compliance, and lower monitoring and enforcement costs resulting in the enhanced success of conservation management regimes. By developing locally appropriate rules to limit overexploitation, some co-management initiatives have improved both ecosystems conditions, and the livelihoods of resource users (MacNeil and Cinner 2013).

In a different vein, critics also argue that co-management serves to reinforce elite domination (Berkes 2009). The theory of co-management is again criticized by De Pourcq et al. (2015), who view co-management as a pretext to dissemble systems that empower the elite in the background while purporting to open up participation. In some cases, co-management has been blamed to actually exacerbate the conflict that it was intended to solve De Pourcq et al. (2015)

4.4.0 Types of co-management

Co-management comes in varying forms and shapes in different places. Stakeholders involved in co-management possess divergent roles and responsibilities due to how much power and rights assigned to each and sometimes the amount of knowledge each has. The theory is categorized based on what or how much an actor can and cannot do depending on the amount of authority given concerning natural resources management. The different types of co-management refer to the different degrees of power-sharing recognized in government agencies and users' groups or other stakeholders (Weigel and Monbrison 2013). Usually, in the ideal co-management situations, power is meant to be equitably shared between the state and local users. Co-management, therefore, covers a broad spectrum from co-management leaning towards centralized government-based management to co-management leaning towards community-based management, via simple cooperative management (Weigel and Monbrison 2013). A broad spectrum of types of co-management explains why there are seven main types of co-management promoted in the literature Weigel and Monbrison (2013) including *instructive, consultative, cooperative, advisory, informative, instrumental, and empowerment.*

Table three: The seven co-management types/stages of (Weigel and Monbrison 2013, p.8)

Author's creation (2020)

Co-management types	Description
Instructive	Is characterized by a minimum of exchanges between user groups and the government agencies which impose decisions and inform the groups of planned decisions through dialogue facilitations (Weigel and Monbrison 2013).
Consultative	Describes a situation where the government, while reserving large areas for consensus, remains the decision-maker even though user groups have been involved in the process (Weigel and Monbrison 2013).
Cooperative	Describes the situation where government and user groups treat each other as equal. A small number of shared stocks is managed under this type of co-management (Weigel and Monbrison 2013).
Advisory	Implies that the user groups advise the government on the decisions to be taken, and the government takes this into account or approves the decisions (Weigel and Monbrison 2013).
Informative	Involves delegation of the government's power to the user groups who nonetheless have the duty and responsibility of informing the government of the decisions they make (Weigel and Monbrison 2013).
Instrumental	Describes a situation where the user groups are only involved in implementing the measures decided upon by the government, which avoids institutional reform (Weigel and Monbrison 2013).
Empowerment	Places the government and users' groups on the same footing both for defining the management objectives and identifying the knowledge required for decision-making. This type of co-management is a learning process for all the parties involved (Weigel and Monbrison 2013).

Pearson and Dare (2013) also grouped co-management into three types based on their study conducted in Australia. They compressed co-management types into three distinctive groups, having studied how resources users and the state interact in their ability to influence changes and decision making. Pearson and Dare (2013) propose a co-management framework that places the different types of co-management models along a spectrum, from total government control to one of total shared responsibility. The framework articulates the positions, power, and representation of the stakeholders in co-management arrangements (Pearson and Dare 2013). The types include *control, coordination,* and *collaboration*.

Whiles Pearson and Dare (2013) and Weigel and Monbrison (2013) disagree on how much levels or typess of co-management should be available. They all tend to accept some basic features that must be present in the different types of co-management. They tend to recognize the active role the state and local people play in the classification of the theory. The authoritarian role of the state at the beginning of the use of co-management is unmasked by all the authors. Pearson and Dare (2014) refer to this as the *control* type, whereas Weigel and Monbrison (2013) named it the *consultative and cooperative*. These types of co-management outlined are often characterized by the involvement of user groups and, equal respect for government and resources users (Weigel and Monbrison 2013), as well as the state control decision-making, including controlling who is involved, when and to what extent" (Pearson and Dare 2013). In these stages, resources users often register their displeasure through resistance and lack of support to the management structures.

Consequently, the rebellion from residents compels the government to pay attention to the local resource users in *coordination* stage (Pearson and Dare 2013), and in the *advisory, informative* and *instrumental* stages (Weigel and Monbrison 2013). In these stages, user groups can advise the government on the decisions to be taken, government delegates some powers to communities (Weigel and Monbrison 2013), there are also opportunities for localized interests to be brought to the decision-making table and debated, presumably, in a considered manner (Pearson and Dare 2013). Eventually, the aftermath of community rebellion and power delegation to user groups leads to *empowerment* (Weigel and Monbrison 2013*)* and *collaboration* types (Pearson and Dare 2013). It is at this point that ideal co-management gains traction and is put into practice.

Such participatory governance partnerships deliberately take control away from the state, instead dispersing control throughout the partnerships, albeit with caveats regarding public accountability and compliance with legislative requirements, etc. (Pearson and Dare 2013). According to Weigel and Monbrison (2013) these stages of co-management places the government and users' groups on the same footing both for defining the management objectives and identifying the knowledge required for decision-making, and a learning process for all the parties involved.

The theory of Pearson and Dare (2013) is used in this thesis to study the kind of co-management in BFMS. It has been chosen for its simplicity and practicability. The three types of co-management, including *control, coordination, and collaboration* by Pearson and Dare (2013), are easy to put into practice or can easily be noticed when put into use anywhere, unlike the framework of (Weigel and Monbrison 2013). The three stages/types of co-management framework of Pearson and Dare (2013) are easy to understand for its clarity, especially when studying how co-management works in Ghana. Most of the characteristics present in the three stages framework resonate with what is present in BFMS, including the concerns on policy formulation and implementation and availability of stakeholders. Even more important is how power is gradually shifting from the state to the ordinary stakeholders.

Table four: The three co-management types/stages of (Pearson and Dare 2013, p. 14&15).

Author's creation (2020)

Co-management types	Description
Control	In the control model, the State uses its discretionary power as the legal manager of the protected areas to control decision-making, including controlling who is involved, when and to what extent" (Pearson and Dare 2013).
Coordination	On the other hand, the *coordination* type encourages pluralistic management style where each actor/ stakeholder can partake in all management processes, but the state controls all discussions. This approach provides opportunities for localized interests to be brought to the decision-making table and debated, presumably, in a considered manner. However, the central control of the remains with the state making the final decisions based on actor feedback (Pearson and Dare 2013).
Collaboration	Under this co-management style there is an existence formalized partnership where decision making power, responsibilities are shared fairly among all actors and does not belong to state or any other actor. Being described as the ideal co-management type because this model represents the most inclusive form of co-management, whereby formalized partnerships are established amongst the actors to govern park management. Such participatory governance partnerships deliberately take control away from the state, instead dispersing control throughout the partnerships, albeit with caveats regarding public accountability and compliance with legislative requirements etc. (Pearson and Dare 2013).

4.5.0 Human-wildlife conflict (HWC)

Throughout history, humans and wild species have competed against each other in their quest for survival. In many parts of the developing world, these mammals inhabit landscapes beyond reserves where they come into conflict with local communities (Barua et al. 2013). People and the wildlife pursuit of resources and habitat have led to countless and undesirable damages. This conflict has led to the extinction and loss of biodiversity and uncountable human deaths and economic losses (Nyhus 2016). This issue encompasses a huge diversity of situations and species, from grain-eating rodents to man-eating tigers *Panthera tigris* (Dickman 2010). Expansion of human activities resulting in fragmentation of shared spaces have elevated these human-wildlife conflicts (Karanth and Kudalkar 2017).

The sad reality is that in many places, human-wildlife conflicts are increasing, as burgeoning human populations move further into previously uninhabited areas and as some species recolonize parts of their range (Dickman 2010). Unfortunately, human-wildlife interactions resulting in loss of crops and livestock, property damage, and human injury and death pose significant challenges to global conservation efforts (Karanth and Kudalkar 2017). In addition to property losses, the occasional threats to human safety compound the vulnerability of rural communities. It is argued that reserve boundaries experience a disproportionately higher number of human-wildlife conflict incidents, turning them into “conflict hotspots” and imposing significant costs and risks to both people and wildlife (Karanth and Kudalkar 2017).

People cope with losses differently; some have a high tolerance for losses, whereas others retaliate against wildlife species (Karanth and Kudalkar 2017). Traditionally, the human response has been to kill the suspected wildlife and transform wild habitats to prevent further losses (Treves et al. 2006). Direct, reactive mitigation strategies employ interventions (e.g., fencing, guarding) that protect crops, livestock, and property, whereas indirect reactive measures are targeted toward improving tolerance of affected communities through compensation schemes (Karanth and Kudalkar 2017).

Dickman and Hazzah (2016) defines HWC as when the needs and behavior of wildlife impact negatively on the goals of humans or when the goals of humans negatively impact the needs of wildlife. In similar thinking and from a broader perspective, HWC is described as the conflict that occurs between people and wildlife; actions by humans or wildlife that have an adverse

effect on the other; threats posed by wildlife to human life, economic security, or recreation; or the perception that wildlife threatens human safety, health, food, and property (Nyhus 2016). The term wildlife here implies all non-domesticated animals and plants living in their natural habitats, although sometimes domesticated species are often mentioned in the literature of conservation.

It is pointed out that the notion of human-wildlife conflict is complicated by underlying tensions from human-human conflicts over conservation and resource use (Nyhus 2016). Another complication is that human interactions with wildlife are often framed negatively even if important positive benefits—recreational, educational, psychological, and ecosystem services— exist (Nyhus 2016). There is also burgeoning tension around the use of the phrase human-wildlife conflict and co-existence to embrace both the problem and solution aspect of the theory, although some researchers still question whether co-existence equals co-occurrence. A different controversial issue in HWC is that communities tend to focus solely on wildlife-related issues whiles disregarding other serious environmental problems affecting residents equally. At several sites, local resentment over property losses to wildlife precludes discussion of other environmental issues. For example, in Apolobamba, Bolivia, crop, and livestock losses to wildlife draw more public debate in scheduled meetings than soil erosion, pollution, and watershed management (Treves et al. 2006).

4.6.0 Political Ecology

Political ecology has become firmly established as a dominant field of human-environmental research in geography (Walker 2005), and it is admitted being highly complex and diverse (Adam and Hutton 2007). It emerged in the nineteen seventies and developed in the nineteen-eighties, particularly as an explanatory framework for the problem of soil erosion (Adam and Hutton 2007). Basically, it set out to shatter comfortable and simplistic "truths" about the relationship between society and its natural environment (Perreault et al. 2015). While the field has evolved and diversified significantly since early structuralist treatments, most political ecologists have a broader conceptual grounding spanning the natural sciences, social sciences, and humanities than most social scientists (Turner 2014). Turner (2014) maintains that such interdisciplinary grounding is what many have argued as needed for improving the "effectiveness" of the conservation and development practices.

Adam and Hutton (2007) claim that all the environmental changes take place against the backdrop of a wider social assault on nature through processes of industrialization, urbanization, pollution, and the conversion of terrestrial and marine ecosystems to industrial purposes. Thus, political ecology attempts to link an understanding of the logics, dynamics, and patterns of economic change in the politics of environmental action and ecological outcomes, a set of relationships fundamental to conservation (Adam and Hutton 2007). The field of political ecology explicitly addresses the relations between the social and the natural, arguing that social and environmental conditions are deeply and inextricably linked (Adam and Hutton 2007).

Political ecologists analyze environmental or ecological conditions as the product of political and social processes, related to a number of nested scales from the local to the global (Adam and Hutton 2007). Moreover, it emphasizes not only that the actual state of nature needs to be understood materially as the outcome of political processes, but also that the way nature itself is understood is also political (Adam and Hutton 2007). For instance, political ecology seeks to deconstruct the dominant explanations of famine in Nigeria, soil erosion in Nepal, and deforestation in Brazil as rooted in overpopulation, improper land management, and brute ignorance (Perreault et al. 2015). The theory offers alternative explanations to such a phenomenon that: they are rooted in political economy, marginalization, colonial capitalism, and the abuses of predatory states (Perreault et al. 2015).

Imperatively, political ecologists have defined this thinking in varying ways connecting environmental changes to social, economic, and political phenomena. In the words of Massé (2016), political ecology is an approach to understanding the political, economic, and social factors that help shape human-environment relations, including those related to conservation and, the various discursive and material practices used to create protected areas. In a similar tone, Vaccaro et al. (2013) admits that political ecology emphasize the connections between ecology and social context by matching ecological and social chronologies, contributing to the understanding of their interactions and the social production of landscapes. Svarstad et al. (2018) also understand political ecology to mean empirical, research-based explorations to explain linkages in the condition and change of social/environmental systems, with explicit consideration of relations of power.

Political ecology is employed to seek in other to understand how networks of power, as mediated through a broadly defined political economy, influence nature-society relations on the ground (Turner 2014). It is argued that there is a growing literature explicitly drawing on a political-ecological analysis to explore conservation (Adam and Hutton 2007). It is believed that political ecology provides a valuable approach for reviewing changes in wildlife conservation; it is attentive to the role of historical factors, social constructions of the environment, and power relations in shaping environmental change (Jones 2006). Key issues include the politics and economy of the spatial strategy of PA declaration in colonial and post-colonial contexts, the role of the state as the central agent in the direction, legitimization, and exercise of power and control in the name of conservation, and the role of non-governmental conservation actors (Adam and Hutton 2007). The creation of a protected area is as much a social process with political and economic consequences as it is an ecological project in which stakeholders' managerial, and consequently, cultural preferences and knowledge play a fundamental role (Vaccaro et al. 2013).

4.7.0 Summary

This chapter has unveiled the constitution of co-management: its meaning, types, and the basic defining features that shape it. It stresses on the essential co-management elements such as availability of natural resources, co-management as a process, stakeholder involvement, power-sharing, and conflict mitigation. The chapter has also elaborated on the two main types of co-management frameworks: Pearson and Dare (2013) and Weigel and Monbrison (2013). The chapter provides justification for using the framework of Pearson and Dare (2013) due to its simplicity and clarity. There is also a presentation of human-wildlife conflict. Human-Wildlife Conflict varying definitions and various effects that emerge when humans and animals compete for space and resources are presented. The chapter has equally thrown light on political ecology. It has explained how politics, power, and the continuous growth of the capitalist economy lead or stimulate environmental decline /*ecocide* in many rural areas in developing countries.

Chapter five

Findings

5.1.0 Introduction

This chapter unpacks the themes from data collection. First, results obtained from stakeholders on the challenges of the use of co-management is presented. It is then followed by benefits accrued from the use of co-management in Boabeng – Fiema Monkey Sanctuary (BFMS). The results are centered on issues of conflict, relationship, participation from stakeholders, as well as the cost and benefits allocations among stakeholders. I will present findings on the type of co-management used in the management of the protected area (PA). Here, Pearson and Dares' (2013) framework is used to determine the kind of co-management applied in BFMS.

5.1.1 Challenges of co-management approach in Boabeng-Fiema Monkey Sanctuary

This section provides results on the constraints of the co-management approach obtained from Boabeng-Fiema Monkey Sanctuary. The application of the co-management approach has produced challenges, including a spike in conflict, uneven benefits, and cost allocated as well as relationship breakdown among the relevant actors in the communities. Findings on these three issues with a summary in a table are presented below.

5.1.2 Conflict

In recent years, unrest has been one of the visible challenges prevailing between board and management committee members, internal stakeholders, and external stakeholders. Most internal and external stakeholders expressed their frustration about the eternal conflict surrounding the management of the sanctuary. The key drivers of conflict among the stakeholders include financial mismanagement, absence of compensation, power and responsibilities sharing, and lack of transparency. As various management fractions continue to push for more power, control, benefits, and participation, the results have been nothing but conflict and instability among the multiple stakeholders present in Boabeng and Fiema.

Nathaniel, a resident of Boabeng says there have been some conflicts among stakeholders because, as residents, they strongly believe that the individuals on the board responsible for financial management are handling everything inappropriately. To the 43 - year old, it is one of the main causes of the rift between residents and the board members.

"We have had some conflict concerning how some individuals managing the sanctuary usually man-handle and loot revenues. Almost all the community members complain bitterly about financial misappropriation from managers of the wild sanctuary". – Nathaniel

Similarly, the Boabeng native who works in the sanctuary also points out that conflict among local stakeholders emanates from how funds are handled. She continuous by explaining how residents get angry at the workers because they believe that their communities benefit very little or nothing at all from the revenues collected for the sanctuary. Tina also singles out the slow pace of communal and sanctuary development to be a root cause of the growing conflict between the residents and sanctuary employees.

"We experience a lot of conflicts, particularly with the community. Community members always insult us about how we handle funds from tourists. They complain about how no or very little the community benefit from funds generated from the tourism industry. It is difficult to respond to such allegations from some community members. What we do in the face of the criticism is to ignore them all the time" -Tina

Ney emphasizes the seriousness of conflict existing among management committee, the board, and the residents. To the district assembly representative, conflict is one of the fundamental constraints facing sanctuary management. The current board member reveals that since he assumed the role of a member of the board, there has always been an increase of issues among stakeholders.

"The residents and sometimes management committee always have a problem with whatever we do. Even before I took this job, they had issues with me because I am working for the district assembly. With every passing day, they have something new to complain about. Now, if you visit DISEC office, there are a bunch of issues from Boabeng and Fiema alone, which are yet to be resolved".- Ney.

The 38-year old board member explained the reasons for the rise in disagreement between actors. Ney believes that the cause of the resident's anger is founded on rumors and lies.

"One thing I have observed in these communities is that people quickly accept false information. They blame all board members for misusing their funds, which to me, is false. We try always to be as transparent as possible to the residents". -Ney.

Adam, a former employee of the sanctuary, complains about lack of financial transparency and accountability from the board has regularly fueled the conflict. The Fiema resident also argues that the little revenue collected by the board ends up in the pockets of very few and undeserving leaders, just as some of his colleagues said. It was revealed that the board dictates all important matters, not excluding finances. How much revenue was received, how much is spent on the community's development are always not transparent to the local residents.

"It is difficult to resolve conflict because we have a lot of misunderstandings among community members. All individuals come with different grievances and problems. The ultimate source of conflict in this community is that residents do not get a full understanding of how revenue collected from the sanctuary is being used. There is obviously a lack of transparency in our finances". – Adam

In a similar tone, a male resident of Boabeng complained bitterly about the increasing amount of conflict surrounding the co-management of the PA. Just like the other colleagues, he singles out financial mismanagement as the root cause of the conflict. Dan blames the district assembly for deepening the conflict between the board and the residents. To Dan, the district assembly's main role is to facilitate the communities' development; instead, the district assembly come to the community for money.

"There is conflict in this community which is fueled by financial irregularities. Even as we sit here, it is what is being discussed. The assembly comes here for money. They do not give anything to the community. It is the community that has conserved the forest and the animals. So, we can manage it ourselves as a community. Everything belongs to us". – Dan.

From a different angle, it was also made known that conflict exists between the board and the management committee because there is a continuous struggle for power and responsibilities. Management members accused the board of working beyond their boundaries. Mika points out that the board constantly does not just interfere in their roles; they sometimes take over their assigned duties. And this has been one of the fertile grounds for unrest between the two parties. For instance, the management committee is responsible for supervising projects related to the sanctuary, but now everything is done by the board without their consent. The management committee member and a farmer narrate.

"*A year ago, we had a conflict because the power and responsibilities to manage these animals were taken away from us by the new structure (board). Also, some of the chiefs have unlawfully taken over our responsibilities".* – Mika

Manu also opened up about conflicts and how it is threatening co-management practice in BFMS. He blamed the unrest in the two communities on lack of trust for external stakeholders and lack of compensation for people who suffer damages due to the sanctuary. Manu believes farmers whose farm produce get destroyed by the monkeys should be compensated in order for this conflict to be resolved.

"We have a lot of conflict in these communities. So far, it has been very difficult for us to resolve the conflicts surrounding the management of the sanctuary. It is difficult to trust the external stakeholders because they have failed to compensate us for our damages caused by the presence of the wild monkeys". – Manu

5.1.3 Unfair distribution of benefits and cost from the sanctuary.

Co-management in Boabeng and Fiema is threatened daily due to the unequal price, different stakeholders must pay to conserve the wild monkeys. Economic benefits that are accrued from the protected area do not transcend down fairly to the different stakeholders. There is an existence of what is being termed as *elite capture*: a situation where people or stakeholders in top hierarchies capture and control most of the benefits that come out of the protected area. Meanwhile, the challenges posed by the wild monkeys and the conservation is experienced by residents who benefit nothing or very little.

Gwen breaks down how much in percentages each group in the communities receive from the sanctuary revenues. The farmer laments about how unfair the entire community is dealt with in terms of benefits allocations. She reveals that the whole community gets just 5%, while each stakeholder walks away with 20% from the sanctuary revenue.

"There is a financial misappropriation with the current management system. The community is given 5%, and the district assembly takes 20%, wildlife division 20%, the chiefs take 15%. This is a cheat on the part of the community members. The remaining 40% is spread among the

other six allied communities, Nkoranza traditional council, and Boabeng-Fiema monkey sanctuary development fund," Gwen cried.

The wildlife division, chiefs, and the district assembly who are members of the board make away with (55%) of the annual revenue, which throws more light on why management committee members and some residents continuously have grudges with board members. It indicates a highly unfair way of sharing economic benefits from the sanctuary because most of these board members live outside the communities and therefore escape the troubles from the protected area.

A management committee member also revealed the pain her mother has been going through because of the conservation. The protected area has spread widely to the extent that Part of her mother's land has been confiscated without any compensation for monkey conservation some years back. This has become a big challenge simply because it is affecting her and other farmers. The confiscation of their land leaves them with low levels of productivity, which consequently negates their quality of life.

My mother's farming land has been taken because it has become Part of the protected area. The painful truth is that after the confiscation of her land, she was compensated with nothing. Imagine the whole community is given 5%, which cannot do anything for the whole of Boabeng community". – Bright.

This management committee member believes that 5% of the revenue that is given to the entire community is far less than they deserve. In the opinion of this teacher, the cost of land confiscation far outweighs the 5% monetary value given to the whole community.

Mr. Brian's message resonates with that of Bright about how much residents must sacrifice to have the conservation area. The former management member sheds light on the plight of his mother as well and himself, not just about land confiscation but also the everyday struggles inflicted on them by the mona monkeys. All the yields in their farms get destroyed regularly by the mona monkeys, leaving them with a difficult life to live. Meanwhile, in the face of these challenges, they gain nothing in return. However, Brian admits how impossible it is for residents or stakeholders to benefit from the sanctuary at an individual level. But the 62-year-old reveals that most of the benefits from the protected area are spent at the community level.

The farmer also hinted at funds mismanagement and how it was easy for an individual to squander resources that belong to the whole community.

"Part of my mothers' land is taken for the conservation of the monkeys. Yet, I have no role to play. I have even stopped farming on one of my lands over there because of the wild monkeys. They eat all the maize, yams that we used to produce there. There are numerous challenges that cannot be mentioned which are inflicted on us by the monkeys. The Mona monkeys eat anything humans eat. So, eggs laid by our hens, food products from our farms are often eaten by the animals. The truth is that it is difficult to benefit from the sanctuary individually—however, the community as whole benefits from it. We had very complicated financial issues recently. A board member handles money without the knowledge of the entire community members". - Brian reveals.

Manuel also talks about how benefits from the sanctuary end up with the wrong and few people. He accuses the chiefs of playing a key role in controlling and capturing the benefits that emanate from the sanctuary. "*We have a lot of issues between management and the board."* Manuel, 48, narrates.

"If you take a cursory look at how things are shared, you will realize that we have some issues. All the benefits go to the chiefs. The benefits do not go to the right people" -Manuel.

A 54 -year man reveals that this is the only moment in the history of the sanctuary when he has personally benefited very little financially. According to Nunu, the current management set up has made life very difficult for them because revenue accrued are not well distributed.

"I used to benefit from this sanctuary in the past management. At the time, the chief would give us Part of his quarterly share from the sanctuary. But now, I benefit nothing from the sanctuary" -Nunu laments.

Nunu continuous by arguing that the menace of unequal allocation of benefits extends beyond the personal level to the communal level. He blames employers for the unfair treatment of Fiema residents during the recruitment of workers in the sanctuary. The 54-year-old accuses the board of nepotism.

"Fiema is far bigger than Boabeng, but we have only one person employed to work in the sanctuary. Fiema has a lot of capable people who can work to manage the sanctuary. Honestly, things are not going as we like now. Things are not going as we expect". -Nunu

Speaking sarcastically, a woman in her late 70s reveals that the only good thing she has received from the sanctuary is the destruction and damages that have been inflicted upon her by the monkeys. Due to her anguish, she has become much more pessimistic about the prospect of the sanctuary management and survival of the protected area. The farmer continuous by arguing that even in the face of such difficult moments, *"There is no one to complain to when the monkeys interfere or destroy our assets*."- Lalla

"I have no role to play in the management of the sanctuary, apart from the fact that animals are destroying our assets and staff, there is nothing we benefit from it. At my age now, looking old, I have lived all my life in this community. I strongly disagree that these external stakeholders will do anything meaningful for the community". – Lalla

Sarah emphasizes on how difficult it has been for her to personally gain anything from the sanctuary. The local trader, however, points out managers and stakeholders to be the receivers of the benefits from the sanctuary and not ordinary people. Sara also advises the managers to control the wild monkeys to avoid the everyday troubles that people like her suffer from monkeys' invasion into the communities.

"*If there has been some benefit from the sanctuary to this community, then I guess that perhaps only the managers may have benefited. But personally, this sanctuary has not benefited me in any way. I would say the animals should be tamed and not allowed to come into our homes"*- Sarah.

During an interview with Mo, he points out how they have been historically relegated and ignored even though they host a bunch of monkeys in their community. The management committee member explains how their community had no voice until recently despite keeping some of the monkeys and the forest.

It is sometimes funny looking at how they denied us of many of the benefits and representations of management, but at the same time, they expect us to keep the animals. They hardly employ some of our youth to work in the sanctuary. We thank them for having us on the management committee now, but we still want more. We suffer together, so we must benefit together". -Mo

5.1.4 Strained relationship among stakeholders.

Inevitably, where there is undue and unequal treatment of residents in the process of benefits and cost allocations, one of the outcomes will be a strained relationship between actors at all levels of the co-management arrangements. Undeniably, the relationship between stakeholders in BFMS is becoming nothing but strained and fragile. And these tensions are emanating from actors who occupy lower positions in management against those above them due to numerous factors. The sour rapport between stakeholders is propelled by factors such as lack of transparency and participation and absence of commitment to work.

Regardless of his avid support for the current management system, Memphis points out that their number one challenge while co-managing the protected area is the unhealthy relationship between the board members and management committee. While expressing his view on the unfortunate situation, the 35-year old explains that this has haunted management in the past and continues to be torn in their flesh even today. The spoil relationship between the parties boils down to establishment of new structure (board), which to the 35-year-old is something normal with new systems.

"Like any new system, there are bound to be challenged. People must understand that this is a new system. Now there is another body, the board. Management takes decisions before the board works on it. We have one challenge now; that is the relationship between the board and management". -Memphis.

When the 58-year old talks about their relationship with the wildlife division office in the community, he informs us about how their relationship keeps deteriorating. But recently, things have begun to fall apart between the two parties. The sub-chief feels the current broken relationship between the wildlife division and residents should be blamed on the lack of commitment to work effectively towards the sanctuary.

"Wildlife division is generally known to be a reputable and capable institution for managing and protecting conservation areas all over the country. The truth is that the people are less impressed with the kind of job wildlife officers here are doing today. We have enjoyed a healthy relationship with the wildlife division until recently……". – Pius

Patrick, 40, admits that the relationship between the district assembly and the community, management committee, and other stakeholders has not been the best. Stressing on their relationship, he informed us that they are all divided on most of the important issues whiles co-managing the sanctuary. When questioned on the relationship between the district assembly and other stakeholders, the district assembly worker snaps*, "We agree on certain issues but not all. We all have our positions".* The 40 -year old man believes that for the conservation area to be successfully co-managed, one thing must be done: *"we should diffuse the management committee*," he concluded. This shows that the relationship between the district assembly and the management commitee to be far from ideal.

Commenting on the relationship with stakeholders, Samantha and Janet expressed that both at personal and community levels they do not have a fruitful relationship with the external stakeholders. Janet, a trader, believes that most of the external stakeholders such as the wildlife division, district assembly, Ghana tourism board, and others are not liable for accountability in their respective roles while working on the sanctuary. To Samantha, the unhealthy rapport is due to some cover-up in their work. For these reasons, it has become difficult to trust them as people and what they do. During the interview, Samantha and Janet provided details regarding their relationship with external stakeholders.

"We as a community do not have any harmonious relationship with these stakeholders. In fact, nothing exists between us even with assembly and the chairman". -Janet.

"I have no relationship with these stakeholders. Stakeholders must be accountable and transparent in all that they do in the entire community". -Samantha.

Monica explains that relationships with other stakeholders can best be described as *terrible* because residents like her do not have the opportunity to participate in discussions of matters concerning the sanctuary. Being an employer in the conservation area should have given her the opportunity to engage in serious conversations, particularly about her job to the management, but this does not happen. This, to her, is continuously ruining their relationship. Monica believes the level of her participation does not help bring about any positive change in their relationship.

"Our relationship with the current management is two-faced, in terms of participation and collaboration towards development projects, I would say it is terrible. I am a worker here, and therefore the decision should not be made without my knowledge and consent" -Monica.

Lambert claims that the only people who see a good relationship between actors and local people are those who benefit from the sanctuary. The 42 year -old farmer admits that his relationship with board members will be better when they begin to pay attention.

"I hear people say things are getting better now between the community and the board members. That is their opinion. For me, I have no good impression of any of them. We see what they do. I will be nice to them when they do their jobs well and become transparent". -Lambert.

The 27-year old farmer maintains that even though there is no calm relationship between actors, things would be better in the future when all the parties become responsible and transparent with what they each do.

I really want these animals and the forest to thrive. For that reason, I am looking forward to having a good relationship with them(actors) in the future. And that will only happen when I see them do their jobs with integrity and becomes less corrupt"- Lambert.

Kai explains that relationships among even management committee members and the board are far from ideal. The management committee member stresses that board members must shoulder responsibilities for the rough rapport. He continued his interview by pointing out that the poor relationship between residents and management of the sanctuary has historically been the same. The 52-year old farmer from Boabeng did not exclude himself from blame. He indicates that each management member has a role to play in the relationship breakdown and its repair.

Now there are residents I cannot look in the eye because we have all failed in our basic duties to deliver what the community wants. The board and management committee must be blamed. The community is right to be mad at us, but I encourage them to be a bit patient. We do not have any right to be mad because we work for them. I want us to build this relationship between us because it is the only way we can get the best out of the sanctuary," -Kai concedes.

Table five: Tabulation of results on the challenges of co-management in Boabeng-Fiema monkey sanctuary. Author's creation (2020).

Field results	Participants response	
	External stakeholders	**Local stakeholders**
Increase in conflict	A year ago, we had a conflict because the power and responsibilities to manage these animals were taken away from us by the new structures. Also, some of the chiefs have unlawfully taken over our responsibilities- Mika.	We have a lot of conflict in these communities. So far, it has been very difficult for us to resolve the conflicts surrounding the management of the sanctuary. It is difficult to trust the external stakeholders because they have failed to compensate us for our damages caused by the presence of the wild monkeys - Manu.
Unfair distribution of benefits and cost	But it does not work that way; all the benefits go to the chiefs. The benefits do not go to the right people. We have a lot of issues between management and the board. If you take a cursory look at how things are shared, you will realize that we have some issues- Bright.	It is sometimes funny looking at how they denied us of many of the benefits and representations of management, but at the same time they expect us to keep the animals. They hardly employ some of our youth to work in the sanctuary. We thank them for having us on the management committee now, but we still need more. We suffer together, so we must benefit together. -Mo.
Strained relationship	Like any new system, there are bound to be challenged. People must understand that this is a new system. Now there is another body, the board. Management (MC) takes a decision before the board works on it. We have one challenge now; the relationship between the board and management- Memphis.	We, as a community, do not have any harmonious relationship with these stakeholders. In fact, nothing exists between us even with assembly and the chairman- Janet.

5.2.0 Benefits of co-management approach in Boabeng-Fiema Monkey Sanctuary

Here, results on the benefits from the use of the co-management approach in Boabeng-Fiema Monkey Sanctuary is presented. The benefits results provided here are obtained from both internal and external stakeholders who are entrusted with the governance of PA. It covers three issues, including the establishment of conflict management avenues, improvement in the relationship and, encouragement of grassroots participation. There is also a summary of the results provided in the table below.

5.2.1 Creation of conflict management platform

One outstanding benefit established as a result of co-management practice in the BFMS is the creation of a management system for conflict mitigation. The arrival of varying stakeholders to the sanctuary has served as a great impetus towards such an initiative. With hierarchical and formalized management structure available now, it has become easier for individuals and groups who occupy top positions to assist in resolving and managing conflict. For instance, the creation of the management committee has become a platform for settling minor disputes between community members, between communities, and, more importantly, among stakeholders. Relevant stakeholders, such as the traditional council (sub-chiefs) and other elderly people on the management committee, have been crucial in helping with conflict mitigation between parties.

Memphis names the district assembly security council (DISEC) as one group responsible for conflict mitigation. The 35-year-old did not hesitate to point out what can be done by DISEC to improve their services. The management committee member calls on DISEC to resolve issues quickly and urge them to listen to the ordinary residents before making a judgment.

"*Because we are part of the Nkoranza North district, all conflicts and issues are forward to DISEC for redress. They invite all the parties involved and then listen to our grievances. When we forward grievances to DISEC, it usually takes much more time before they are resolved. We would encourage DISEC to come down to the community, listen to the entire community before they make a final judgment. They only listen to two or three people and assume they have the whole stories, which in our opinion wouldn't help to reach a convincing judgment".*- Memphis.

Another important body that is responsible for resolving conflict in BFMS is the management committee (MC). One of their major roles is to resolve minor conflicts in other to prevent them from escalating. Manuel reveals the role of the management committee as a last resort in the community during conflict situations.

"In conflict situations with the community, the management committee is first charged to resolve it; if they are unable to handle it, then it is forward to the DISEC for final resolution. Sometimes the traditional council is called on to help in resolving conflict too". – Manuel

Monica pays tribute to the current administration for the restoration of peace and calm among management, board, and residents. The 31 - year old credits the board and chiefs specifically for playing an outstanding role in mitigating conflict.

"When it comes to conflict issues, the establishment of the current board has helped in mitigating them. The presence of chief and other important personalities on the board have brought respect and sanity with current administration" - Monica.

Jack also reveals during the interview in Fiema that since the creation of the management committee some years back, it has helped foster a good relationship among the communities. The 40 -year old farmer admits that on conflict management, he is content with what the MC is doing by harmonizing the hard-core relationship which existed before. The former management member argues that the composition of the management committee - bringing a person each from the five allied communities has enabled them all to bring their grievances to the table for a solution.

"See, people sometimes don't want to look at things as they are. We did not get along well with residents from Bonti, Senya, and the rest of the communities where the animals sometimes go to. But today, we have them here on the table discussing with us peacefully and looking for common grounds. If this is not progress, then tell me what it is". -Jack recounts.

Zik adds that the board and the management committee's availability provides authority that discourages people from becoming outlaws. He remarks that people are now aware of the ramifications that come with flouting any of the bylaws guiding the conservation area. The local farmer believes that the presence of DISEC serves as a deterrent to many residents.

" *Now, every community member knows the consequences of becoming an outlaw in the community and, more importantly, to the wildlife. The district assembly security council (DISEC) is working with the police department in the district. They do not joke around. If you go against any of the regulations for the PA, you might be in trouble. Everyone in the communities is aware of that".*-Zik

Zik concludes that for now, the community appreciates the stability the current management system has put in place. The Boabeng native calls on the current management, especially DISEC, to be fair and quick in solving conflicts.

"*They (DISEC) have done well in restoring stability. We overlook their achievement. However, they must be fair and fast in their handling of conflicts in the community pertaining to stakeholders and our finances. What we need is justice all the time because we can only trust their judgment when there is consistency in the delivery of justice" .*- Zik.

Maya voices that the board's arrival, in her opinion, provides some authority and order in the management system now. The management member recalls how unstable and easy it was in the past for little argument to turn into a huge conflict in BFMS. The Boabeng farmer stresses the role of the chief and the lawyer play in mitigating issues.

"Now we have the chief, the lawyer, and other important personalities whom I respect very much. I feel like they do not deserve our anger and frustration because they put in relentless effort to help resolve many of the issues we have. Even issues that emanate outside the conservation are sometimes solved by them. Part of me feels like they deserve better treatment for what they have been doing so far"- Maya.

Maya continuous by revealing that she would not be able to tell what would have happened by now if the communities did not have the chief and the lawyer on the board.

"*Only God knows what would have happened to the monkey sanctuary and some individuals in the community without the important people I talked about. They have helped the community and me out of many troubles".*- Maya.

5.2.2 Improved relationship among stakeholders

Many residents also mentioned that the adoption of the co-management approach has helped soften the relationship among some stakeholders. Some respondents are of the view that the hard-core relationship which existed before is now softened by the current management style.

When the 42-year-old George was asked about his opinion on their relationship with other stakeholders, he declares that he has nothing but praise for the wildlife division agency because of their commitment to work. George believes that the warm relationship between the wildlife division and the community is due to their incredible contribution to the protected area.

"We have nothing but praise for the wildlife division in this community. Right from the discovery of the monkeys and the forest, they have been very instrumental in the management of the monkeys,"- George explains.

Being one of the residents who fully embrace the current co-management system running the PA, Gayle is optimistic that the current co-management system has all that it takes to produce a desirable outcome for all actors and the sanctuary. The farmer strongly subscribes to a pluralistic management style where all parties must work together with a collective goal. To her, co-management of the wild monkeys has aided in building a harmonious relationship because a positive relationship only emerges when different stakeholders and people sacrifice their difference and stick together.

"For me, I think we have a very harmonious relationship with the entire management and stakeholders. It would be nice to work with all relevant stakeholders as far as the management of the wild sanctuary is a concern. When we work together as a team, I think this will yield a positive result. The wildlife alone cannot help manage and conserve the sanctuary".- Gayle.

Gayle recognizes that neither wildlife nor the community has the capacity to bring the best out of PA except when stakeholders bring their knowledge, experience, and support on board to help facilitate co-management activities.

Sarah admits there is an unspoiled rapport between the residents and external actors, which is an indication that the community has not fallen out with all the stakeholders except the very few whose anti-co-management actions are known to the communities.

"We have a good relationship with all the stakeholders. Not all of them are involved in the money squandering: so, there is the existence of a good relationship between the stakeholders and the community members," Sarah.

Curry also reveals during the interview that he believes the rapport between stakeholders now is better than before. The local farmer emphasizes that one reason for the relationship improvement is the fact that now there is a management committee to have people represented from all the other communities. That showcase that people are now willing and ready to work together.

"I have lived here long enough to understand what the current relations mean to me. My point is not to say everything is perfect between all the parties. We used to have a real hostility where people could hardly meet to even talk about the sanctuary. Things were very rough. At least now we can meet to have discussions about the animals, which in most cases end peacefully. That, to me, is a sign of a great relationship. Previously, I remember people hated wildlife, assembly for some reason. If those guys (wildlife, assembly, and the others) do good things for the communities, I am sure the relationship between us all will even be better". -Curry.

Leo reveals during the focus group that what exists among the management committee and the board today should be viewed as a positive relationship. The board member opines that he has no personal problem with any resident or management member. The 50-year old farmer emphasizes that despite being aware of the animosity residents hold against board and management members, he is focused on what his relationship is with the rest of the stakeholders.

"*I cannot guarantee that everyone likes what we have chosen to do. It is a fact that some residents and even management members hold grudges against us. But I have chosen to focus on my relationship with all those people: which to me is one of positivity. I know that if we continue with the good work that we have been entrusted to do, it will automatically help restore and even improve the relationship we have now*".- Leo.

5.2.3 Improvement in grassroot participation

Participation from the grassroots has improved remarkably, according to residents, compared to the past. Some of the stakeholders concede that there are people who listen to their grievances and then forward their opinions and suggestion in the current co-management system. The

establishment of the board, the increase in membership of management committees as well as the spontaneous public meetings with residents, are some of the relevant avenues through which residents can use to voice their ideas and grievances.

Monica argues that there has never been any time in the management history of the sanctuary that she has been this part of the management. The sanctuary employee explains that there has not been a better system than what is in operation now in terms of the inclusion of residents.

"I believe with the current management structure; everyone is fairly represented. If I have an issue now, for instance, I will report it to the youth representative on the management committee (team) for redress. In the same way, if any sub-chief has an issue, there is a chief on the board to report it to. This, in my opinion, is quite better than what existed previously". -Monica.

According to the 28 -year lady, at the moment, there is an avenue for both the chiefs and all young people through which they can channel their grievances for solutions. Lauren points out during the interview that their opinions and ideas are not just listened to but rather acted upon by people in power relating to the sanctuary.

"In the making of important decisions, our opinions are often considered. There are a board and management committee established to see day-day activities of the sanctuary". -Lauren

Although he reveals to not attend meetings organized for the communities in matters surrounding sanctuary management, the 45-year-old farmer agrees that they are occasionally briefed by their representatives on the board after meetings. A platform is also given to everyone to share his/her opinions on emerging issues.

"I don't go there to listen to whatever that transpires in their meetings. The entire community is not even consulted. Sometimes after board meetings, the entire community is also informed during public meetings and forums about the decisions and what they discussed in their meetings. They give everyone the platform to bring out opinions on different issues. I expect them to implement some of the ideas, suggestions, and concerns that the community put forward. When we get to that point, I will engage myself in their public discussions". – Asamoah.

More so, 72 years woman was concern about how their voices as residents have proved futile despite their engagement in meetings. According to Esi, they have become *toothless bool dogs* who are all the time called to be part of meetings but end up leaving without any impact. But she admits that every person is given the platform to be part of what is going on as far as the sanctuary's co-management is concerned.

"For some of us who are not members of management, we are not able to say anything. When there is an announcement for a community meeting, we all join and leave at the end of the meeting without anything meaningful happening".- Esi.

A trader of Fiema also emphasizes how each resident of Fiema can participate in dialogue about the sanctuary relating to matters of finances and rendering accounts to the public. Despite their engagement in all matters, very little or nothing positive has come out of it. Zilla argues that leaders do not act on their responses after meetings and public hearings.

"Occasionally, all the community residents are mobilized to meet the stakeholders. For instance, they would call us (Fiema community members) and say, Wildlife, Board, Assembly, Management wants to render accounts to us, and then we would meet them. As a matter of fact, we meet as a community, where each and everyone is entitled to his /her own opinion. Moreover, after all the discussions and deliberations, it is reasonable that only the most useful and relevant ideas should be taken and are taken. The community always give them whatever information they want, but we do not get any feedback afterward" - Zilla.

A 22 -year old university student also opened up about motivation people have today to attend public gatherings and offer their ideas for wildlife conservation in the communities to prosper. To the Boabeng resident, the creation of management committee for the communities is a prove that management members and board members have good intentions for the conservation and committee. However, he believes that those in power should not just gather public hearings, but also *walk their talk* by fixing some of the pressing issues facing the wild sanctuary for ages.

I can see a difference between what happened here five years ago and what is occurring now. At least there are people out there who are willing to listen to our problems. Now they do care to solve some of the many problems we face, like compensating those who daily, are disturbed by the mona monkeys. We do appreciate their effort. But they must do more with the revenue they generate from the sanctuary. It is their job to compensate those going through hell for the

sake of the monkeys. But like I said, they must do more, and we will continue to participate". -Mega.

Even though Mega supports what is being done by the current management structure, he equally calls on them to be more attentive and responsive to their grievances by alleviating some of the burdens that come with having the conservation area.

Jessie comments on the togetherness this board talks about. The 58-year-old farmer is highly optimistic about the current system in place because now she can voice her opinion; unlike before, she has formed a completely new mindset about the current management after having a conversation with one of the board members who encouraged her to do so a year ago. According to Jessie, she always encourages people to attend public hearings about the sanctuary because that is the best way to have the monkeys protected in the communities.

"*You know this is my community. I was born here and will die here. My whole world view about the animals and the forest has changed. I used to hate what wildlife and other actors were doing here. But now, I will give out every bit of information the board need and criticize them as well when they do something stupid. I have been encouraged to do so by one of the board members whose name I will not mention. Ever since I spoke to him a year ago, I have attended almost all the meetings carried out in the park over there. And will continue to do so until we see the full benefits of having the animals around".* -Jessie

Jessie's mindset change indicates how people can be convinced of being a total anti-conservation to pro-conservation. The Fiema resident remarks show how an individual can be empowered to be supportive and become an integral part of the management system through dialogue, indicating the power and usefulness of dialogue in management.

Unlike Jessie, Lebron makes a strong assessment of participation in Boabeng - Fiemma Monkey Sanctuary. Even though he understands that some of the actors on the board are corrupt, the 32 -year old driver still realizes that it is his responsibility to bring evil things to the public by taking part in meetings.

"Look, everyone in this community (Boabeng) knows some of the board members are there to misuse our funds from the conservation. We know them all. But that will not discourage me from participating in public hearings and gatherings. I strongly believe that the only way to

bring them to light is to talk about it when we meet in public. We have one coming next week. I promise you, and I will be there" - Lebron.

The local drivers' intention to participate has not be drawn from the fact that he sees good things happening. Lebron wants to engage in the management of protected area because he wants to bring some changes, and that can only be achieved through participation.

Table six: Tabulation of results on the benefits of co-management approach in Boabeng-Fiema monkey sanctuary. Author's creation (2020).

Field results	Participants response	
	External stakeholders	**Local stakeholders**
Conflict resolution	In conflict situations with the community, the management committee is first charged to resolve it; if they are unable to handle it, then it is forward to the DISEC for the final resolution. Sometimes the traditional council is called on to help in resolving conflict too – Manuel.	On the other hand, when it comes to conflict issues, the establishment of the current board has helped in mitigating them. The presence of chiefs and other important personalities on the board has brought respect and sanity to the current administration- Monica.
Relationship improvement	We have a good relationship with all the stakeholders. Not all of them are involved in the money squandering: so, there is the existence of a good relationship between the stakeholders and the community members- Sarah.	For me, I think we have a very harmonious relationship with the entire management and stakeholders. It would be nice to work with all relevant stakeholders as far as the management of the wild sanctuary is concerned. When we work together as a team, I think this will yield a positive result. The wildlife alone cannot help manage and conserve the sanctuary -Gayle.
Encouraged participation	When it comes to development geared /targeted at the community, the community decides what they need. However, issues pertaining to the management of sanctuary is being handled by the project committee; after that, it is being sent to the management committee. It finally goes to the board for approval and for implementation without community participation- Manuel.	I believe with the current management structure; everyone is fairly represented. If I have an issue now, for instance, I will report it to the youth representative on the management committee (team) for redress. In the same way, if any sub-chief has an issue, there is a chief on the board to report it to. This, in my opinion, is quite better than what existed previously- Monica.

5.3.0 The type of co-management practiced in Boabeng-Fiema Monkey Sanctuary

This section provides results on the specific kind of co-management utilized in Boabeng and Fiema communities. It talks about the parameters that define *coordination* co-management in Boabeng and Fiema communities. It encapsulates field issues such as the nature of power distribution, conflict management, policy formulation and implementation, participation, and stakeholder involvement.

5.3.1 Coordination co-management in Boabeng-Fiema Monkey Sanctuary

The co-management situation in BFMS mirrors the *coordination* type as there is the existence of multiple stakeholder groups to co-manage the sanctuary. The actors involved in the co-management include the board members (the wildlife division agency, a representative from the district assembly, representative of the Ghana tourism board, the chief, a legal adviser), the management committee members: landowners, farmers, the chief priest, and residents. Each of these actors is encouraged to participate in deliberations and discussions pertaining to the monkey sanctuary management. Although they are present in the management structure, what each can do is tied to how much control and responsibilities that each one is entrusted with.

However, there is an unequal power play between the various stakeholders mentioned above. For instance, the board in BFMS is given the most powers in the co-management hierarchy. The board controls and has the ultimate responsibility to make final decisions in all matters relating to the sanctuary management. Gwen complains about how too many powers and responsibilities wielded by the board affect the effectiveness and progress of the sanctuary.

"*Every development project concerning Buabeng-Fiema sanctuary is supposed to pass through the management committee before it gets to the board for final approval. However, no project passes through the management committee anymore, everything is controlled and decided by the board."* -Gwen.

Participation is a prominent feature in outlining co-management types in BFMS. Most respondents admit that they get invited to participate in matters relating to the protected area occasionally when there is a critical issues to discuss via public forums and gatherings. Another form of participation is via the management committee, where its goal is to serve as the intermediary or the link between the board and all the allied communities. But community

participation is described by residents as a mere *window dressing.* Residents strongly believe that they are arranged purposefully to please local stakeholders and nothing more. The 35-year-old Boabeng resident reveals the unhelpful nature of participation in BFMS.

"*Before every communal gathering, the community members are informed through public announcement about an impending meeting to discuss and to take all public opinions. After listening to public opinions, we deliberate and implement what the management and board view to be important for the conservation of wild monkeys"* -Memphis.

This unarguably highlights the fact that the resident's participation is just a mere cover-up to please community members but not to make any meaningful change/contribution to the affairs of the co-management arrangements because local residents have no control over what happens after deliberations.

Also, the issue of policing and policy implementation plays a key role in *co-ordination* co-management type. In BFMS, residents can participate in policy formulation, but the final decision on which policy to get implemented or gets rejected is exclusively decided by the board. This tends to disrupt the social interaction between various stakeholder groups. For instance, the management members see the board abusing its powers, which often leads to disagreement on which project to execute. In most cases, local stakeholders complain because their suggestions and ideas never get implemented by the board.

More importantly, matters on the settlement of disputes is a crucial phenomenon to the people of BFMS. Conflict management and mitigation have become an invaluable part of the *co-ordination* co-management system in the communities. It was revealed that there is an availability of a platform for settling disputes in the co-management arrangements as it has not been devoid of conflict. Depending on the intensity of the conflict determines the kind of treatment it receives. As it turns out that DISEC officially handles escalated conflicts. Whereas new and developing disputes are resolved internally by the management committee and sometimes the traditional council. Regardless of the conflict management arrangement, many participants expressed dissatisfaction with DISEC and the management committee for their failure to respond timely and fairly to conflicts. Manuel aired his thought on the role of DISEC and management committee in conflict management.

"In conflict situations with the community, the management committee is first tasked to resolve it; if they are unable to handle it, then it is forward to DISEC for final resolution. Sometimes the traditional council is called on to help in resolving conflict too" – Manuel.

In conclusion, determining and pinpointing the kind of co-management used in BFMS requires a close look at how certain issues that shape co-management practice are applied and works out. How pressing topics such as stakeholder's availability, power distribution among these stakeholders, implementation of policies, popular participation as well as conflict management are carried out play a tremendous role in such a decision. But drawing from the above results and the degree to which these issues operate shows it to be nothing short of the *coordination* type described by Pearson and Dare (2013). This is because local stakeholders admit of been part of the system of co-management but are power and responsibility starved to help shape the fortunes and future of sanctuary. Even though there is a system to facilitate management activities, they do not work as expected of them, excluding locals whiles perpetuating the interest of individuals endowed with power and control.

5.4.0 Summary

This chapter captures the results from the fieldwork in BFMS in Ghana. The chapter is introduced with all the challenges observed to be impeding the progress of co-management in the study areas. Increase in conflicts among stakeholders, the unfair nature of cost and benefits allocation among stakeholders, and relationship breakdown between the stakeholders. On the other hand, numerous benefits that have been achieved using the co-management approach are presented, from the creation of a conflict mitigation platform to improvement in the previously broken relationship among stakeholders and encouragement of grassroots participation. Finally, results on the kind of co-management (*coordination*) employed in the twin communities are provided.

Chapter six

Discussion of results

6.1.0 Introduction

In this chapter, there is a discussion of some of the results obtained from the field. Challenging results, including a rise in human-wildlife conflict, unequal benefits, and cost allocated, are discussed. At the same time, improvement in grassroots participation, which is one of the benefits obtained from the field, together with *coordination* co-management type, are equally addressed. The human-wildlife conflict perspective is used to analyze conflict in BFMS. Here, human-wildlife conflict investigates how protected area and the wild monkeys have attracted and exacerbated conflict in the communities between both human-wildlife and human-human. The benefits and costs emanating from the sanctuary often get to the actors unequally. Therefore, political ecology is used to analyze how power and political structures in Boabeng and Fiema aid in maintaining such unfair distribution arrangements. The next issue discussed is the importance of participation in the co-management of wildlife conservation. It discerns into the indispensable nature of individual and communal inclusion in the regular actions and decisions making in the co-management dispensations. Finally, there is a discussion of the *coordination* co-management that traces the various parameters which enable distinguishing the kinds of co-management.

6.2.0 Discussions

Co-management of BFMS sanctuary is embedded into the complexities of human-wildlife conflict. Most of the respondents admitted an increase in conflict among stakeholders and between wildlife and residents. This is because people compete with wildlife for food and resources and have eradicated dangerous species; coopted and domesticated valuable species; and applied a wide range of social, behavioral, and technical approaches to reduce negative interactions with wildlife (Nyhus 2016). Varieties of species create conflict with people, including invertebrates, snakes, birds, rodents, and other small mammals (Dickman and Hazzah 2016) and, in this case, monkeys as in BFMS. This conflict, according to Barua et al. (2013), affects millions of people across the world. Human injury and death can result when animals bite, claw, gore, or otherwise directly attack people; during collisions between

animals and automobiles, trains, planes, boats and ships, and other vehicles; and from the transmission of a zoonotic disease or parasite (Nyhus 2016). Dickman and Hazzah (2016) emphasize that such threats are not merely historical artifacts, though—wild animals attack and kill many hundreds of people a year and commonly destroy peoples' livelihoods and severely impact their quality of life. Barua et al. (2013) stress that the loss of life, crops, or livestock to wildlife has significant consequences for people's livelihoods, their food, and agricultural security.

Some of the residents in BFMS have resisted conservation of the wild monkeys because the mona monkeys remain a *direct threat* to their economic activities. Direct threat from wildlife monkeys, including interference in economic activities and investment: such as agricultural activities and trading. Mora reveals the extent to which the wild monkeys have impacted their economic activities. She explains that wild monkeys in the two communities only make life difficult to live because they are a source of threat to their economic engagements. It emphasizes the visible impacts of human-wildlife conflict, i.e., crop and livestock loss, injury, and fatality (Barua et al. 2013). For instance, in low-income countries such as Mozambique and Namibia, over a hundred people are killed annually by crocodiles, whilst in India, elephants kill more than one person every day (Barua et al. 2013). Other *direct threats* that do not occur frequently are the threat from deadly snakes that inhabit the forest, which often compounds and complicates the conflict due to fear from residents.

There is another form of an *indirect threat* from the conservation to the local people. This happens via land confiscation for wildlife expansion leading to less productivity and some form of economic losses. Again, in areas with problematic wildlife, there are opportunity costs where people have to spend time, energy, and money protecting their assets, which could be invested in more valuable alternatives such as attending school, generating revenue, or engaging in culturally valued activities (Dickman and Hazzah 2016). Brian disclosed that from farm products being eaten by monkeys to confiscation of farmlands for wildlife conservation are some of the ultimate causes of confusion. Although these wild monkeys do not present a life-threatening challenge to local stakeholders in the communities, residents' economic losses daily from the mona monkeys are always enough to drive residents angry. For instance, in both Asia and Africa, communities may lose up to 10–15% of their total agricultural output to elephants (Barua et al. 2013). Barua et al. (2013) stress that such losses

may seem insignificant at a national level, but they give rise to exponentially high costs for the affected individuals and families, many of whom are amongst the least privileged people in the world.

On the reverse, Dickman and Hazzah (2016) point out that people have had a devastating impact on wildlife, with humans implicated in the extinction of over 300 terrestrial vertebrate species over the past 500 years. The decline of large, predatory animals in part has resulted in cascading ecological consequences for other species and ecosystem services, and many of these declines are linked to conflict with humans (Nyhus 2016). Traditionally, the human response has been to kill the suspected wildlife and transform wild habitats to prevent further losses (Treves et al. 2006). In response to the threat posed to communities in BFMS, many resorted to killing monkeys decades back as mitigation. An instance in BFMS was the monkeys' indiscriminate killing drastically reduced the numbers of monkeys, rampant illegal logging, and encroachment of forest habitats as observed by (Attuquayefio and Gyampo 2010). This has inevitably created a situation where residents are split between *pro-conservation* or *anti-conservation*, perpetuating conflict among stakeholders, and negatively affecting the relationship between actors and animals.

Beyond the human-wildlife conflict is the conflict between human-human often blamed on wildlife. Enforcement of environmental protections and non-utilitarian views of wildlife have changed what was once a simple competitive relationship between people and wildlife into a political conflict between people and between institutions (Treves et al. 2006). Residents have picked up conflict with management members and the board for lack of roles, compensation, and damages. Manu concedes that there is not just a rise in conflict but also the difficulty of resolving the existing disagreement among stakeholders, which remains another fundamental challenge to co-management in BFMS. Treves et al. (2006) argue that the impacts extend far beyond wild species-human conflict. The chain of unending constraints, which sometimes stems outside human-wildlife interaction, culminates into institutional conflicts (Treves et al. 2006). More often, what is ignored in the discussion of human-wildlife conflicts are the pre-existing social factors exacerbating human-wildlife conflict in BFMS. Moreover, human-wildlife conflicts are often manifestations of underlying human-human conflicts, such as between authorities and local people or between people of different cultural backgrounds (Dickman 2010). Even though most mitigation studies investigate only the technical aspects

of conflict reduction, peoples' attitudes towards wildlife are complex, with social factors as diverse as religious affiliation, ethnicity, and cultural beliefs, all shaping conflict intensity (Dickman 2010).

As we advance, residents of both Boabeng and Fiema advocate for help from the government via district assembly and DISEC to assist with conflict mitigation. The government's role in conflict management cannot be taken for granted because of the resources he is endowed. Similarly, Barua et al. (2013) point out that extant mitigation strategies emerge from redressing visible impacts of human-wildlife conflict. These can include activities that are regulated or unregulated and range from methods that require expensive infrastructure or government involvement to methods that can be carried out with low-cost tools by individuals (Nyhus 2016). Beyond that, indeed, effective management without the destruction of biodiversity depends on technical, material, and financial inputs that may exceed the training and capacity of rural wildlife managers (Treves et al. 2006).

During an interview, Sarah recommends the taming/ controlling of monkeys to eradicate the conflict hovering over the co-management in the twin villages. Similarly, Barua et al. (2013) opt for lethal control, such as regulated hunting in developed countries where legislation is strong, or selective removal of identified problem animals from human settlements through government intervention. It is also recommended that crop-guarding and herding of livestock are frequently deployed, the onus of which often falls upon affected communities or individuals. Reducing dependence on forest resources in protected area borderlands is another recommended solution for decreasing fatal encounters with wildlife, especially when people venture into forest habitat (Barua et al. 2013). Compensation payments for livestock lost to predators or crops raided by ungulates are a widespread mitigation strategy used to reduce economic impacts (Barua et al. 2013), something local residents have endlessly demanded from management members and government to help alleviate some of their financial burdens in BFMS.

Moreover, in political ecology, scholars have emphasized the exercise of power by two types of actors in particular—those who carry out environmental interventions and those who resist them—especially when interventions lead to the disempowerment of local communities or degradation of their environments (Svarstad, et al. 2018). In attempt to conceive the role of powerful individual/bodies in conservation Svarstad et al. (2018) explains that more explicit conceptualization of power and politics is needed to better operationalize research on environmental changes and conflicts and develop improved ways of addressing practical problems of resources degradation and social marginalization. Power is played out by two key actors: the chieftaincy institution and the board. The two power-wielding bodies have been an indispensable partner to co-management policy formulations and implementations in the twin villages. Vaccaro et al. (2013) describe politics/power in co-management as the rationality and structures that govern access to and control of natural resources. Chiefs and the state have access to and control every state land and natural resources. They have the capacity to support the protected area by providing lands, human resources, and funding to facilitate the smooth running of co-management in BFMS.

Even though residents have been assigned with some levels of control and responsibilities, the degree to which the given power or responsibility influences and impacts the management system is minimal. Mika points out how powerful people in the communities have illegally taken their roles in the management system. Furthermore, political ecology heavily influences the distribution of responsibilities and benefits in Boabeng and Fiema. Some respondents claimed that there is a disproportionate distribution of costs and benefits: an issue that cannot be detached from the political system established for the management of the conservation area. The board members entrusted with political power controls and decide who benefits from the fortunes of the sanctuary. Respondents expressed their anger and frustration about the nature of unfair allocation of benefits and cost but equally called for even sharing of management responsibilities and benefits taken away from them. The chiefs, the district assembly, wildlife, etc. who are members of the board solely dictates how much each stakeholder benefits in this regard.

Massé (2016) believes that intensifications in losses of crops and livestock are the direct result of political decisions aimed at creating a specific type of conservation landscape. Many people, including Bright's mother, have been forced by the management to abandon their

farming lands and agricultural investment because those lands have become part of the conservation area. Unfortunately, the presence of power is feared that it can lead to primitive accumulation as Marx described it ... entailed taking land, say, enclosing it, and expelling a resident population to create a landless proletariat, and then releasing the land into the privatized mainstream of capital accumulation (Svarstad, et al. 2018). In such situations, resources users are often compelled to engage in eco-catastrophic practices for survival; which is an excessive use of scarce land resources available. For instance, Sarah complains about benefits being controlled and used by the political elites in the management system. In light of this, Bryant and Bailey (1997) argue that costs and benefits associated with environmental change are, for the most part, distributed among actors unequally. This cement the popular notion that the actors involved in the distribution processes are those with political power. And every single decision they make with their political influence has dire consequences on the environment and not just the influx of proletariat in rural areas and developing countries.

Imperatively, a crucial benefit of co-management observed in BFMS is the improvement in grassroots participation. It was revealed that participation in PA co-management has progressed compared to what existed previously. Lauren explains the opportunity created for each stakeholder or community member to voice their concerns regarding the management of the sanctuary. She admits that it was for participation why the MC and the board had been created to facilitate management activities and bring all residents closer. In the natural resources management literature, there has also been a great deal of focus on participation, such as in the area of community-based natural resource management and in the discourse on protected area management (Bockstael et al. 2016). For this reason, a conscious effort has been made to engage all stakeholders in all the managerial levels of the BFMS.

Grassroot participation improvement results corroborate the findings of Thondhlana and Cundill (2017), that although local participation is considered a key aspect of protected area management, real participation is a necessity. This is because decision-making power is largely centralized and held by conservation agencies (Thondhlana and Cundill 2017). Despite the encouragement in participation today in BFMS, many residents describe their position in the co-management system as being dictated by those in power, and the rural communities are relegated to the position of recipients and implementers (Chirenje 2013). Bockstael et al. (2016) opine that even a thoughtfully designed program focused on a marginalized group can

still exclude people or allow for elite capture. Asamoah explains that he does not show up to public hearings because it is always the same story. Management members always solicit the opinions of residents and do nothing with it. It is when residents experience real participation that they can throw their absolute legitimacy behind the management of the conservation area (Jagers et al. 2018).

Local stakeholders demand real participation, which requires public participation practice of involving members of the public in the agenda-setting, decision-making, and policy-forming activities of organizations or institutions responsible for policy development (Jagers et al. 2018). Even though the management committee is established to give a platform and voice to local residents, many strongly believe that a lot still needs to be done to have effective and ideal participation. Real participation offers more "voice and choice" to the poor in development and is based on "involving 'beneficiaries,' or more generally, 'local people' in the development of co-management processes (Bockstael et al. 2016). This form of participation has the capacity and potential to make development more responsive to the local needs and to empower the community by increasing their decision-making powers and for them to shape the development process in their local areas (Sally and Rosemary 2019).

In so doing, projects undertaken in community-based organization projects are to be in line with the community's identified needs, thereby increasing ownership and sustainability of community-based projects in the community as opposed to the centrally planned community development initiatives (Sally and Rosemary 2019). A study conducted by the Kenyan banking sector about factors that influence the successful implementation of a community-based project places importance on the role of effective participation (Sally and Rosemary 2019). The study uncovered that community participation right from the onset of the project is key as it ensures that the community owns up to the project, which was viewed as one of the factors that could ensure project success (Sally and Rosemary 2019). Imperatively, advocates for participation note that policy and development which adopt a bottom-up framework where local communities are actively involved in decision-making better facilitate the achievement of target objectives (Chirenje et al. 2013). In this context, it has become critical that local stakeholders and residents at the grassroots level are involved in the planning process, evaluating, monitoring, problem-solving, and implementing a project in BFMS and

not just mere participant in public hearings. Bockstael et al. (2016) see it as a means to return stewardship over natural resources to local communities.

On the other hand, when an absence of grassroots participation becomes evident, it can trigger public resistance against policy proposals (Jagers et al. 2018), which can be catastrophic for the survival of co-management operation. Some natural resource management programs "recognize that unless people are 'brought in' to the program, they may actively sabotage it, by cutting trees or embankments, killing animals in nature reserves, and so on (Bockstael et al. 2016). The growing apathy from local stakeholders for the management of BFMS (Board and MC) can partly be blamed on the fact that important actors such as landowners, priests, farmers, and some local residents are often and completely ignored in relevant discussions related to compensations and use of funds. It inevitably leads to a situation of a complete resistance of co-management decisions and actions that Josh describes in the results: claiming that everything belongs to the communities; therefore, they are willing and ready to manage the conservation area themselves.

Although protected area management is still predominately executed through top-down approaches, explain that there has been a shift and that the approach from the nineteen eighties onwards can be characterized by what some call a 'new approach', based on a changing dialogue that includes concepts of "plurality, increased community participation, decentralization, and a broadening of the perceived objectives for protected areas (Bockstael et al. 2016). Jagers et al. (2018) believe that one way forward to overcome the numerous and multi-scale challenges undermining co-management is to focus on how to reduce the distance between involved actors and decision-makers. Advocates of this approach purport that the inclusiveness and transparency of increased public participation have great potential to improve the legitimacy of political decisions (Jagers et.al 2018).

Lastly, the study also revealed *the coordination* type to be the form of co-management utilized in the governance of BFMS. This decision was arrived at after careful consideration of many factors transpiring in the field; power-sharing, stakeholder availability, conflict management, and policy implementation (see page forty-one, chapter four). Gutiérrez (2013) believes that a certain level of involvement and mode of communication between government and resource users is needed to categorize a system as co-managed and the presence of well-established co-

management organizations and institutions with decision power in local management. It is important to bear in mind that this typology is just a simplification of very complex management and governance structures (Gutiérrez 2013) and may evolve, with the introduction of new stakeholders, for example, which changes the respective roles of the players involved (Weigel & Monbrison 2013).

Many respondents admitted being allowed to participate in the decision-making, formulation of policies and given some level of control and powers within the management system, whereas the government via the board has the final say in everything. This position is described or categorized differently by different authors. According to Pearson and Dare (2013), this type *of coordination* deliberately encourages dialogue between the state, the community, and private organizations, although the state is controlling the dialogue at all times. Here, actors have the opportunity to negotiate decision-making outcomes within the often-formalized terms of reference they have been provided, reflecting a networked approach to governance (Pearson and Dare 2013). Gutiérrez (2013) refers to this type of co-management as the *consultative* because arrangement exists when mechanisms for consultation between government and users have been established but where decisions are still taken by the government. *Consultation/coordination* is a situation where the government while reserving large areas for consensus, remains the decision-maker even though user groups have been involved in the process (Weigel & Monbrison 2013).

In the *coordination* co-management, one of the issues that are pertinent and cannot be overlooked is conflict management. Some residents admit having conflict mitigation platforms/bodies in the community who work to neutralize unrest in the dual villages, including the use of DISEC and MC. In light of this, De Pourcq et al. (2015) argue that differences should be appropriately addressed and reduced to reach effective conflict management. Pomeroy and Rivera-Guieb (2005) state that multi-stakeholder analysis of problem areas and conflicts may also serve as an approach to conflict management that can address the complex interactions between stakeholders and natural resources at various levels. Despite the existence of these local institutions and stakeholders to fight people-park conflict, their efforts have been nothing but abysmal in mitigating conflict in BFMS.

It was also observed that power and responsibility are shared unevenly among various relevant actors, which play a key part in determining *coordination* co-management. Co-management systems and processes vary in terms of the nature of power-sharing, composition, and functions (Gutiérrez 2013). De Pourcq et al. (2015) believes that power-sharing arrangements can manifest themselves in many forms, and this variation is often depicted along a continuum. Unfortunately, what exists in BFMS are arrangements in which full control remains with the state agency, despite consultation with local communities (De Pourcq et al. 2015). Determining what kind and how much responsibility and authority to allocate to the community level is ultimately a political decision in which the government will always play a more decisive role (Pomeroy and Rivera-Guieb 2005).

More so, another substantial area that helps define *coordination* co-management regards policy implementation. However, the central control of the state remains with the state making the final decisions based on actor feedback (Pearson and Dare 2013). Policies that get executed in Boabeng and Fiema are exclusively decided by board members leaving resource users useless and frustrated. It is argued that ad hoc public participation in management decisions or mere consultation is often not regarded as co-management (Pomeroy and Rivera-Guieb 2005). Environmentalists, policy practitioners, and research scholars have repeatedly highlighted the vital role of participation and public involvement in a range of conservation development concerns, including implementing policies for environmental protection and co-management (De Pourcq et al. 2015).

Coordination co-management contributes enormously to co-management by establishing a medium for communication between the state and residents. Pearson and Dare (2013) maintain that such an inclusive approach reduces tensions among management members through opportunities to form relationships, transparency of management objectives and constraints, and an element of community ownership of governance decisions. It is emphasized that with *coordination* or *consultation* co-management type, actors have the opportunity to negotiate decision-making outcomes within the often formalized terms of reference they have been provided, reflecting a networked approach to governance (Pearson and Dare (2013). But from the opposite angle, the *coordination* co-management type can equally stir some trouble in conservation management. The retention of ultimate control by the state would be perceived by some as a negative. Also, requiring actors' willingness to be

at the decision-making table with the knowledge that they do not actually have the final say in decisions can sometimes be unhelpful (Pearson and Dare 2013).

Summary 6.3.0

In this chapter, there is a discussion of conflicts using HWC. HWC is used to analyze the various forms of conflict found in Boabeng and Fiema Sanctuary management. In the conflict, there is a depiction of reciprocal effects both residents and wildlife experience as they all strive for survival. Destruction of people's assets and the killing of both humans and animals sometimes occur in the process. Beyond that, the co-management structure in BFMS ensures that benefits reaped from the PA get to actors unevenly. For this reason, political ecology has been used to examine how the political, economic, and social systems help perpetuate and exacerbate such a dire distribution system. It is demonstrated that the political and economic exploitations have effects on the conservation and the environment itself. The importance of communal participation is also deliberated upon, highlighting its usefulness in co-management success. Finally, *coordination* co-management is also discussed, exploring the various characteristics that define a certain management system as *coordination*. Emphasis has been laid on the key features; availability of stakeholders, fair sharing of rights and responsibilities, participation, conflict mitigation and policy implementation.

Chapter seven

Conclusions and Recommendations

7.1.0 Introduction

In this chapter, there is a presentation of three issues. The first issue discussed is the conclusion of this study. There is also a presentation on the various recommendations developed in response to the twin villages' challenges. Lastly, this chapter addresses information on the possible areas in co-management for future studies.

7.2.0 Conclusion

This study targeted two groups of respondents to understand the role of the co-management system in BFMS. There was an interview with both internal and external stakeholders on a wide range of issues concerning how the management of the conservation area is perceived and its contribution to the success and failure of the protected area. Focus group interviews with management stakeholders and one-on-one interviews with local stakeholders uncovered multiple issues that can make and unmake the co-management setup. The aftermath of these interviews has unfolded the dominant narratives in this work, including the benefits, constraints, and type of co-management practiced in BFMS. From which the conclusions for this study are extracted. The study relied on three main research questions: what are the challenges for using the co-management approach in Boabeng-Fiema Monkey Sanctuary?; what are the benefits of using the co-management approach in Boabeng-Fiema Monkey Sanctuary?; what kind of co-management is practiced in Boabeng-Fiema Monkey Sanctuary?

The study employed the human-wildlife conflict and political ecology to analyze some of the results obtained from the field. Human-wildlife conflict is used to analyze conflict from different angles in the dual communities pertaining to stakeholders and wildlife. Human-wildlife conflict is adopted here to make meaning out of the various complicated interactions and challenges that resources users and wildlife monkeys go through in their quest for survival. Also, political ecology is employed to analyze results on benefits and cost allocations in the communities. Meanwhile, the results of participation improvement have been discussed. It provides details on the essence of communal inclusion in daily decisions and discussions in the co-management implementation. Beyond these, there is also a discussion of the *coordination* co-management used in managing the

protected area. Here, the various factors underpinning the *coordination* co-management are discussed.

The study into co-management in Boabeng-Fiema Monkey Sanctuary lifted the lid on numerous challenges plaguing stakeholders and the conservation area itself. Management committee members, board members, and local stakeholders expressed concerns about the rate of conflict hike. Stakeholders were even more troubled about how slow it has been for them to resolve the unrest between internal and external stakeholders. But conflict in co-management is not a new thing, and the two are inseparable. Some recent study reveals conflict as one of the deep-sited constraints in co-management practice. Meanwhile, very few of them try to investigate the mechanism of the possible solution various management systems use in mitigating the menace in co-management.

In addition to conflict is the challenge of unfair benefits and cost allocation among the various interest group co-managing the conservation area. A prominent discussion from the results was related to how financial benefits particularly are shared. Local stakeholders and community natives accused management members, especially the board, of mismanaging funds accrued from the conservation area. Relatedly, local stakeholders complained about the damages suffered due to the interactions with monkeys both from home and in their economic endeavors. Despite all these, there is just no compensation for their losses. They also do not get a fair share of the benefits made by the tourism industry. Unarguably, this finding is parallel with multiple results, especially studies in developing countries. It has become a precedent for local stakeholders to stage anti-co-management campaigns when the system fails to uplift their living standards by stopping corruption and giving them what they deserve.

Moreover, another challenge that was observed from this study is the breakdown of the relationship among stakeholders. A functioning co-management system's key determinant is the healthy interaction between the necessary actors entrusted with management responsibilities. Undeniably, a co-management structure perpetuating a system that reproduces different effects to different stakeholders will only increase the possibility of revolt from people left behind. This result in relationship deterioration is not an isolated issue in co-management. The findings reflect what is frequently happening in places where co-management is put into practice captured in many recent works of literature.

On the other side of the flip are advantages realized from the use of co-management in BFMS. Regardless of the number of complaints expressed by respondents earlier, some of them also addressed the many blessing the community, stakeholders, and the conservation area have experienced while using the same management approach. A benefit of using a co-management approach is the provision of conflict mitigation avenues for all the stakeholders. The establishment of management committee was to help address some of the many unrests growing up among management members and residents. There is also the District Assembly Security Council (DISEC), which serves as the final body to manage intensive and escalated conflicts. The two bodies have not had a smooth ride in the delivery of their responsibilities because of a lack of trust in their verdicts. Even though other researchers have documented conflict mitigation strategies, they tend to focus on different strategies other than what exists in Boabeng and Fiema. Other researchers tend to focus on trust-building, empowerment, and many others as a conflict mitigation strategy.

Participation from local stakeholders has improved to a different level. One of the positive achievements of the management system today is the popular participation of residents. To some residents, it is the cornerstone of the co-management progress experienced so far. Meanwhile, local stakeholders admitted that despite their ability to participate in the co-management decision process, what gets implemented often does not resonate with local people's interests but mostly the needs and interests of people in power who the system is structured to benefit.

Without a doubt, participation improvement has a trickle-down effect on the relationship among stakeholders. Together with external stakeholders, some local stakeholders admitted that the current rapport between stakeholders is better than what existed before. To some of the respondents, this new relationship development put the co-management and conserved resources in a better position compared to the management system, which existed before. Importantly, participation and relationship building in co-management is widely recognized and continue to surface in literature. It is established that one of the essential ingredients needed for co-management to progress is the readiness of resources users to throw their support behind the management members, which only happens when there is a warm rapport between various parties.

Moreover, another important area the study explored is the kind of co-management used in the management of BFMS today. Out of the many types proposed by several researchers, the type that

best aligns with what happens in Boabeng and Fiema is *coordination*. After a careful study of the field data, including the degree to which power and responsibilities are shared, conflicts are managed, policy is implemented, and people allowed to participate etc. concerning the management of the PA. All the factors point to one direction: *coordination type of co-management*. But its documentation has been the biggest challenge so far.

7.3.0 Recommendations

In a direct response to the results obtained from the field, particularly with the challenges, I have a strong conviction that there are alternative pathways to addressing some of the many issues as we advance. The recommendations require sacrifices and efforts from each stakeholder if the constraints can be defeated. Even though the management system goes through changes regularly to secure a suitable and stable management system for the conservation area, efforts have not yielded the needed outcomes, including mitigating/preventing conflicts prevalence and ensuring a fair spreading of benefits to all stakeholders. Outlined below are some recommendations I propose for the challenges found in BFMS.

First, ensuring equal power and responsibility distribution between internal and external stakeholders would be one of the few ways to harness the best out of the co-management system in Boabeng and Fiema. Power is glaringly skewed towards external stakeholders and board members at the expense of local resources users. The power to do and not to do anything regarding the monkey sanctuary management resides largely in the arms of board members. For instance, what ideas get implemented, how funds made from the conservation area should be used are all dictated by the board, leaving local people with nothing but complaints. Regarding the *power dilemma* in the communities, one of the ideal ways to have a thriving and vibrant co-management system is to have power spread squarely across all the stakeholder divides: that is, appointing some of the local residents unto the board. It will propel decisions that reflect the needs of internal and external actors.

Additionally, an alternative way to ensure co-management progress in BFMS is to tackle and solve the conflict at their early stages until they become inflammatory. The conflict between stakeholders takes years to get resolved in the communities. Sometimes they even never get attention from the people who are responsible for handling it. The situation does nothing except breeds instability among the parties involved and delays management decisions and actions they intend to pursue.

To the dismay of local stakeholders, some of the conflicts in the communities never get resolved. And the only outcome a situation like this creates is a lack of trust and apathy from the local residents. For co-management to become a useful tool, DISEC and management committee responsible for handling conflict must be committed to their work now more than they have ever been.

Another way to ensure success while co-managing the monkey sanctuary is for all stakeholders to work with integrity and transparency. Lack of transparency in dealings of the board throws them and what they stand for in doubt. Because of the unquestionable power the board members possess, they do not seem to have any sense of accountability to the people they work with. A critical area that continuously attracts conflict is how revenue accrued from the conservation area is always handled in secrecy. Even though local respondents endlessly request accountability and transparency from such activities, they never get them. This attitude taints the reputation of board members and only give stakeholders reasons not to trust them. It also has the potential to fuel corruption. The conservation area can meet its goals only if the management committee and board's actions and inactions are decentralized to the local residents to help them know and understand what transpires in the management system.

Finally, the creation of compensation packages for local stakeholders who suffer damages is highly recommended and should be a priority. One of the unpleasant sides of conservation is that it inevitably leaves a group of people economically vulnerable and impoverished. In this context, individuals who live with the countless challenges posed by wildlife monkeys and the conservation area at large should be compensated either financially or in other forms. Chiefly, farmers, landowners, and traders who have no choice than to live through the hell side of conservation need some financial cushioning. The compensation program must target the vulnerable and not people with power. The government, together with management members, must ensure that only people who deserve it get it and not the reverse. Such initiative will lift the huge burden at the back of the mass proletariat in the twin communities and help soften the hardcore relationship and, at least, give local residents a good reason to be supportive of wildlife conservation.

7.4.0 Potential areas for future research

To provide a credible, and understanding work of co-management in BFMS, other relevant areas need to be explored. This study investigates the impacts that co-management has on stakeholders and the wildlife conservation. Interaction with stakeholders revealed multiple areas of concern that deserve further/ future studies to ascertain much more knowledge about the theory. Future research should aim to dig into the role *compensation* for stakeholders could have on co-management in BFMS. This is because, at this juncture, one of the most obvious threats to the sustenance of conservation area and its management structure lies in the hands of people who feel ignored by the management system and have their livelihood threatened by the existence of the protected area. Therefore, any attempt to investigate the benefits arrangements for local stakeholders will not be a wasted effort. This could be an exciting endeavor as it will help throw more lights on the need for benefits packages and the type of packages that will be useful to local stakeholders. This will enable management to woo the drifted away stakeholders while gaining their support for the PA's good.

Finally, and importantly, one of the promising areas in co-management research that needs to be delved into is *relationship and conflicts*. Unfortunately, this area in co-management has received very little attention. But the reality is that one of the hallmarks of co-management is the presence of conflict between the government and local agencies or internal and external stakeholders. Embarking on research to unpack the real causes and solutions for conflict and relationship breakdown in BFMS will be refreshing for the prospects of co-management theory. It will provide scientific data on possible conflict solution strategies that could help address the countless management complications that the co-management system is embedded into today.

7.6.0 List of references

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8 Appendix

8.1.0 Appendix one: Data collection questionnaire

This questionnaire aims to collect information on the management of Boabeng-Fiema Monkey Sanctuary. It looks to uncover the main challenges, benefits, and the type of co-management strategy employed in the administration of the protected area. The questionnaire is part of a master's graduate study at the Norwegian University of Science and Technology's geography department. Targets respondents are residents of Boabeng and Fiema communities, together with management and board members. Each respondent is expected to spend about twenty-twenty five minutes in other to complete the questionnaire. Although I would be grateful to have all the questions answered, however, respondents have the rights to skip any question(s) they view unhelpful for whatever reason(s).

A face to face interview guide for local residents in Boabeng and Fiema communities.

I. The challenges of co-management usage in the management of Boabeng-Fiema Monkey Sanctuary.

1. What are some of the challenges that you face due to the presence of monkeys?
2. Mention some of the challenges the community faces due to the conservation of monkeys.
3. Describe how these challenges affect your livelihood
4. How challenging is managing the monkey protected area with different actors like the government representative, wildlife division agency, etc.?
5. Describe the relationship between you, the community, and these external agencies about co-managing the monkeys.
6. How would your perfect management team look like?
    a. Community alone
    b. Community and external actors
    c. External actors alone.

II. The benefits of co-management approach in Boabeng-Fiema Monkey Sanctuary.

1. What are some of the benefits of conserving monkeys in this community?
2. How do you personally benefit from the conserving of monkeys?

3. How has co-management strategy positively affected monkeys' conservation and population in your community?
4. In what ways has this community benefited from working together with these external agents?

III. The kind of co-management practiced in Boabeng-Fiema Monkey Sanctuary.

1. Basic information
   a) Community
   b) Occupation
2. Do you have some responsibilities, control, or powers towards management of the monkeys?
3. What are some of the roles you play towards the conservation of monkeys?
4. In the process of managing the monkey conservation area with different stakeholders:
   a) Do you experience conflict?
   b) How is the conflict resolved?
5. Do you trust these external stakeholders such as the wildlife division agency, the tourism agency, community management committee, etc. in what they do towards the conservation of monkeys?
6. In the making of important decisions by the different stakeholders mentioned above;
   a) Do the stakeholders consult you?
   b) Do you influence on important decisions taken by the stakeholders?

Interview guide for key informants in Boabeng-Fiema Monkey Sanctuary.

I. The chiefs

1. What roles do the chief play as far as the monkey's conservation is concerned?
2. Why do you conserve monkeys in the two communities?
3. Describe the history behind the conservation of monkeys?
4. What are some of the challenges you and the community have experienced for keeping these monkeys?
5. In which ways have the community and you benefited from the conservation of monkeys.

6. Why do you work with external agencies like the wildlife division, forestry commission, the tourism sector, government officials, etc.
7. How long have you worked with these external organizations?
8. How has working with these organizations improved the conservation of the monkeys?
9. What is the relationship between the community and these external actors?
10. How much trust and assurance do you have for these organizations and what they do?
11. In conflict situations, how do you get it resolved concerning the management of monkeys?
12. How much participation is your community allowed to play in the making of relevant decisions?
13. Any final comment?

II. The wildlife division agency

1. What is the name of your organization?
2. What do you do in these two communities as far as monkey's conservation is concerned?
3. Since when you have been working here?
4. Tell me the kinds of monkeys which are conserved in the two communities.
5. Describe your main responsibilities in the management of the protected area?
6. How much powers and responsibilities do the community has towards the management of monkey conservation?
7. Which other ways do the communities assist you in carrying out your duties?
8. What is the relationship between your organization, community, and other relevant actors towards the management of the monkeys?
9. How important are the views, contributions of community members towards the management of monkeys?
10. What are some of the challenges you have faced while working together with the community, the chief, other actors as far as monkey's conservation is concerned?

11. What are some of the success your organization and the community has achieved whiles working in collaboration?

III. The district assembly representative

1. What is your name and position in this community?
2. How would you describe your roles in this community with regard to monkey's conservation?
3. How do the community participate in your management activities?
4. How many external organizations do you work within this community?
5. Tell me some of the challenges you have experienced while working in collaboration with other external organizations?
6. In which ways have you benefited from managing monkeys with the above stakeholders, including the community, wildlife division, etc.

IV. The management committee (MC)

1. Why was this committee established?
2. When was it found?
3. How long have you been working on this committee?
4. Name other organizations that you work with regarding the management of monkeys.
5. How much trust do you have in their activities?
6. How important are your views, opinions, and contributions of the committee to the external organizations regarding the management of the monkeys?
7. How helpful have these external organizations been to your committee, community, and monkey conservation?
8. How do you resolve a conflict between the committee and other stakeholders and in between members of the committee?
9. How difficult has the management of the monkeys been due to the presence of external stakeholders?

Focus group interview with management committee and board members.

I.

1. How often do you experience conflict whiles you work together to co-manage the protected area?
2. How do you resolve/manage these conflicts when they arise?
3. Tell me some of the mechanisms you have in place to manage conflict when they arise.
4. How do you ensure that community members participate in the management processes of the protected area?
5. How do you encourage stranded local residents to become part/ support your management regimes?
6. Tell me some of the challenges you all have faced whiles you continue to work together for the conservation of the wildlife.
7. Tell me some of the benefits you have gained since you started working together.
8. How do you address residents who go through problems from the monkeys?
9. Please explain to me how the benefits you gain from the protected area is being shared or utilized.
10. What is the relationship between board members, the management committee, and the residents?
11. Any final thoughts on the issues discussed related to wildlife management.

8.2.0 Appendix two: Fictional names of local respondents

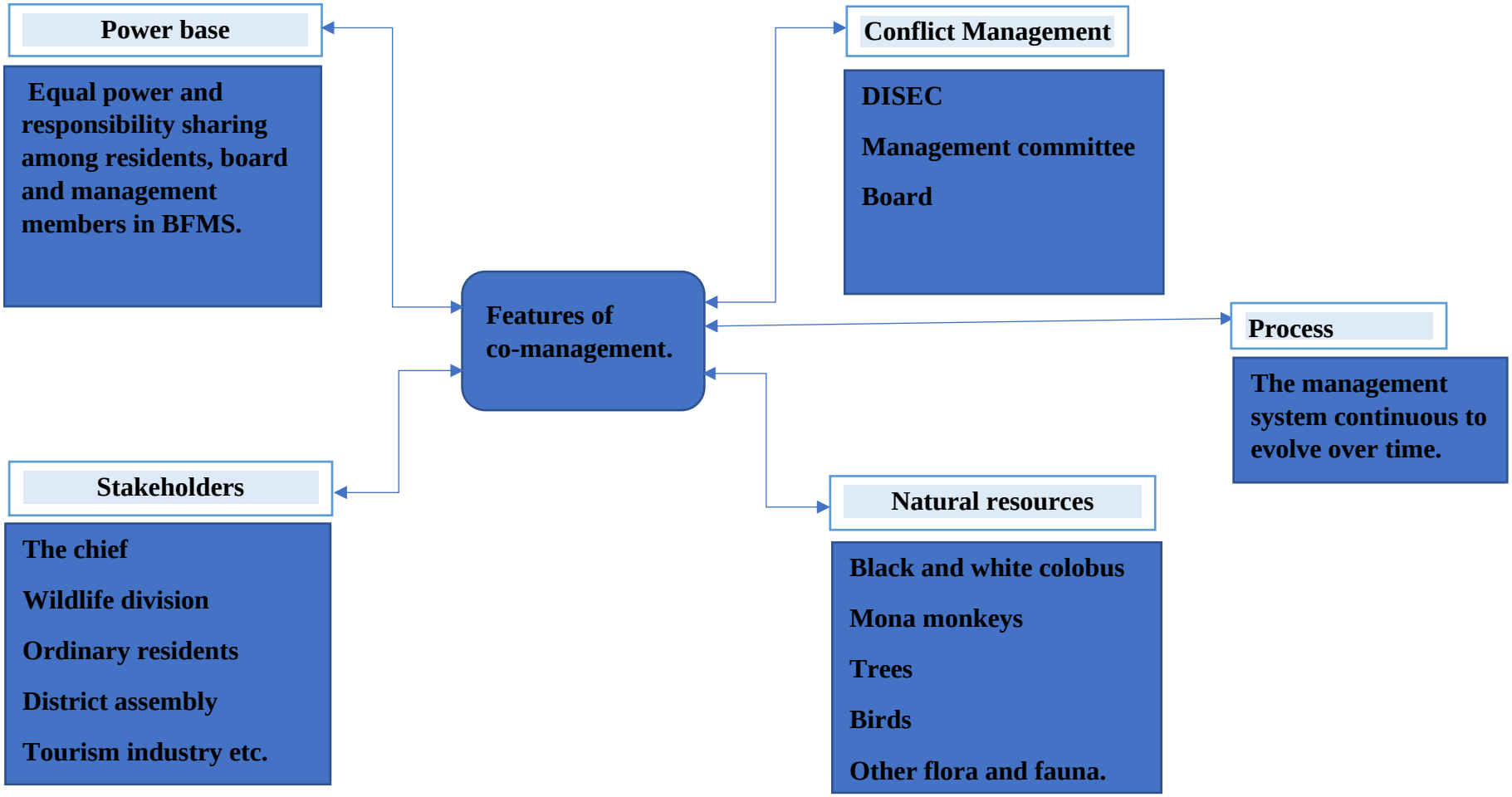
Fictional names	Date collection date	Community
Adam	10/11/19	Fiema
Asamoah	29/10/19	Boabeng
Bright	28/10/19	Boabeng
Brian	29/10/19	Boabeng
Curry	07/11/19	Fiema
Dan	28/10/19	Boabeng
Danna	30/10/19	Boabeng
Esi	05/11/19	Fiema
Gayle	05/11/19	Fiema
George	30/10/19	Boabeng
Gwen	02/11/19	Boabeng
Janet	11/11/19	Fiema
Jack	11/11/19	Fiema
Jessie	01/11/19	Boabeng
Josh	01/11/19	Boabeng
Lauren	12/11/19	Fiema
Lambert	14/11/19	Fiema
Lalla	29/10/19	Boabeng
Lebron	28/10/19	Boabeng
Lorra	10/11/19	Fiema
Manuel	11/11/19	Fiema
Manu	29/10/19	Boabeng
Memphis	29/10/19	Boabeng
Mega	02/11/19	Boabeng
Mika	01/11/19	Boabeng
Monica	12/11/19	Fiema
Nathaniel	02/11/19	Boabeng

Nunu	08/11/19	Fiema
Knowles	01/11/19	Boabeng
Patrick	01/11/19	Boabeng
Pius	30/10/19	Boabeng
Samantha	11/11/19	Fiema
Sarah	05/11/19	Fiema
Tina	02/11/19	Boabeng
Zilla	12/11/19	Fiema
Zik	29/10/19	Boabeng
Mora	10/11/19	Fiema

8.3.0 Appendix three: Fictional names of management stakeholders

Fictional names	Data collection date	External stakeholders
Ney	25/11/19	Board member
Kai	25/11/19	Management committee member
Mo	25/11/19	Management committee member
Leo	26/11/19	Board member
Maya	26/11/19	Management member

8.4.0 Appendix four: Co-management structure in Boabeng-Fiema monkey sanctuary.



8.5.0 Appendix five: Informed consent form for management and resident stakeholders

Are you interested in taking part in the research project*?*

Co-managing Boabeng-Fiema Monkey Sanctuary: Investigating the pros and cons.

This is an inquiry about participation in a research project where the main purpose is to investigate the role of co-management in Boabeng-Fiema Monkey Sanctuary. In this letter, I will give you information about the project's purpose and what your participation will involve.

Purpose of the project

This project aims to find out how the concept of co-management works in the twin villages of Boabeng and Fiema whiles it is applied in the management of conservation areas. This paper for it to investigate this has three main objectives:

Also, it aims to identify the challenges that come with the use of co-management in BFMS Boabeng-Fiema Monkey Sanctuary.

The project also seeks to find out the benefits of using the co-management approach in Boabeng-Fiema Monkey Sanctuary.

Finally, it aims to find out the type of co-management practiced in Boabeng-Fiema monkey sanctuary.

This thesis forms part of a two-year master program taught at the Norwegian University of Science and Technology.

Who is responsible for the research project?

Norwegian University of Science and Technology (NTNU) is the institution responsible for the project.

Why are you being asked to participate?

The project sample consists of all the recognized stakeholders involved in the management of Boabeng-Fiema Monkey Sanctuary. In addition to the key stakeholders are residents of the communities who, in one way or the other are affected by the PA and, have a say in matters related to management of the monkey sanctuary. There is no specific number of local residents to interview. We will interview as many community members as possible for the benefit of the project. All participants shall be selected purposively with the use of a snow bowl and accidental sampling technique.

What does participation involve for you?

Face to face interview and focus group interview are the two main methods that shall be used for data collection in the two communities. In the course of the interviews and observations, electronic devices shall be used to record all the events that will transpire on the field. Short notes and photographs will be taken to aid the research. Each interview is expected not to last for more than 25 minutes for both stakeholders and local residents. In the interview, information such as each stakeholder's role in the management of the sanctuary will be solicited. More importantly, information on the compatibility of local and external stakeholders whiles they co-manage, the challenges and benefits stakeholders have experienced shall all be asked from respondents. This research will rely on secondary data, including journals, registers available in the communities about the management of the monkeys and the forest.

Participation is voluntary

Participation in the project is voluntary. If you choose to participate, you can withdraw your consent at any time without giving a reason. All information about you will then be made anonymous. There will be no negative consequences for you if you decide not to participate or later decide to withdraw.

Your personal privacy – how we will store and use your personal data

We will only use your data for the purpose(s) specified in this information letter. We will process your personal data confidentially and in accordance with data protection legislation (the General Data Protection Regulation and Personal Data Act). The data from the community will be available to the Norwegian University of Science and Technology. It will be available to the student/researcher and his supervisor only. Measures are in place to ensure that no unauthorized persons have access to this information. For instance, the names of respondents will be coded where necessary to ensure the anonymity of respondents. Sensitive information shall be stored separately from the other information and locked away or encrypted. It is also important to let you know that this information will be processed outside Africa, specifically in Norway.

What will happen to your personal data at the end of the research project?

The project is scheduled to end on the 30th of November 2020. Only the researcher will have access to the primary data gathered from the field. Information such as age, occupation, political opinions, and other private but very important data shall not be disclosed or published to the general public. All the recorded information from the field shall be held confidentially until the end of the project. After the research is complete, all the primary data shall be destroyed.

Your rights

So long as you can be identified in the collected data, you have the right to:

- access the personal data that is being processed about you
- request that your personal data is deleted
- request that incorrect personal data about you is corrected/rectified
- receive a copy of your personal data (data portability), and
- send a complaint to the Data Protection Officer or The Norwegian Data Protection Authority regarding the processing of your personal data

What gives us the right to process your personal data?

We will process your personal data based on your consent.

Based on an agreement with the Norwegian University of Science and Technology, NSD – The Norwegian Centre for Research Data AS has assessed that the processing of personal data in this project is in accordance with data protection legislation.

Where can I find out more?

If you have questions about the project, or want to exercise your rights, contact:

- Norwegian University of Science and Technology via Haakon Lein: the supervisor. Contact him through E-mail:haakon.lein@ntnu.no
- NSD – The Norwegian Centre for Research Data AS, by email: (personverntjenester@nsd.no) or by telephone: +47 55 58 21 17.

Yours sincerely,

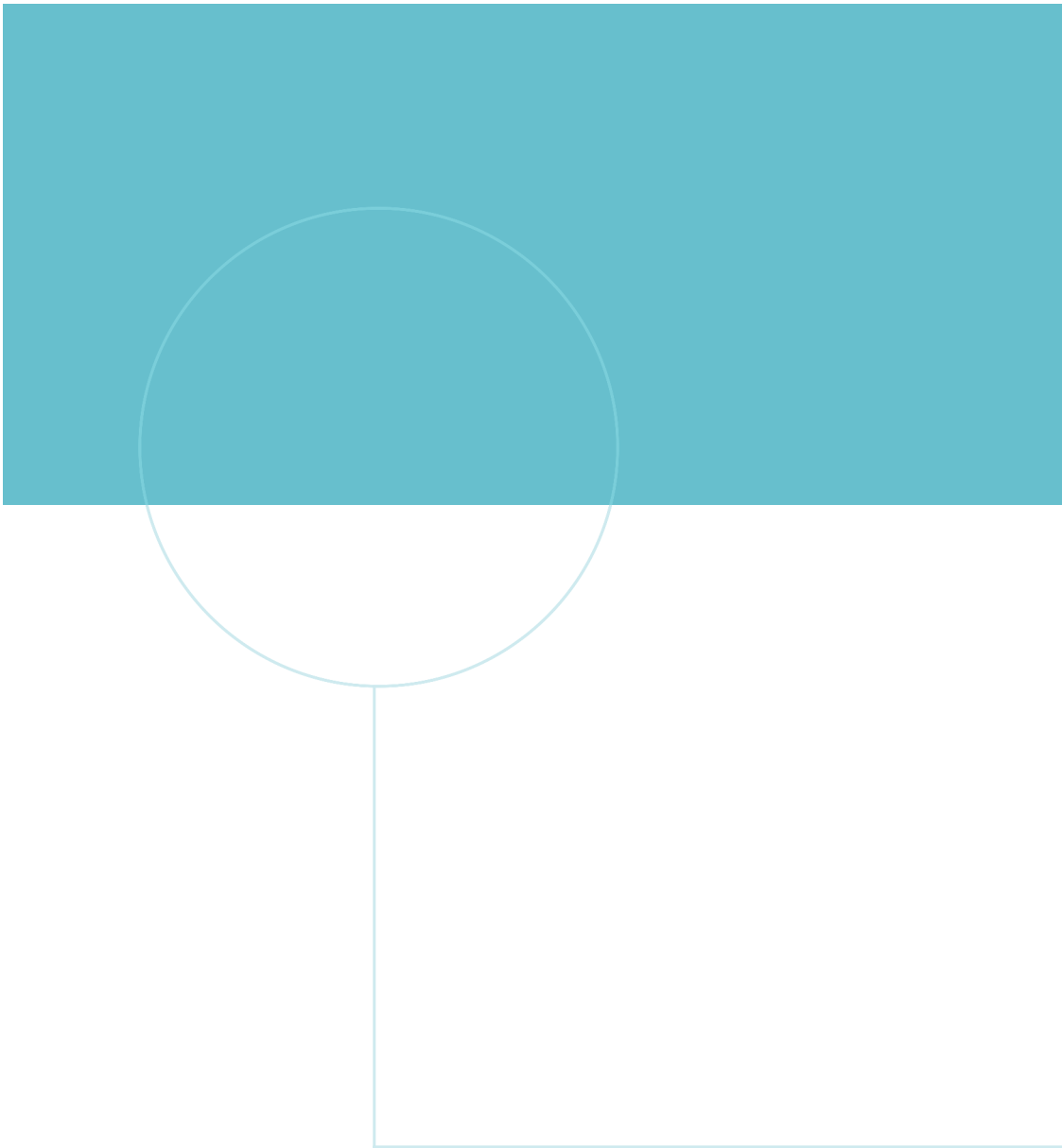
Isaac Ankamah

(Student)

Yours sincerely,

Haakon Lein

(Supervisor)



NTNU

Norwegian University of
Science and Technology