

# From conflict to collaboration: Atewa Forest governance

by

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## **Author's Declaration**

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

## Abstract

Many countries are addressing the problem of deforestation through sustainable ecosystem management collaborations. Successful ones have recognized local participation as being essential to any conservation effort. In Ghana, forests and their ecotourism attributes have served as a pull to many international adventure and eco-tourists but unfortunately, the country's forest cover has experienced significant exploitation over the years leading to the less desirability of these nature-based attractions. Despite its designation as a protected area for biodiversity and watershed services, the Atewa Forest in Ghana has been significantly impacted by humans. The problem of forest degradation has increased over the years. This is mainly due to the many tree and livelihood conflicts in most forest communities. The Government of Ghana has outlined its plans to mine the Atewa Range Forest Reserve as part of a national infrastructure development programme which has received a lot of opposition from many civil society groups, NGOs and professional institutions, stating that to mine the Atewa Range Forest Reserve, the entire forest would have to be removed. Despite strong opposition from local communities, state actors and international conservation organizations, the Ghanaian government is determined to proceed with a plans for bauxite mining in the Atewa Forest. To understand these dynamics, investigate the causes of forest degradation, and to recommend ecologically-based management approaches such as community-based ecotourism to facilitate win-win outcomes for all stakeholders, this study adopts the interactive governance model and the case study approach to finding answers to the research questions. Different groups of stakeholders at various scales and levels were engaged in interviews and focus group discussions for ecologically based strategies that generate win-win outcomes for all. The study reveals that for forest governance to be effective, there is the need for a bottom-up, all-inclusive approach to the management of forest resources. It also emphasizes the importance of ecotourism's ability to deliver greater sustainable returns than alternative land-use practices and highlight its potential as a conservation tool for forest lands for purposes of recreation and tourism in nature-based environments.

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# Chapter 1

## Introduction

### 1.0 The context of forest governance in Ghana

The concept of forest governance has become an important factor in international development discourse since the late 1980s. Reducing Emissions from Deforestation and Forest Degradation, now commonly known as REDD+, is a potentially significant financial mechanism for shifting the incentives from deforestation and land use change to forest conservation and sustainability. Community forest governance has been recognized over the past two decades as a potential approach for achieving forest sustainability (Little 1996; Klooster and Masera 2000). This is because, community forestry focuses on improving the livelihood and welfare of rural people and conserving natural forest systems through local participation and cooperation (Bhattarai 1985). Local community groups negotiate, define, and guarantee among themselves an equitable sharing of the management functions, entitlements, and responsibilities for a given set of natural resources. Over half a billion people in developing countries are now dependent on communally-managed forests (Agrawal, 2007). Community forestry is an increasingly important form of forest management (FAO, 2010) and has developed in response to concerns that centralized forest ownership in developing countries has failed to promote sustainable management (Schusser, 2013; Maryudi et al., 2012; Casse and Milhøj, 2011; Sunderlin, 2006). As a broad approach to combating forest degradation, shifting forest ownership from governments to local communities has become a global trend (White and Martin, 2002; Bixler, 2014). The underlying principle is that communities are in the best position to manage and protect forest resources, provided they see that it is in their interests to do so (Larson, 2004; Shrestha and McManus, 2007; Maryudi et al., 2012). Recent research has supported the view that community-managed native forests have lower and less variable rates of deforestation than protected forests (Porter-Bolland et al., 2012).

Forest governance is of high importance on Ghana's development agenda. The government, together with international actors, civil society, NGO's and the private sector, is undertaking several initiatives to strengthen the governance process responsible for forest governance. Examples are the Ghana Natural Resource and Environment Governance (NREG) Review, the Forest Law Enforcement, Governance and Trade



(FLEGT), the Voluntary Partnership Agreement (VPA) with the European Union to combat illegal logging and strengthen forest governance and Reducing Emissions from Deforestation and Degradation plus (REDD+). All these initiatives have made the management of forest resources a major societal concern. However, widespread conflicts over forest resources have challenged these efforts. Also, the absence of effective conflict resolution mechanisms undermine these attempts to ensure good forest governance and sustainable forest management (Ostrom, 1999, Yasmi, 2007). Illicit forest activities, especially illegal mining, timber exploitation and chainsaw milling, as well as the excessive exploitation of non-timber forest products (NTFPs) play an important but not exclusive role in these conflicts. In addition, the use of farming land in forest reserves due to population increase and the need for fertile soils for crop cultivation has also been responsible. The underlying drivers are multiple and interdependent. They include vague policy directions, institutional failure, competition between different land uses, and poverty (Tyler 1999, Ostrom 1999, Marfo 2006). Other factors include tenure insecurity, greed, corruption and weak law enforcement (Contreras-Hermosilla 2001, Kaimowitz, 2003).

The Forest and Wildlife Policy (FWP) of 1994 initially provided a glimmer of hope. It resulted in the concept of collaboration, with the anticipation of the involvement of all stakeholders at different levels of scale. It created hope that on-going decentralization and co-management with local people could contribute to sustainable forest management and improvement in forest governance and livelihoods (Derkyi, 2012). True to this, the government of Ghana, through the Ministry of Lands and Natural Resources and the Forestry Commission, as well as civil society and the donor community, have pursued several programmes for forest governance. They were aimed at promoting and enhancing good forest governance. Contrary to expectations, these programmes have not produced the desired impact due to some of the problems. According to the World Bank (2009), conflict management is a key building block of forest governance, but it has received little or no consideration in most of the ongoing governance initiatives in Ghana, except for the REDD+ process (FC 2010: 19 & 63). Efforts to enhance the government's capacity to effectively implement forest governance policies has proven almost futile (Ayivor, et. al, 2013). Ghana Tourism Authority and Forestry Commission of Ghana have been faced with multiple challenges in carrying out their duties as mandated institutions (Derkyi, 2012).

For example, while benefit sharing is critical to the sustainable management of forest ecosystems and tourism, the existing legislation and policies are yet to transfer the administration of such an arrangement to the devolved system of government. Communities living around these forests' zones have felt left out in the management and in sharing the benefits of forest resources and tourism. This has often led to conflicts and usually discourages communities from taking part in sustainable forest management practices.

The Atewa Forest was originally designated a Forest Reserve in 1926 to protect its value as a watershed source. The reserve houses the headwaters of the Birim, Densu and Ayensu rivers and their tributaries; vital water sources for the surrounding communities including Ghana's capital, Accra. As the years passed, people began to recognize various values of the forest. For other groups of stakeholders, the value of Atewa was not the forest itself, but the minerals that lie beneath its soil. Atewa sits atop roughly 150 million tons of bauxite, which is used to make aluminum. The main connection of the Atewa Forest to this study is the conservation conflicts that surround the governance of the forest and the need for strategies to eliminate these conflicts. The Government of Ghana has outlined its plans to mine the Atewa Range Forest Reserve as part of a national infrastructure development programme. As part of the agreement, the bauxite deposit was to be used as a mortgage to the Chinese to fund the country's development drive. Many civil society groups, NGOs, professional institutions and some communities members have opposed the project. Their argument is that to mine the Atewa Range Forest Reserve, the entire forest would have to be removed first. Even if it was not considered irreplaceable, re-growing the forest after bauxite mining would be nearly impossible, as the soil is extremely disturbed during the process of bauxite mining. Despite strong opposition from local communities, other stakeholders and international conservation organizations, the Ghanaian government was determined to proceed with a plan for bauxite mining in the Atewa Forest. The most recent indication was when the government ignored the wishes and requests of the various opposing stakeholders and went ahead to send bulldozers in to start clearing access roads. This only showed that the authorities have decided to plough ahead with the controversial project ([www.birdlife.org/worldwide/news/ghanas-atewa-forest](http://www.birdlife.org/worldwide/news/ghanas-atewa-forest)). Civil society groups, NGOs, community members and educational institutions have launched many social media

campaigns and demonstrations in protest to government plans to mine bauxite. Pictures 1.1 and 1.2 are examples of some of these campaigns.

## Group begins 6-day walk to protest mining in Atewa forest

March 19, 2018



Share 84 Tweet 9 in Share 0 Email 0 Like 255 Share 93

Members of a group calling itself Concerned Citizens of Atewa Landscape are embarking on a six-day walk from Kyebi in the Eastern Region to Accra, in a bid to put pressure on government to preserve the Atewa forest reserve against any form of mining activity.

The walk, which began on Saturday March 17, is aimed at drawing government's attention to rescind its decision to mine bauxite in the Atewa forest reserve.

Picture 1.1 A picture of residents around the Atewa Forest protesting mining in the forest  
*Source: <http://citifmonline.com/2018/03/group-begins-6-day-walk-protest-mining-atewa-forest>*

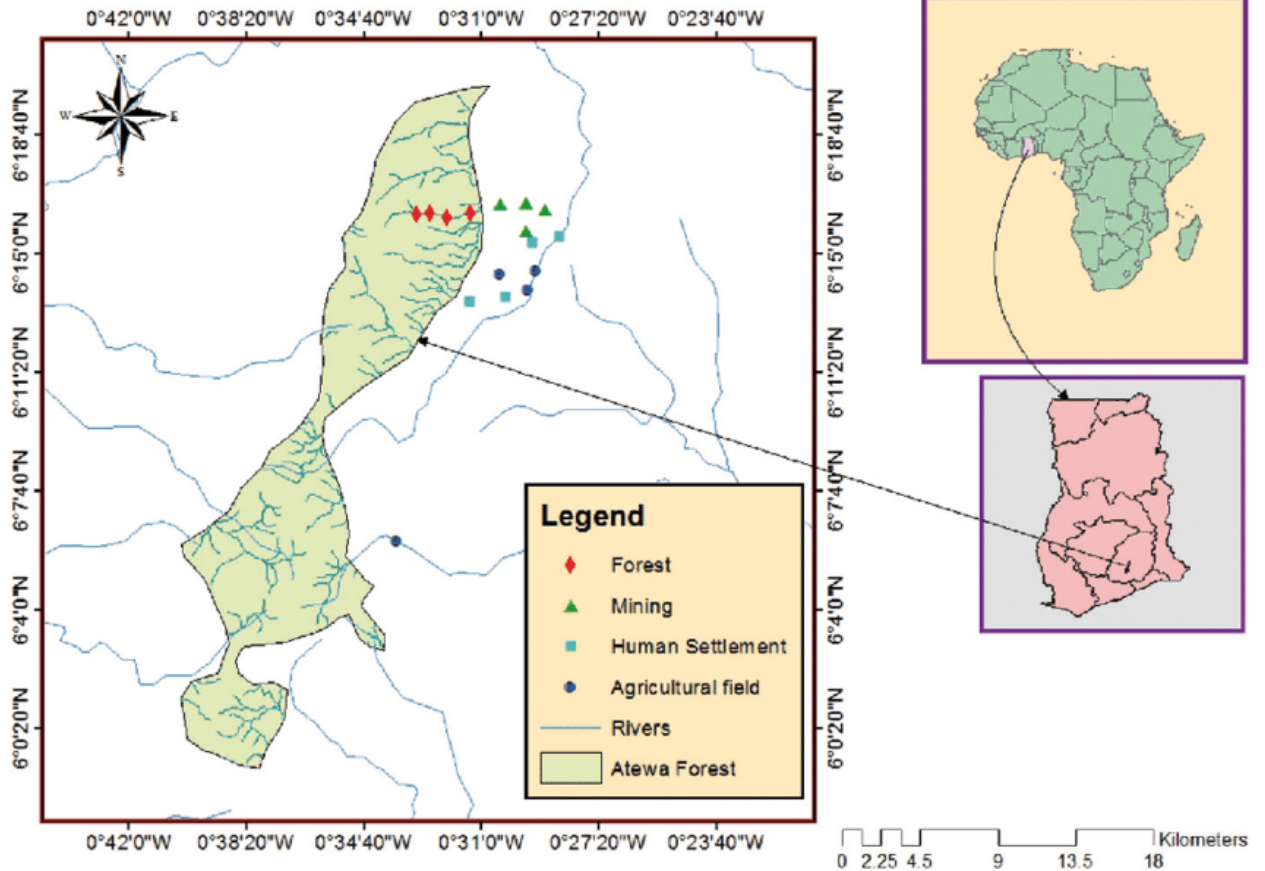


Picture 1.2 A picture of a social media tweet protesting bauxite mining in Atewa Forest with the #SaveAtewaForest

Source: <https://twitter.com/saveatewaforest?lang=en>

This study for that matter seeks to develop a framework that helps to constructively understand and manage the current forest governance conflicts in the Atewa Forest. It identifies the various causes of forest degradation and loss, while proposing ecologically-based strategies to generate win-win scenarios for all stakeholders. This framework will also incorporate the notion that for every forest resource, there are multiple stakeholders at different scales and levels, hence, different values attached to forests, interest in the use of forests, and expectations in general terms.

## 1.1 Study Area: Atewa Forest Range



**Fig. 1.1: Map of Atewa Forest Area**

Source: Seidu, I., Nsor, C. A., Danquah, E., & Lancaster, L. (2018). Odonata assemblages along an anthropogenic disturbance gradient in Ghana's Eastern Region. *Odonatologica*.

The Atewa Range Forest Reserve (Atewa) was established as a national forest reserve in 1926. It has since been designated as a Globally Significant Biodiversity Area (GSBA) and an Important Bird Area (IBA) (Abu-Juam *et. al* 2003). The Atewa mountain range, located in south-eastern Ghana, runs roughly from north to south and is characterized by a series of plateaus. One of only two reserves in Ghana with Upland Evergreen forest (Hall and Swaine 1981, Abu-Juam *et. al* 2003), Atewa represents about 33.5% of the remaining closed forest in Ghana's Eastern Region. Atewa is home to many endemic and rare species, including black star plant species and several endemic butterfly

species (Hawthorne 1998, Larsen 2006). Seasonal marshy grasslands, swamps and thickets on the Atewa plateaus are nationally unique (Hall and Swaine 1981). Atewa has long been recognized as a nationally important reserve because its mountains contain the headwaters of three river systems, the Ayensu, Densu and Birim rivers. These three rivers are the most important sources of domestic, agricultural and industrial water for local communities as well as for many of Ghana's major population centers, including Accra (McCullough *et al.*, 2017).

## **1.2 Research Questions**

This research responds to the challenges highlighted above by exploring the primary question of *how can forests and tree livelihood conflicts in Ghana's high forest zone, specifically, the Atewa Forest be understood and constructively managed for effective forest governance?*

Specifically, the following questions guided the investigation:

1. What are stakeholder perceptions on values and benefits of the Atewa Forest?
2. What are the causes of forest degradation in the Atewa Forest?
3. What are the challenges of forest governance in the Atewa Forest?
4. What ecologically-based management strategies can help generate win-win outcomes for all stakeholders?
5. How does ecotourism development fit into the discussion of forest governance?

## **1.3 Research Objectives**

To answer these questions, the thesis first provides a rationale as to “why” such a question has value, and then discuss a means, or the “how” it may be accomplished. As will be clear in the ensuing discussion, these questions, “why” and “how”, are deceiving in their simplicity, where potential responses required great amounts of discussion and development. As a result, four objectives were prepared to focus and provide the necessary operational guidance for this investigation:

1. Understand stakeholder perceptions on values and benefits of the Atewa Forest
2. Examine the causes of forest degradation in the Atewa Forest
3. Discuss the challenges facing the governance of the Atewa Forest



4. Discuss ecologically-based management approaches, such as ecotourism, to facilitate win-win outcomes through effective collaboration between/among stakeholders of forest resources for effective governance of Atewa Forest

#### **1.4 Justification of the Study**

This thesis argues that sustainable forest management must rest on a interactive governance approach (Kooiman & Bavinck, 2005), where different levels of overlapping centers of authority are recognized and respected (Bixler, 2014; Folke et al. 2005). After clear failures of the state to manage natural resources to meet local needs, community involvement and problem solving at the lowest feasible level of organization started to emerge in the 1990's as alternatives to top-down management of natural resources (Western & Wright 1994; Scott 1998). Berkes (2010) argues that community-based natural resources management (CBNRM) and its forestry component, community forestry, is likely to sustain the support it has gained because of the opportunities for participatory governance in a world of complexity and uncertainty. The justification for this study, based on these assumptions is that, forest resources in Ghana will see effective management and governance when there is a better understanding of forests and tree livelihood conflicts. This is because in Ghana, forest resources use, and management are complex, dynamic and involving multiple stakeholders, at different levels and scales, consequently characterized by conflicts. It is for this reason that there is the need for investigating the sources of these conflicts. As is shown in this study, different stakeholders, at different levels, have different positions, interests, expectations, and knowledge, hence the need for an all-inclusive approach to governance of the natural resources. Secondly, one of the major considerations for the success of any forest governance effort is/are the method(s) of implementation of conservation plans and policies. This study emphasizes the need for clarity in the methods to be used in ensuring that all the plans and policies of forest conservation are carried out.

## **1.5 Structure of the Thesis**

This master's thesis examines forest conditions in Ghana, processes and policies in place for forest governance in general. It also discusses reasons that have accounted for conflicts over forest resources in the Atewa Forest Area, as well as potential ecologically-based management approaches to facilitate win-win outcomes of Atewa Forest ecotourism initiatives, and sustainable livelihoods for the forest communities in Ghana. It is organized into six distinct chapters. The first chapter introduces the broad context from which the background, objectives and questions are formulated, as well as justification of the study.

The next two chapters - chapters two and three - critically interrogate the body of literature within which the study is situated. Chapter two commences with a thorough review of the literature pertaining to the governance concept and interactive governance theory. In addition, the chapter provides a review of the scholarly discourse related to natural resources management and community based natural resource management. To also understand various causes for livelihood conflicts, this chapter further examines natural resource conflicts and conflict management paradigms with their implications in natural resource conflicts. The relationships between forest conservation and ecologically-based management approaches, such as ecotourism are also explored in this chapter. As a way of touching on previous works done, the chapter also discusses factors that have been responsible for success of forest governance in most forest communities across the world. To also ascertain the degree to which ecotourism could be used as an ecologically-based management approach to forest governance, the principles of ecotourism are discussed in this chapter, together with how ecotourism can be used as a sustainable strategy for forest governance for win-in outcomes to be generated.

Chapter three continues to examine literature on forest governance in general but with specific focus on the case study. As Atewa Forest is located in Ghana, the chapter discusses the governing system, features, orders, modes and elements of Ghana's forest governance, forestry in Ghana, the Ghanaian forest governance in a historical perspective, with a focus on colonial legacy, historical background to Ghana's forest policies and its legislative instruments, forest policies and the state of forests in Ghana. The final part of



this chapter discusses the study location, Atewa in detail, focusing on the forest resource and the potentials for conservation.

The fourth chapter of this thesis is dedicated to the methodological approach adopted for the conduct of the study. It includes the research design, sampling and sample size, data collection methods and instruments, pre-testing of instruments, data analysis, scope of the study, fieldwork, study area and ethical concerns.

Chapter five presents the key findings from the fieldwork on the main questions asked in this research. Findings on forest governance in Ghana and various ecologically-based management strategies for win-win outcomes are discussed in this chapter.

The sixth chapter, the final, presents the summary, conclusions and recommendations for the study of forest governance and strategies for resolving forest and tree livelihood conflicts in the Atewa Forest area and Ghana as a whole.

## **Chapter 2**

### **Literature Review**

#### **2.0 Introduction**

This section of the thesis discusses the theoretical discourses in which this study is situated. Considering political ecology as a starting point, it links up with three dimensions of literature: forest based livelihoods, conflict and conflict management theories and interactive governance theory. The first part discusses political ecology, the next, scholarly literature on forest-based livelihoods and how these are subject to conflicts. It continues to discuss scholarly literature on conflict theories and conflict management paradigms related to natural resource management, with a focus on forest resources. In addition, the chapter looks at interactive governance theory coined by Kooiman & Bavinck (2005). This theory was hitherto applied exclusively to fisheries. Their theory focuses on interactions between the governing system and the system-to-be-governed, with the latter comprising both the natural and socioeconomic systems. The end of the chapter discusses ecotourism as a potential ecologically-based management approach to dealing with conflicts among different stakeholders of forest resources. The overall objective of this theoretical framework fits into how governance is understood in interactive governance theory, namely ‘the whole of public, as well as private interactions taken to solve societal problems and create societal opportunities’ (Kooiman & Bavinck 2005: 17). In this case, the aim is to understand the societal problem relating to conflicts about forest and tree resources and the societal opportunities relating to the functioning of ecologically-based management strategies that help to reduce conflicts at various scales and levels in Ghana.

#### **2.1 A political ecology perspective**

Political ecology is the discipline that studies the relationships between political, economic and social factors with environmental issues and changes. The academic discipline offers wide-ranging studies integrating ecological and social sciences with political economy (Peet & Watts, 1996, p. 6) in topics such as degradation and marginalization, environmental conflict, conservation and control, and environmental identities and social movements (Robbins, 2004, p. 14). The term ‘political ecology’ was first coined by Frank Thone in an article published in 1935 (Nature Rambling: We Fight

for Grass, *The Science Newsletter* 27, 717, Jan. 5: 14). Anthropologist Eric R. Wolf revamped the concept in 1972 in an article entitled “Ownership and Political Ecology,” in which he explains how local rules of ownership and inheritance mediate between the pressures emanating from the larger society and the exigencies of the local ecosystem (Wolf, 1972, p. 202). Political ecology’s broad scope and interdisciplinary nature lends itself to multiple definitions and understandings. However, common assumptions across the field give it relevance. Raymond L. Bryant and Sinéad Bailey have developed three fundamental assumptions in practicing political ecology:

- First, costs and benefits associated with environmental change are distributed unequally. Changes in the environment do not affect society in a homogenous way: political, social, and economic differences account for uneven distribution of costs and benefits.
- Second, this unequal distribution inevitably reinforces or reduces existing social and economic inequalities. In this assumption, political ecology runs into inherent political economies as “any change in environmental conditions must affect the political and economic status quo.” (Bryant & Bailey 1997, p. 28).
- Third, the unequal distribution of costs and benefits and the reinforcing or reducing of pre-existing inequalities holds political implications in terms of the altered power relationships that now result.

In addition, political ecology attempts to provide critiques as well as alternatives in the interplay of the environment and political, economic and social factors. Robbins asserts that the discipline has a “normative understanding that there are very likely better, less coercive, less exploitative, and more sustainable ways of doing things” (2004, 12). From these assumptions, political ecology can be used to:

- inform policymakers and organizations of the complexities surrounding environment and development, thereby contributing to better environmental governance and in the case of Atewa Forest, better forest governance.

- understand the decisions that communities make about the natural environment in the context of their political environment, economic pressure, and societal regulations
- look at how unequal relations in and among societies affect the natural environment, especially in context of government policy

Major themes in political ecology include power imbalances and social action (e.g. Peluso 1992, Escobar 1995, Bryant 1998), the role of politics of knowledge and discourses in natural resource management (e.g. Bryant, 1998, Fairhead & Leach, 1996, 1998, 2003), conflicts in forest conservation and institutional politics (e.g. Gezon, 1997, Dietz 1999) and gender and the environment (Rocheleau *et. al.* 1990). As RosTonen (2012) highlighted, themes that have become more prominent in political ecology since the turn of the century - in line with other literature on environmental change include the dynamics of cross-scale interactions (e.g. Adger *et. al.*, 2006, Neumann, 2009) and resilience and adaptation to global change (e.g. Adger, 2000, 2009, Batterbury & Mortimore, 2011). Political ecology has been a dominant discourse in international conservation literature which focusses on power, ownership, indigenous and local control of natural resources, access and management, and other relevant issues. Within political ecology, discursive practices associated with the social construction and production of nature has been mainly advanced by scholars of geography, anthropology, and sociology, among others (Nepal & Saarinen, 2016).

This chapter also connects the political ecology approach with debates on forest-based livelihood conflicts and conflict management; and interactive governance in the context of natural resources, specifically, forest resources governance. There are several reasons for taking political ecology as a starting point for my theoretical framework. Generally, the approach, by its nature allows for great understanding into the compounded causes of forest and other natural resources degradation in many developing countries. In the first place, political ecology (or political environmental geography as Dietz (1996, 1999) termed it), examines the dynamic interactions between people's needs and nature as a resource and sinks, helping to access the power structures behind the causes of environmental problems and attempts to solve them (Dietz, 1996: 33). This focus on

dynamic interactions aligns well with Kooiman and Bavinck's interactive governance concept, while it allows an unravelling of the power structures on which conflicts are based. Secondly, political ecology pays attention to the scalar dimensions of conflict situations, situating the actors and stakeholders involved within the broader environmental and socio-political contexts in which they are embedded (Bryant, 1992, Dietz, 1996, Gezon, 1997). This allows us to understand the roots of conflicts that may be historical, or based on social, economic and power relations (Blaikie & Brookfield 1987, Peet & Watts 1996), while also providing an analytical perspective to unravel the multilevel character of conflicts, with interactions between actors and stakeholders operating at different levels of scale. Thirdly, political ecology pays attention to uneven access to resources, which allows us to analyze conflicts in terms of competing claims to forest resources.

## **2.2 Forest-based livelihoods**

The World Bank (2004) estimates that 60 million indigenous people are almost wholly dependent on forests and 350 million people depend on forests for a high degree for subsistence and income. In addition, about 1.2 billion people rely on agroforestry farming systems. Hence, forest resources contribute immensely to the livelihoods of people, and particularly the world's poor. According to the World Bank (2004: 1), forest resources contribute to the livelihoods of 90% of the 1.2 billion people who live on less than US\$ 1 a day. These people depend fully or partly on these resources to meet their daily subsistence and commercial needs. Ellis (1998: 4) defines livelihood as 'the process by which rural families construct a diverse portfolio of activities and social support capabilities in their struggle for survival and to improve their standards of living'. According to the DFID Sustainable Livelihood Guidance Sheets (1999: 1), it encompasses the assets (human, financial, physical, natural and social capital), the capabilities and the activities needed for a means of living. Attention to livelihoods from the perspectives of the poor received a boost with the Sustainable Livelihood Approach developed by authors like Chambers and Conway (1992), Carney (1998), Scoones (1998), Bebbington (1999) and Ellis (2000). Attention for the role that forests play in people's livelihoods dates back to 1978 when the FAO held the VIII Forestry Congress under the title 'Forestry for People' (Colchester *et. al.* 2003, cited in Ros-Tonen *et. al.*, 2005) but has acquired a more prominent place on the agenda since the World Conference on Environment and

Development (WCED) in Rio de Janeiro in 1992. Chapter 11 on combating deforestation in Agenda 21 (UNCED 1992), which was the outcome of the Rio conference, not only recognizes the rights of forest dwellers to have an economic stake in the forest, but also highlights the cultural and spiritual value of forest and the need to protect indigenous rights. It is the case in most forest areas where communities have communal rights and access sacred sites for religious purposes. Sacred Natural Sites (SNS) may be defined as natural areas of special spiritual significance to peoples and communities. They include natural areas recognized as sacred by indigenous and traditional peoples, as well as natural areas recognized by institutionalized religions or faiths as places for worship and remembrance. Many sacred natural sites are areas of great importance for the conservation of biodiversity. In fact, very often the reasons for protecting the spiritual connections between people and the earth, and for conserving biodiversity in their lands, are inseparable (Oviedo, 2001).

Sunderlin *et. al.* (2005) mention several ways in which forest resources play a role in people's livelihoods. First, forests are an important source of maintaining agriculture, both directly as a source of farming land (i.e. shifting cultivation) and indirectly through soil formation and securing water supplies. Second, timber resources are a major source of revenue for those working in the timber industry and for the country as a whole. In Ghana, for example, the formal timber industry contributes about 6% to the Gross Domestic Product (GDP) and 11% to Ghana's export earnings (Marfo, 2010). It also creates about 100,000 jobs through direct employment in the legal timber industry and an estimated 130,000 jobs in chainsaw milling (Ibid.: xi & 2). Third, non-timber forest products (NTFPs), such as food items, medicinal plants, bushmeat, forage and fibre play an important socio-economic role in most local communities, not only for subsistence and commercial purposes, but also for their cultural and spiritual values (see Falconer 1992, Blay *et. al.* 2008, Bell 2010, and Bokhorst 2011 for the role of NTFPs in Ghana). NTFPs can be an important source of cash and non-cash income for forest-dwelling people (Bell 2010), but overall, they function mainly as a 'safety net' (in times of emergency) and 'gap filler' (in times of low agricultural income) (Sunderlin *et. al.* 2005: 1386) rather than as a potential route out of poverty (Belcher *et. al.* 2005, Kusters *et. al.* 2006, Vedeld *et. al.* 2007). The fourth way forest resources contribute to livelihoods is through environmental services which support farming and agroforestry systems (such as soil formation and

securing water supplies as mentioned above). Environmental services may become more important as a source of cash income through carbon and other payments for environmental services (PES) within the framework of Reducing Emissions from Deforestation and Degradation (REDD+) schemes, as compensation for keeping the forest intact. Finally, Sunderlin *et. al.* (2005) mention several indirect livelihood benefits, such as the boosting of local markets due to the presence of a logging workforce and the creation of a road network which facilitates access to markets, health services and education. In addition, people may receive logging compensation payments. In Ghana such compensation payments take the form of Social Responsibility Agreement (SRA) and crop damage compensation. Despite their importance as sources of livelihood, the use of forest resources also creates challenges associated with illicit uses, restricted access, an unfavorable governing system and competing claims that undermine their importance to forest dwellers and the nation's wellbeing. Such competing and conflicting interactions often result in conflicts. Tropenbos International Ghana (TBI, 2005) identified challenges facing forest based livelihoods in Ghana during focus group discussions held in 2005 on 'Alternative livelihoods and sustainable forest management'. These are summarized as (i) inadequate incentives for local communities in forest resource management, (ii) inadequate exploration of the opportunities for improving forest employment, (iii) inefficient utilization of NTFPs hindering their promotion as assets for livelihood improvement, (iv) a lack of proper analysis of forest-dependent livelihoods resulting in deficient decision making, and (v) conflicts inherent in livelihood activities relating to forest and tree resources (TBI, 2005).

### **2.3 The governance concept and interactive governance theory**

This section begins with a brief description of the evolution of the governance concept from different disciplinary backgrounds and highlights the differences between governance and management. Next, it examines the notion of forest governance and the main challenges related to it. Finally, it presents interactive governance theory and how it can be applied to understand forest and tree resource conflicts and conflict management strategies that form the topic of this study.

## 2.4 The concept of governance

Governance as a concept has gained prominence in both academic and policy debates over the past three decades. On a global scale, governance debates have been centered on three fields of studies, namely management, public administration and development studies. Within management studies, the governance discussion is linked to decentralization and neo-liberal reforms with concepts like participation and mobilization (World Bank, 1997, Stoker, 2000, Nuijten *et. al*, 2004). Scholars in the field of public administration perceive governance as an interactive process of governing and steering processes of both state and non-state actors (Kooiman, 1993, Jessop, 2002). The third group of governance debates stems from development studies and has been prominent since the early 1990s (Nuijten *et. al*, 2004). Governance is not merely something governors do but comprises the totality of the interactions between the governing system and the system-to-be-governed (Kooiman & Bavinck, 2005). Governance has different definitions according to its evolution into the different disciplines. However, three common features in these varied definitions include (i) governing as a matter of public as well as private actors and stakeholders, based on the premise that government alone cannot solve societal problems, (ii) a blurred dividing line between public and private sectors, as a result of which interests among these actors and stakeholders are often shared, and (iii) the recognition that governance has its roots in societal developments (Ibid.: 15-16). The central theme in most definitions is that the state cannot do things alone but needs non-state actors and stakeholders to assist in development. It is this same philosophy that must guide every state especially where governance of natural resources is of critical importance. Over the last few decades examples of community forestry as a paradigm linking community and ecological sustainability in forest management have increased dramatically (Baker & Kusel, 2003; Charnley & Poe, 2007; Larson & Soto, 2008); however, not all results have been positive (Berkes, 2010; Brown, 2002). Positive effects of forestry decentralization have been documented when there is user empowerment and downward accountability; however, generally negative effects have been reported when decentralization fails to address equity concerns and accountability, or when decentralization results in extension of state control over local people and resources (Larson & Soto, 2008; Kellert *et. al.*, 2000). Adams (1996), who researched fisheries and



aquaculture governance in the Pacific Islands region, questioned whether the terms management and governance could be used interchangeably. Although the two concepts are related, most scholars adhere to the view that a distinction must indeed be made (e.g. Béné & Neiland 2006, Kooiman & Bavinck 2005). In forestry, Ros-Tonen *et. al* (2008: 1483) summarize the difference as ‘forest governance provides the political, legal and institutional framework in which sustainable forest management can thrive’.

## **2.5 Interactive governance theory**

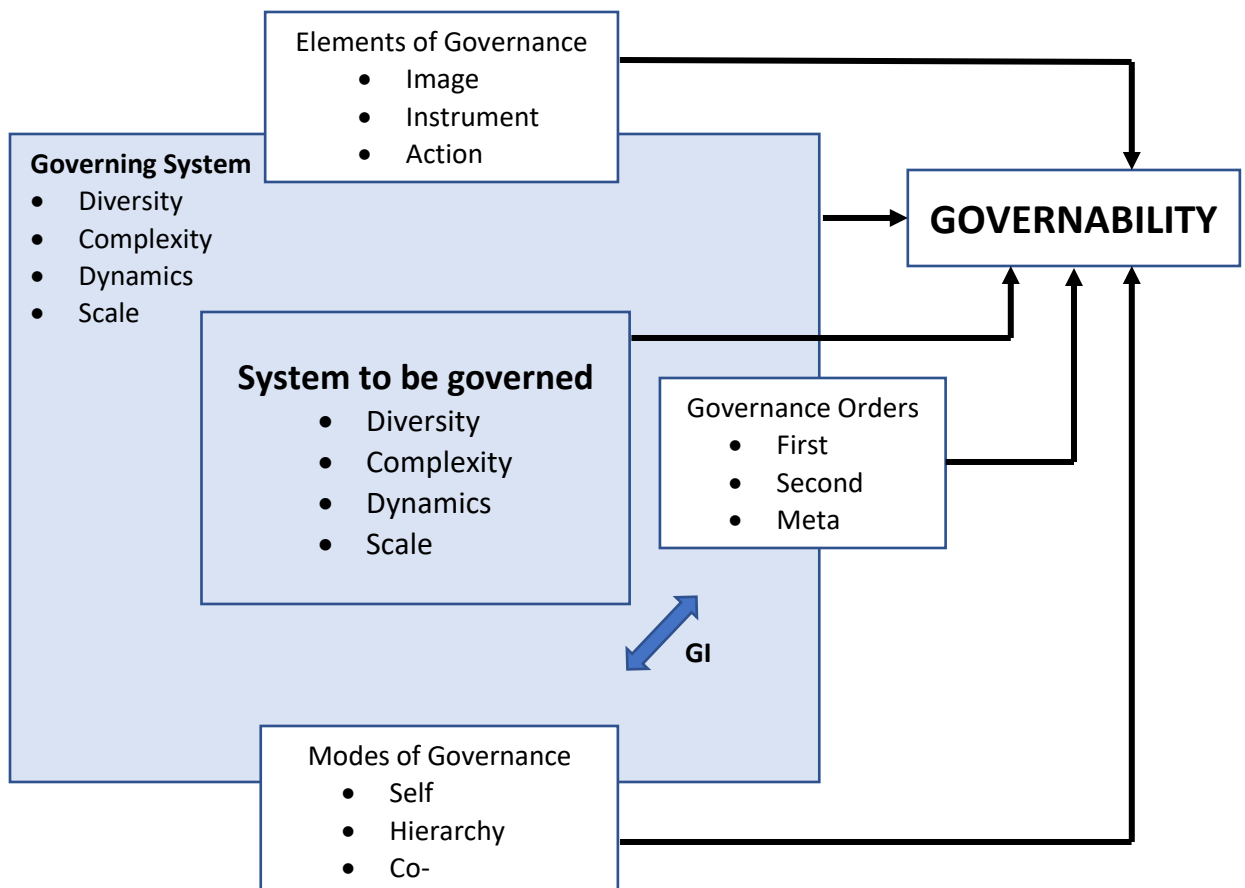
Focusing on ways to overcome some of the governance uncertainties, Kooiman & Bavinck (2005: 17) define governance as: ‘the whole of public as well as private interactions that are initiated to solve societal problems and create societal opportunities. It includes the formulation and application of principles guiding those interactions and care for institutions that enable them’. According to Kooiman & Bavinck (*Ibid.*), the most important feature of their governance definition is interaction (See Figure 2.1 below). For this reason, they label their approach to governance ‘the interactive governance approach.’ Three elements stand out in Kooiman and Bavinck’s views of governance as interactions: structure, actors and interaction:

- Structures are the frameworks within which actors operate, and which they consider. They include culture, law, agreements, material and technical possibilities as well as inherited traits (Kooiman & Bavinck 2005: 17).
- Actors are social units that possess power of action, including individuals, households, associations, companies, institutions, NGOs, traditional authorities, local communities, leaders, political parties, militant groups, companies, NGOs, and government officials and all national, international and intergovernmental organizations (*Ibid.*: 17).
- Interaction is defined as ‘a specific form of action, undertaken by actors to remove obstacles and tread new pathways’ (*Ibid.*: 17).

Kooiman & Bavinck (2005:18) perceive interaction as ‘a mutually influencing relation between two or more actors possessing an intentional and structural dimension’. From a societal perspective Kooiman (1999: 75) distinguishes three kinds of interactions, including (i) ‘interferences’ (regarded as uncoordinated, spontaneous interactions) (ii)

‘interplays’ (semi-formalized modes of interactions like networks, modes of cooperation, collaboration and group formation), and (iii) ‘interventions’ (interactions with a public or semi-public character which are often based on rules and regulations with some juridical imprints). As far as forest management in Ghana is concerned, a blend of these interactions occurs in the governing system, with interplays and interventions being the dominant interaction modes in the formal forest sector. Also, interventions can also occur under the traditional governing structure out of view of state actors when traditional authorities intervene in conflict management.

***The interactive governance theory***



***Fig 2.1: The interactive governance theory***

Kooiman & Bavinck (2005)  
 Source: Chuenpagdee et. al. (2008: 3)

From the interactive governance perspective, three components of the societal system stand out; the governing system (GS), the system-to-be-governed (SG) and a mediating component, which govern interactions (GI). These altogether ensure the ‘governability of the system’ (Figure 2.1). According to this theory, the governing system and system-to-be-governed share similar structural attributes. These attributes are diverse, complex, dynamic, and encompass multiple scales (Box 2.1). Using fisheries as an example, the four system characteristics defined by Kooiman & Bavinck (2005: 13-14) and Kooiman (2008: 76) are presented in Box 2.1. In addition to the structural attributes defined in Box 2.3, Jentoft (2007) adds ‘vulnerability’ to the list, which refers to the fact that the systems-to-be-governed are very vulnerable. He argues in favor of corresponding qualities for the governing system to overcome these structural attributes while ensuring governability. Diversity demands that the governing system is sensitive, complexity calls for inclusiveness, dynamics calls for flexibility and vulnerability means the precautionary principle must be applied.

*Box 2.1: System characteristics of interactive governance*

*Diversity:* is a characteristic of the entities that form fisheries systems and points to the nature and degree in which they vary.

*Complexity:* is a function of the architecture of the relations among the parts of a system, and between a system and its environment. This depends on the interactions among the actors and their interdependency. Interactions become lengthening when more actors become involved in a system and/or when the geographical distance between them becomes larger.

*Dynamics:* apply to the tensions within a system and between systems. They create the potential for change but can have disruptive consequences.

*Scale:* refers to time and space dimensions of systems-to-be-governed as well as to governing systems.

*Sources:* Kooiman & Bavinck (2005: 13-14) and Kooiman (2008: 176)

Box 2.1: System characteristics of interactive governance

### 2.5.1 The governing system (GS)

Jentoft (2007: 360) describes the governing system as a ‘social and therefore man-made system which is made up of institutions and steering instruments and mechanisms’. Interactive governance theory analyses the governing system in terms of orders, modes and elements of governance (Kooiman *et al.* 2008: 5). *Orders of governance* are three interrelated levels of governance, with the first order encompassing interactions in day-to-day management ‘to solve societal problems and create societal opportunities’ while the second order refers to ‘the creation and care for institutions that enable the interactions’. The second order takes account of the maintenance and design of institutions (structures, human resources, etc.) necessary to solve problems and create opportunities. The third order refers to the ‘principles guiding those interactions’. This is also known as ‘meta-governance’, which refers to the main normative principles and values that guide first and second orders processes. The interactive governance framework presented in Figure 2.1 includes what Kooiman & Bavinck (2005) call ‘elements’, which consist of:

- a. *Images* – which constitute the ‘guiding lights’ as to the how and why of governance and can take many forms such as visions, knowledge and goals.
- b. *Instruments* – which link images to action and can be ‘soft’ in nature (*e.g.* information, bribe or peer pressure) or ‘hard’ (*e.g.* physical force).
- c. *Actions* – which put the instruments into effect.

According to the authors, all these components are closely connected and not easily distinguishable.

### 2.5.2 The system-to-be-governed (SG)

Chuenpagdee and Jentoft (2009) distinguish between two sub-systems within the SG, namely the natural and socioeconomic systems. The natural system refers to an ecosystem and the resources it contains, whereas the socioeconomic system encompasses resource users and stakeholders that form political alliances and institutions (Jentoft, 2007). Like the governing system, the system-to be-governed is characterized by diversity, complexity and dynamics because of the linkages and interdependencies among its components (Kooiman *et al.*, 2008). These system characteristics can manifest themselves at different levels of geographical and temporal scale (Kooiman 2008). Chapter 3 of this thesis analyses Ghana’s high forest zone, particularly the Atewa Forest as the key natural

system that is the subject of this study. As regards diversity, it examines different ecological zones and biological diversity, while complexity is assessed in terms of different management regimes and various forest governance instruments. In Chapters 5 and 6, dynamics are analyzed in terms of forest degradation and loss. Similarly, the socioeconomic system, which is made up of resource users and stakeholders, is analyzed in terms of diversity (in terms of actor and stakeholder composition, diverging interests and different roles in the forest governance system), complexity (in terms of resource rights, use and power constellations), dynamics (in terms of interactions) and scale (in terms of the geographical scales at which actors and stakeholders are operating).

### **2.5.3 Governance interactions (GI)**

In interactive governance theory, the governance interactions encompass the relationships between the governing system and the system-to-be-governed. They constitute the basic element of governance. The outcomes of these interactions determine the degree of governability of the system. Kooiman (2008: 173) argues that the governors, the governed and the interactions between them all contribute to the governability of the system, as do all kinds of external influences. Kooiman *et al.* (2008) perceive governance interactions from the actor perspective and examine concepts like participatory, collaborative and policy or management interactions. The authors also observe governance interactions from a structural perspective as self-governance, co-governance and hierarchical governance. The governance interactions take place in two directions: actors and stakeholders in the system-to-be-governed try to influence the governing system, whereas actors in the governing system impact on the system-to-be-governed. Considering the properties of the system-to-be-governed and the governing system, the governance interactions need to address diversity, complexity and dynamics.

This theory suggests that any attempt to be successful at governance of natural resources demands a recognition of the fact that it is a complex system that involves many actors and stakeholders at various levels and scales, for that matter, a need for collaborative efforts.

### **2.6 Natural resource conflicts: causes**

Conflicts differ according to context (Moore 2003, Wall & Callister, 1995) and causes. To understand the latter, Tosi *et. al* (2000) developed a model that presents the

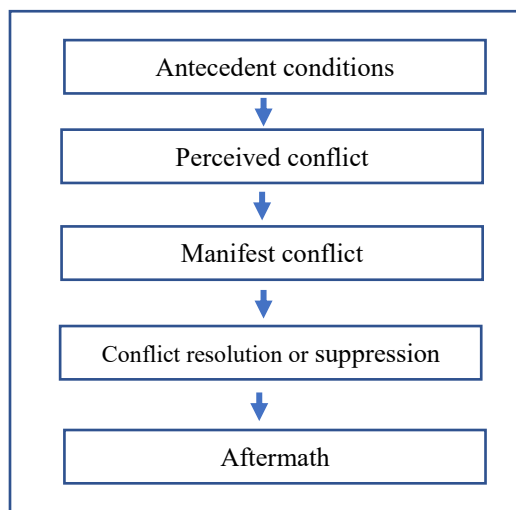
dynamic conflict process (See Figure 2.2 below) based on the ‘process school of thought’ (Pondy, 1967, Hickson *et. al.*, 1971, Thomas, 1976). Tosi *et. al.*, (2000: 277-278) explained the first - three conflict stages as follows:

- Antecedent conditions: ‘the conditions that cause or precede a conflict episode’.
- Perceived conflict: ‘the requirement that, for conflict to exist, the conflict must be perceived by one or more parties involved’.
- Manifest conflict or behavior: ‘a stage of conflict that occurs when parties that have perceived a conflict behave in a way that makes the conflict observable.’

The perceived conflict is what Schmidt and Kochan (1972: 362) identified as being two underlying causes of conflict, i.e. ‘perceived goal incompatibility’ with respect to the resources and activities that the conflicting parties share and the ‘perceived opportunity for interfering with the attainment of one another’s goals’. Glasl (1999) added to the intermediating variables that trigger conflicts the differences in perceptions, emotions and interests, which he labelled ‘sources of impairment’. Marfo (2006) employed this model to understand the role of actor empowerment in the management of natural resource conflicts, whereas Yasmi and Schanz (*Ibid.*: 58) used the model to clarify conceptual confusion by recognizing conflict as a two-actor constellation, with one actor behavior experienced as an impediment by the other actor. This same concept can be applied to forest management in communities. Understanding how conflicts emanate is a sure way of dealing with these conflicts.

Several scholars (e.g. Homer-Dixon 1994, Buckles 1999, Le Billion 2001, Ohene Gyan, 2004, Yasmi & Schanz, 2007, Schanz, 2007) have theorized and analyzed conflicts specifically related to natural resources. This body of literature revealed a great diversity of conflict occurrences. They may occur at household level, at local level within or between communities, at national level and at international level (FAO 1996, Fisher 2000). Due to the complex nature of natural resource conflicts there are usually many causes and many interconnected issues, and that makes it difficult to pinpoint the key issues in the conflict scenarios. Among the main factors are power plays (LeBillon, 2001, Marfo, 2006), competing and diverging interests and the needs of stakeholders (Warner, 2000), the scarcity of environmental resources (Homer-Dixon 1999, Theisen 2008), the resource curse (LeBillon, 2001), inequity in benefit sharing and the absence or inadequate consideration of conflict management in national policies (Tyler, 1999, Ohene-Gyan, 2004). Given that it is a social process, the pivot of the conflicts is the human being - termed either as 'stakeholders' or 'actors' or 'resource users' (Grimble & Wellard, 1996, Kotey *et. al*, 1998, Marfo, 2006).

### ***The conflict process***



***Figure 2.2 The conflict process***

*Source: Adapted from Tosi et. al (2000: 277)*

On the question of who a stakeholder is, generally the trend in environmental conflict literature seems to be inclusive in nature, trying to accept many individuals and organisations as stakeholders. This trend supports the classic definition by Freeman (1984): *'Stakeholders can be defined as any group or individual who can affect or is affected by the achievement of the firm's objectives'*. In line with this, Mitchell (2001) defined stakeholder to be a person or group directly affected by or with an interest in a decision, or with legal responsibility and authority relative to a decision. According to Jackson (2001), it is important to note that stakeholders are those who believe themselves to have an interest or stake, not those that the agency deems to have a stake or would like to include. Understanding the distinctions among groups of actors and stakeholders helps in addressing conflicts in the context of forest resources.

Three conflict theories have been described as essential in natural resource conflicts. According to Yasmi and Schanz (2007) the scarcity theory, usually labelled as a neo-Malthusian approach, sees conflicts as being inevitable due to the increased scarcity of natural resources; resulting either from increasing demand, decreasing supply or 'structural scarcity' caused by uneven distribution of resources - and emerging violent conflicts as a main threat for mankind (Kaplan, 1994; Homer-Dixon, 1994 & 1999). A contrasting view emanates from political ecology where the belief is that conflicts are largely determined by a set of broader processes of change within a specific historical context and embedded in the interplay of social, ecological and political processes (Peluso & Watts, 2001; Turner, 2004). An arena of contested entitlements therefore exists which comprise the right to own resources, the right to use resources, and the rights to intervene in resource situations (Dietz, 1996; Neumann, 1998). A third theory, related to political ecology, is the 'environmental framing model', which views conflict as perception driven (Lewicki *et. al.*, 2003, Adams *et. al.*, 2003). According to Gray (2003: 11), framing is the process of constructing and representing our interpretations of the world around us. Adams *et. al* (2003: 1915) argue that differences in knowledge, understanding, preconceptions and priorities among stakeholders provide a deeper meaning of why conflicts arise, but that they are often overlooked in conventional policy dialogue. A deeper understanding of these diverse frames creates opportunities for reaching consensus and/or compromise to facilitate conflict management.



A different perspective is taken by Buckles and Rusnak (1999) who relate conflict causes to four characteristics inherent in natural resources:

1. The interconnectedness of the space in which natural resources occur, because of which actions by one individual or group may generate effects for others, sometimes way beyond the actual site in which resources are used;
2. The shared social space in which natural resources are embedded, with complex and unequal relations among a wide range of actors and stakeholders with diverging interests in the same resource;
3. Their increasing scarcity due to factors identified by Homer-Dixon (1999), as cited above;
4. Their symbolic value related to a way of life, ethnic identity, gender or age roles.

Many of these characteristics are related to interdependency and interrelationships between resource systems, which often result in conflicts. Other authors also view institutional failures, lapses in policy and legislation, and governance failures as causes of conflicts. Tyler (1999: 263) asserts that the level of attention paid in policy to conflict management has been relatively low, and that this has had a ripple effect on 'long-term sustainability and short-term economic feasibility'. He explains several ways in which public policy may become a cause of natural resource conflicts, including (i) uncoordinated planning and investment in protected areas and other natural resource sectors, (ii) inadequate information and consultation on natural resource policies, (iii) government-supported migration and displacement, (iv) discriminatory or unclear tenure policies, (v) a piecemeal approach to tenure, decentralization and natural resource management reforms, (vi) vague policy directions, and (vii) poor recognition of legitimacy of multiple stakeholders. Furthermore, conflicts over natural resources arise because of the failure of mandated organizations to govern effectively (McKean & Ostrom, 1995). The problem in conventional hierarchical governance is the state's over-emphasis on law enforcement and control, while overlooking the interactive component of the natural resource system and its inherent conflicts (Jentoft, 2007). How stakeholders frame their perceptions of resource use problems and solutions may also generate policy conflicts because of differences in knowledge and understanding between policymakers and

stakeholders (Adams *et. al.*, 2003). According to these authors, a failure to recognize such cognitive dimensions of conflicts results in shallow policy measures which fail to address the deeper underlying differences among the resource users (Ibid.: 1916).

## **2.7 Natural resource conflicts: dimensions**

Many authors have examined natural resource conflicts in terms of analytical dimensions. For example, Anderson *et. al.*, (1996) distinguish between actors (e.g. stakeholders, government structures and private entities), resources (e.g. land, forest, ownership, access) and stakes (e.g. economic, political, socio-cultural). This categorization enables conflicts to be analyzed either through an actor-oriented approach, a resource-oriented approach, a stake-oriented approach or a combination of the three (Ibid.). Similarly, Engel and Korf (2005) propose unravelling natural resource conflicts by looking at three interrelated elements, namely people, process and problem. Key factors to be considered as far as people are concerned are their feelings, emotions and perceptions of the problems and how they relate to each other and the natural resources over which conflicts occur (Ibid.: 20). According to Engel and Korf (2005: 20), processes are ‘the way decisions are made, and how people feel about it’. They argue that it is important to consider these processes as feelings of resentment and as being treated unfairly or powerlessness as a frequent cause of conflict. Problems are the concrete issues around which conflicts evolve. They may include diverging values, interests, needs or shares in resource access or benefits. Adams *et. al.* (2003) also argue that attention should be paid to the cognitive dimension of conflicts (i.e. knowledge and understanding) between and among stakeholders as an essential element in defining the root causes of the conflicts.

Conflict analysis or what other scholars term ‘conflict assessment’ is an initial stage of conflict resolution in which parties seek to gain a deeper understanding of the dynamics in their relationship. It could also be defined as the systematic study of the profile, causes, actors and dynamics of conflicts (Mason & Rychard, 2005). Skutsch (1996) perceives conflict analysis as an analytical framework which views conflicts on a case-by case basis. As an analytical approach which uses a number of different tools, conflict analysis is considered to be useful to the disputants, convener and assessor by (i) offering a reflective tool which clarifies their own interests, positions and issues with regard to the conflict, as

well as revealing those of other stakeholders, (ii) building a shared body of information and knowledge, and (iii) reframing relationships and building trust and issue-based coalitions and providing insights into the type of intervention likely to succeed (Skutsch 1996, Shemueli, 2003). There are several tools which can be used to conduct conflict analysis. These include strategic conflict assessment (SCA) (Oshita, 2003), the conflict assessment framework (USAID 2004), and the conflict wheel (Mason & Rychard, 2005). These tools facilitate a multi-dimensional understanding of the causes and dynamics of conflicts, as well as the capacities for conflict management in Ghana's high forest zone. They consider various conflict dimensions, including all groups involved in the conflict situation, the issues at hand, the context in which the conflict is embedded, the causes and the options for conflict management.

## **2.8 Conflict management paradigms and implications in natural resource conflicts**

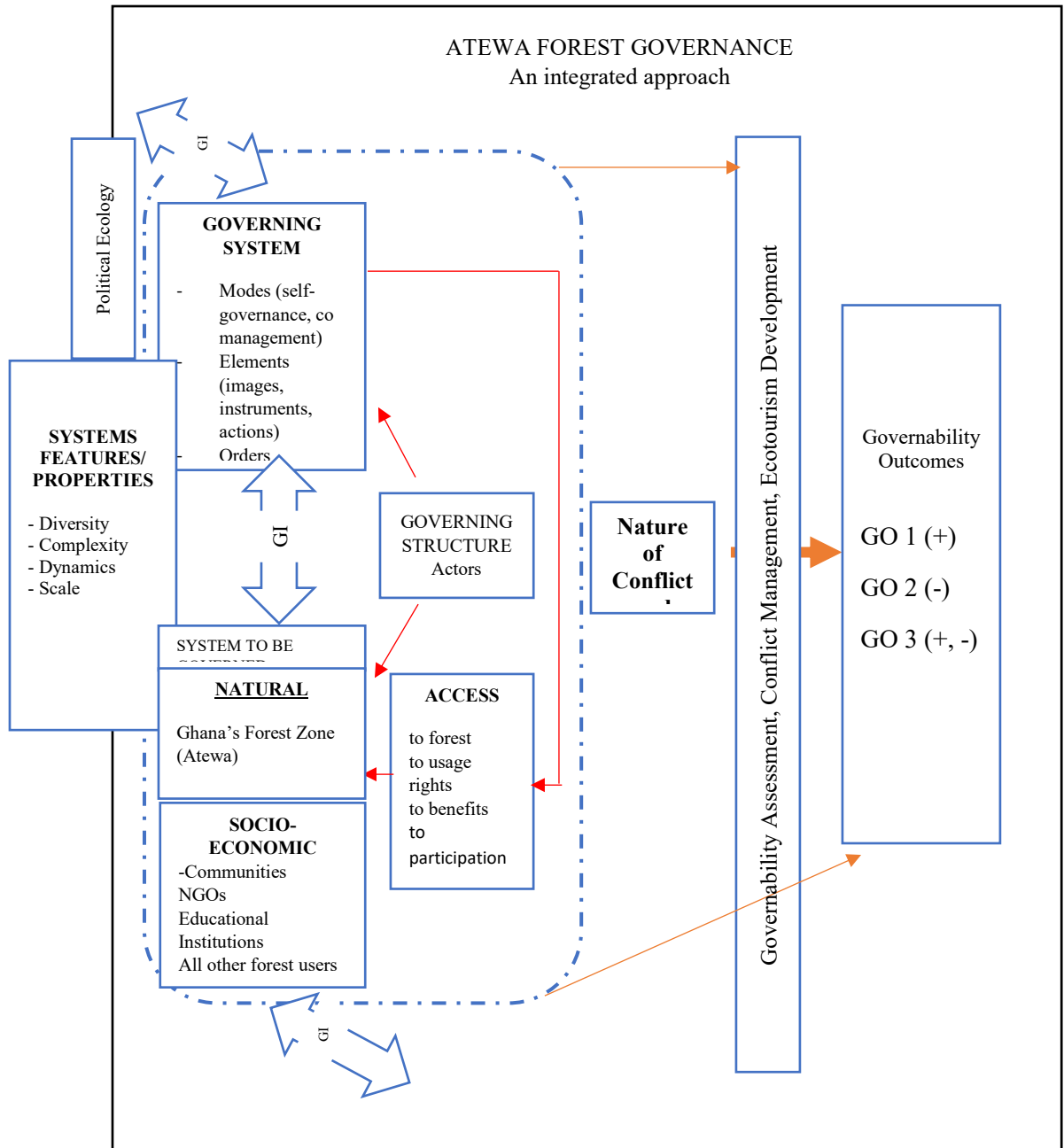
There are various conflict management approaches that emanate from social sciences and natural resource management disciplines. These approaches not only differ according to their underlying objectives and assumptions (Yasmi & Schanz, 2007: 35) but also with respect to their coping strategies. Ways to resolve or minimize conflicts have been identified by scholars using different conflict management terminologies. These include conflict resolution (Coser, 1967, Zartman, 1991, Mayer, 2000), alternative dispute resolution (ADR) (FAO, 2000), conflict management (Fisher & Ury, 1981, Susskind *et al.*, 2000, Marfo, 2006), conflict capability (Glasl, 1999, Zapf & Gross, 2001), alternative conflict resolution (ACR) (Ury *et al.*, 1988, Hoffmann & Wagner, 1993), integrated conflict management system (ICMS) (SPIDR, 2001) and reframing (Spangler, 2003, Lewicki *et al.*, 2003). These terminologies are sometimes used interchangeably. Conflict management approaches and coping strategies employed in natural resource management can be classified in three categories, i.e. avoidance, consensual approaches (negotiation, facilitation, moderation, consultation, conciliation and mediation) and nonconsensual approaches (arbitration, adjudication and coercion) (Glasl, 1999, Moore, 2003, Engel & Korf, 2005, Wehrmann, 2008).

The underlying assumption of conflict management is that it is possible to promote a win-win solution, whereas strategies like avoidance, adjudication and violence in most

cases lead to win-lose outcomes. These are often not considered desirable for conflict management (Wall & Callister, 1995, Engel & Korf, 2005). From a conceptual perspective, conflict management is a systematic process geared towards finding mutually satisfying outcomes for two or more conflicted parties. It is therefore defined in this thesis as a ‘generic’ term that refers to all interventions in a conflict with the aim being to prevent and solve problems, transform relations, and change structures (adapted from Glasl, 1999). The kind of conflict outcome relates to the academic debate about whether natural resource conflicts should be considered as being destructive and damaging to the people and the resource base or whether they should be a factor of positive social change. Adams *et. al* (2003) believe conflicts result in socio-political, economic and infrastructure stability. Scholars from the ‘positive school’ believe that constructive or positive conflicts have the potential to facilitate learning and bring about positive social change and policy reform if they are properly handled. Conflicts over natural resources have the potential to contribute to equality and equity in resource distribution (Castro & Nielsen, 2001, Hirschman 1994, Peets & Watt, 1996). There is a third category of scholars who perceive conflict to have both negative and positive impacts. According to Deutsch and Coleman (2000) and Krisberg (1998) conflict is neither good nor bad. Rather it is the way in which they are handled which determines its constructiveness or destructiveness. Yasmi (2007: 2) endorses this statement by asserting that ‘the biggest challenge is how constructive aspects of conflict are fostered and destructive ones are prevented or limited’.

Despite all the strategies and desire for win-win outcomes and positive social change, conflicts over forest resources are still widespread. There is therefore a need to search for alternative intervention strategies that fit rapidly into the changing governance processes. In exploring such an alternative strategy, this corresponds with Zartman’s (1997) notion that conflict management cannot be separated from governance, and that the right mechanisms should be put in place to deal with conflicts among groups before they escalate and block the governing process. However, in contrast to Zartman, who perceives the government as being the lead broker in terms of conflict management in the governance process, this thesis adopts the notion of ‘interactive governance theory’ developed by Kooiman *et. al* (2005) as a starting point to assess its potential for facilitating collaboration, especially around forest and tree resources management.

*Forest conflicts and conflict management strategies from an interactive governance perspective*



**Figure 2.3:** Conceptual framework to understand forest and tree resource conflicts and conflict management strategies from an interactive governance perspective

Keys: GI = Governance interactions; GO 1 (+) = Governability Outcome 1 where the system is governable; GO 2 (-) = Governability Outcome 2 where the system is not governable and GO 3 (+ -) = where the system is governable but with limitations.

To achieve governability outcomes that are conducive for forest governance, an integrated approach to governance is needed. This approach considers conflict management as an integral part of forest governance. Once the governance interactions among actors and stakeholders are strengthened, outcomes are expected to be positive. Figure 2.3 elaborates the integrated nature of the approaches to effective forest governance.

## **2.9 Factors that influence the success of forest governance**

Community forest management (CFM) also known as community forest governance has been recognized over the past two decades as a potential strategy for achieving forest sustainability (Little 1996; Klooster & Masera 2000). This strategy focuses on improving the livelihood and welfare of forest communities and conserving natural forest systems through local participation and cooperation (Bhattarai 1985). Local community groups negotiate, define, and guarantee among themselves an equitable sharing of the management functions, entitlements, and responsibilities for a given set of natural resources (Borrini-Feyerabend et al. 2000). Both formal and informal rules ensure user rights and benefits and prevent outsiders and/or noncontributing members from benefiting from the group's management activities. CFM allows a community's problems, needs, and solutions to be addressed while incorporating scientific and technical knowledge and skills. Individuals thus share the uses, benefits, and responsibilities of their common resource. Well-specified institutional systems in an empowered community would provide precise information necessary for management decision making and would minimize transaction costs, which allow a community forest to be managed similarly to private property regarding ownership and responsibility.

Community forestry and forest governance have shown promise to reduce rural poverty, improve reforestation and potentially offset carbon emissions but many projects have failed, either partly or completely. To understand why forest governance succeeds or fails, Baynes *et. al*, (2015) examined in detail the literature related to community forestry from three countries, Mexico, Nepal and the Philippines. They drew on experiences in other countries in Asia, Latin America and Africa. Pagdee, Kim and Daugherty (2006) explained that because of the complicated nature of CFM and the broad definition of success, to test the independent variables that lead to success would require impossibly

large and costly samples. Even if researchers were able to collect such large samples, they would likely face complex problems in analyzing the data and stating their results (Agrawal 2001).

### **2.10 Definition of Forest Governance Success**

Forest governance success has been defined as multidimensional. A single indication, such as improvement of forest covers, increase in plantation zones, equity of benefit sharing, or reduction of community poverty, may highlight the success of a certain aspect, but each indication alone cannot determine the sustainability and success of the CFM project (Pagdee, Kim & Daugherty, 2006). For example, although forest conditions (e.g., density, crown cover, and species diversity) may have improved, fulfillment of local needs may not have improved significantly due to restrictive rules and regulations established to help improve forest conditions. Theoretically speaking, the definition of CFM's success should integrate outcomes of ecological sustainability, social equity, and economic efficiency in which objectives for long-term use of the resources are well defined so that expectations of users and the society at large remain consistent (Hanna & Munasinghe, 1995a; 1995b; Agrawal, 2001). Unfortunately, a line indicating a proportionate combination between the three aspects where success emerges is not easy to draw. In fact, such a line may not exist at all because almost all of the causal elements are subject to change. This complicates the study design and analysis because although researchers are examining factors that influence the success of CFM, the degree of success itself is still inconclusive (Pagdee, Kim & Daugherty, 2006).

Various factors important to the success of CFM have been identified, ranging from internal attributes of the community, such as community size (Wade, 1988), socioeconomic heterogeneity (Baland & Platteau, 1996), institutional setting, and property rights structure (Hanna & Munasinghe, 1995a; 1995b; Baland & Platteau, 1999; Ostrom, 1999; Pye Smith et al. 1994), to external influences such as national forestry policy (Wade 1988; Ostrom 1999) and market and technology pressures (Wade, 1988). The arrangement of these factors creates a certain relationship between the users and the resources. Success is possible when this relationship provides benefits to the community, guarantees their rights, and facilitates responses to changing conditions.

## **2.11 Key Factors for Success**

Pagdee, Kim and Daugherty (2006) argue that success or failure of CFM is likely case specific, depending on the ecological, social, and economic context of the local community, which helps ensure the protection of community rights and benefits and improves a community's ability to respond to changes. However, certain general structures and principles are required for the robust self-governance that enables CFM to continue to conduct successful community activities. They discussed three factors as necessary for the success of CFM. These include well-defined property rights, effective institutional arrangements, and community interests and incentives. Per their discussion, these all had a significant association with success of community forest governance.

These three factors describe a human - ecosystem relationship and a set of rules and underlying human organizational skills that coordinate human behavior in its interaction with forest resources (Pagdee, Kim & Daugherty, 2006). This coordination influences management considerations and practices, and whether they are likely sustainable. When forest community members rely on forest resources and consider forest sustainability, they are likely to develop or cooperate with effective institutions that facilitate well-designed property rights and rules and are likely to enforce those rules and regulations for the overall community (ibid). In any community, self-organization is likely to be successful when these three factors are integrated in a way that ensures equitable distribution of the benefits gained. The results of Pagdee, Kim & Daugherty (2006) also indicate that decentralization has an association with success, as it is significantly related to some of the important characteristics of well-defined property rights regimes.

From the analysis of Pagdee, Kim and Daugherty (2006), it was clear that other factors identified as important to the success of CFM, such as financial and human resource support, physical features, community features, level of participation, and technology and market influence, were discussed less frequently in the selected case studies, perhaps because they are more case specific. Due to the various socioeconomic and ecological contexts of local communities, CFM cannot be expected to turn out the same in all cases, even when it takes place under similar conditions. A comparative study that attempts to



identify the patterns of factors that facilitate CFM success would require a much larger number of case studies than available in most studies.

Additionally, the low frequency of some factors in most studies may be due to varying author perceptions when defining factors that initiate self-organization versus factors that make self-organization or CFM successful. Ostrom (1990; 1999), for example, differentiated between variables that enhance self-organization and design principles of robust self-organization. She identified eight design principles necessary to the success of CFM, while disregarding the physical features of the forest, community features, financial and human resource support, level of participation, and technology and market influence, which she considered to be factors that initiate self-organization.

Community size and heterogeneity are among the independent variables studied most frequently by researchers. Unfortunately, researchers are still unable to specify the community size and level of heterogeneity that most increase the likelihood of CFM's success (Pagdee, Kim & Daugherty, 2006). Theoretically, with other independent variables being controlled (e.g., forest areas, availability of information, budget, human resources, and institutions), CFM practiced in a small-size community with high homogeneity is more likely to be successful, as compared to CFM practiced in a large-size community with low homogeneity. Due to various community backgrounds, which can occur even within the same geographical location, finding sufficient case studies that share common attributes and fit within study design parameters is difficult. As a result, even though researchers may be able to observe a relationship of success with community size and heterogeneity within a single case study, they cannot generalize the influence of these two factors on success when applied to a large population of CFM case studies.

## **2.12 Property rights, Institutions, and Decentralization**

Management practices established as a result of well-defined property rights and institutions are able to effectively address the problems of natural resource access and use (Pagdee, Kim & Daugherty, 2006). Clearly specified property rights alone may not be sufficient to ensure the success of CFM if management programs establish property rights that are unenforced, inconsistent, and incongruent with community ecological, social, and economic contexts (ibid). The term “well-defined property rights regimes” theoretically

indicates several variables (e.g., tenure security, clear ownership, enforcement of rules, regulations, and sanctions, clearly defined boundaries, and a congruency of that regime with its ecological and social context) that have a significant relationship with success. Pagdee, Kim and Daugherty (2006) again mentioned that these variables, however do not all appear to have the same strength of association with success.

According to contingency coefficients, congruence between the biophysical and socioeconomic boundaries of the resources has the strongest association with the success of CFM, whereas clearly defined boundaries show the weakest association (Pagdee, Kim & Daugherty, 2006). Researchers have generally considered clearly defined boundaries to be a key requirement of success; researchers may assume that when the resource boundaries are clearly defined, it is easier to ensure the presence of clear ownership, tenure security, and enforcement of rules and regulations. Actually, the test of independence does not indicate a significant association between clearly defined boundaries and these factors. Although clearly defined boundaries may have an association with clear ownership, the association is fairly weak (Pagdee, Kim & Daugherty, 2006). Also, even though clearly defined boundaries may theoretically represent both biophysical and social-political aspects, in practice they often represent only physical landscapes and areas of the resources (ibid). Without tenure security, clear ownership rights, and rules and regulations, users can easily perform socially unacceptable activities that will lead to overexploitation of the resources and community conflict. Pagdee, Kim and Daugherty (2006) explained that in contrast, the congruence between biophysical and socioeconomic boundaries, which has the strongest association with success, was discussed less frequently by researchers in man studies, perhaps because it is difficult to observe the presence of congruency due to the complicated nature of ecosystems and socioeconomic settings.

Ensuring tenure security, clear ownership, and rules and regulations remains a difficult task, although certain institutional arrangements can help. Tenure security in which users are assured of their rights and benefits over a long period of time can be improved by effective enforcement of rules, regulations, and sanctions, although this association is weak (Pagdee, Kim & Daugherty, 2006). The presence of rules and regulations alone may not be enough to assure the security of tenure as long as rule breakers

do not acknowledge the fines and penalties that accrue when violating community rules and regulations.

Finally, Pagdee, Kim & Daugherty (2006) explain that decentralization, in which local communities are given management responsibility, authority, and recognition, can also facilitate development of clear ownership and tenure security. With decentralized power and community participation in decision-making processes, the community can identify members who have access and rights to use the resources and who are expected to contribute effort, time, and labor to the community activities (ibid). Clear ownership is positively associated with both local responsibility and authority. However, tenure security shows an association only with local authority. If decentralization involves only local responsibility, user tenure can remain insecure. Tenure security, as discussed earlier, requires considerations regarding well-defined property rights and effective institutions to guarantee users' long-term rights and benefits.

To further understand why forest governance succeeds or fails, Baynes *et. al*, (2015) also examined in detail the literature related to community forestry from three countries, Mexico, Nepal and the Philippines. They drew on experiences in other countries in Asia, Latin America and Africa. They identified five main interconnected factors which the literature suggests are often critical to the success of community forest governance. To integrate the many ways in which community forestry projects can improve the state of these factors, they used the concept of 'bonding social capital', i.e. communities' ability to work together towards a common aim and 'bridging social capital', i.e. their ability to liaise with the outside world. To understand the interaction of the five success factors and the way in which improvements to bonding or bridging social capital may affect them, they developed a causal diagram which depicts the interrelationships between the success factors and the key points at which project inputs may be best applied. From their analysis, failing to appreciate both the complexity and interaction of the various influences may lead to failure in forest governance.

In both the general literature and the empirical case studies, Baynes *et. al*, (2015) uncovered great evidence of some factors which affect the success of community forest governance, either directly or indirectly through their effect on subsidiary factors which

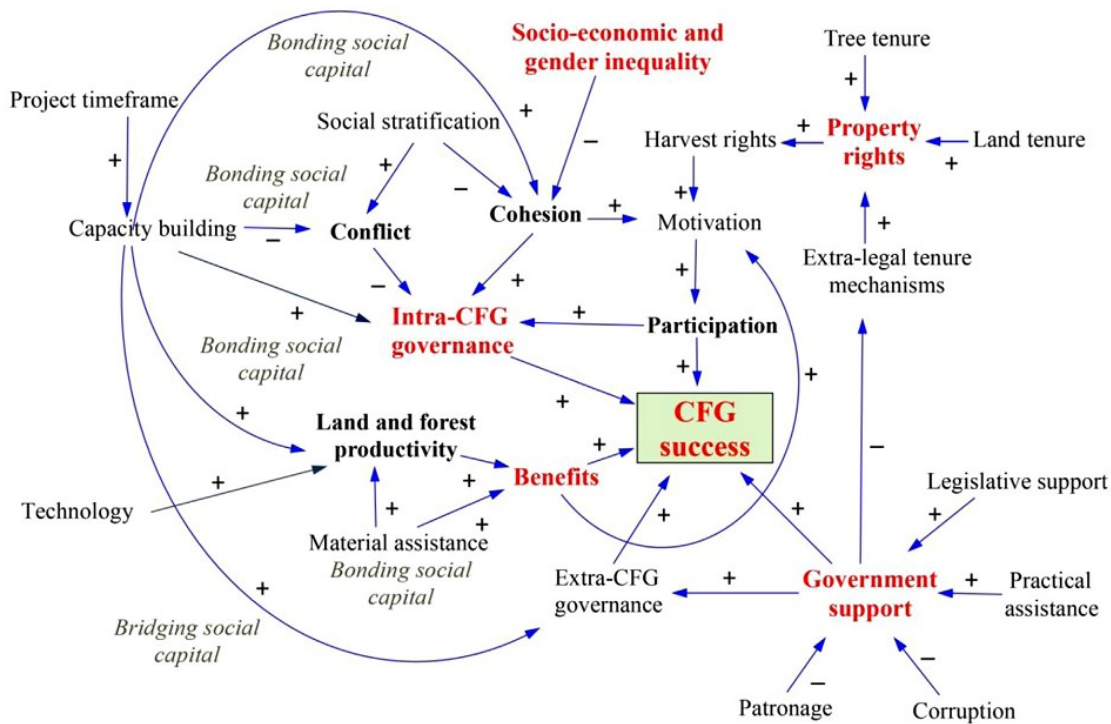
also affect the success of community forestry. The congruency of this evidence with the main or subsidiary factors is confirmed in extracts from each paper or case study they analyzed. Although individual studies addressed specific topics, a shared theme was the socio-economic or cultural conditions in which community forest governance may thrive. These factors are:

- Government support to communities in forest regions either as positive support (e.g. supportive legislation or capacity building) which increases bonding or bridging social capital. Alternatively, government interference, patronage or corruption reduces people's willingness to engage in community forestry. Successful and sustainable forest management requires a flow of external financial and institutional assistance to buffer forest communities against powerful and sometimes corrupt external agencies (Hayes & Persha, 2010). Hence, government support may build communities' bridging capital by improving their external governance, e.g. their ability to navigate complex administrative procedures and planning requirements (Pulhin et al., 2010). Government support may take the form of legislation which establishes the legal basis of community forestry and consequent de jure legitimacy of land occupied for that purpose. Support may also increase communities' bonding social capital through technical advice and assistance, training for record keeping, infrastructure and funding (e.g. see Johnson, 1999; Harrison et al., 2004; Mangabat et al., 2009; Hodgdon, 2010; RuizMallén et al., 2014).
- Material benefits to community members, e.g. timber or nontimber forest products, employment or payment for timber rights. There is widespread agreement that for forest governance projects to succeed, they must make provisions for the supply of early and regular material benefits to forest community members (Calderon & Nawir, 2006 in the Philippines; Tenenbaum, 1996 in Mexico; Pokharel, 2011 in Nepal). Benefits may include cash, products, investment in community public goods and even guaranteed access to resources which were previously illegal. In the Philippines, finance rather than ecology is a key driver of community forests (Estoria et al., 2004; Pulhin et al., 2007). Unfortunately, in most developing countries, community members do not in most cases, benefit from forest resources.

In succeeding years, without income generating activities, community forestry governance projects are likely to stagnate (Calderon and Nawir, 2006; Pandit et al., 2009) or local participation may become passive rather than active (Méndez-López et al., 2014).

- Secure property (tree and land) rights in terms of Schlager and Ostrom's (1992) schema of a 'bundle of rights' in which security increases with the duration of tenure in which occupants may (1) access land and withdraw resources from it, (2) manage and improve the land, (3) exclude others from it and (4) sell or lease it. As these rights are lost, security of tenure decreases and peoples' motivation for community forestry is subsequently reduced.
- Intra-community governance which, when democratic and/or equitable in terms of leadership, voting and benefit sharing, motivates people to engage in community forest activities. According to Van Laerhoven (2010) governance consists of rules which regulate resource extraction, monitoring of resource levels and land and tree maintenance. Ojha et al. (2009) noted that governance occurs in both an intra-community and an inter-community context. At both these levels, governance is also more about the power to make, implement and enforce decisions, rather than just the formal arrangements about how decisions are supposed to be made (Fisher, 2003). Once community members feel empowered, they are more likely to participate in governance projects.
- Socio-economic status and gender, i.e. inequalities based on socio-economic status, caste or gender which if improved, would reduce CFG conflict and increase CFG cohesion, consequently improving the likelihood of CFG success (Baynes et. al, 2015). They argued that from a project planning perspective, human history suggests that power is rarely voluntarily shared. Gender inequality, and corruption are often ingrained factors which are resistant to change. Hence, in situations where resource rights are not shared equitably, and forest community members have a sense of injustice, increasing bonding social capital through careful planning and implementation will be required to mitigate some of the conflict which is so widely acknowledged in the literature as being corrosive of forest community cohesion.

Even though gender as a factor could be heavily debated, its role in the success of forest governance, especially in developing countries cannot be overemphasized.



**Figure 2.4 Causal diagram of the relationship between the factors influencing the success or failure of community forestry group success**

Source: Baynes, J., Herbohn, J., Smith, C., Fisher, R., & Bray, D. (2015).

*In the model, arrows labelled with a '+' symbol, move up and down in the same direction, e.g. if CFG cohesion increases then intra-CFG governance improves. If CFG cohesion decreases, then the motivation of CFG members to participate also decreases. Arrows labelled with a '-' symbol, move up and down in opposite directions, e.g. if social stratification increases then cohesion decreases. The effect of increasing CFG bonding or bridging social capital is depicted as an ameliorating influence. For example, increasing bridging social capital through capacity building assists extra-CFG governance, i.e. the ability of the organization to deal with external agencies.*

It is clear from the model presented in Fig. 2.4 that the success of community forest governance in general is determined by a complex range of factors. This only emphasizes

the need for designers and implementors of governance programs to consider a broad range of factors which are likely to affect success. The importance of effective governance, securing property rights and social equity as enabling conditions for successful forest governance (Van Laerhoven, 2010; Larson *et. al*, 2010; Larson & Dahal, 2012; Macqueen, 2013). The model also emphasizes the complexity and the interaction of the various factors as part of a system. Inevitably some factors which are highly relevant in one context (e.g. in one geographical area) are much less important in other contexts. However, within the many factors which influence the success of forest governance, some over-riding themes emerge. First, from a project planning perspective, human history suggests that power is rarely voluntarily shared. Gender inequality, and corruption are often ingrained factors which are resistant to change. Hence, in situations where resource rights are not shared equitably, and CFG members have a sense of injustice, increasing bonding social capital through careful planning and implementation will be required to mitigate some of the conflict which is so widely acknowledged in the literature as being corrosive of CFG cohesion. Second, the literature suggests that many governments pay lip service to community forestry but continue to reduce budgets for its implementation. Political opposition to genuine devolution of decision making to CFGs is often entrenched. Managers of assistance programs must accept that while they may operate with governments' permission, this does not imply that assistance will be forthcoming. As indicated in the model, developing CFGs' bonding social capital may require long-term capacity building. However, careful planning and monitoring may be necessary to ensure that CFGs do not become reliant on external assistance. Third, the model and the literature both emphasize the necessity for both short-term cash income and long-term material benefits if native or planted forest is to be managed sustainably. For those CFG members with limited education and commercial experience, one way of increasing their bridging social capital may be through enabling them to deal with government requirements for harvesting permits and managing commercial enterprises. Short-term capacity building (e.g. literacy, bookkeeping) may be the first step in a program of long-term assistance. Finally, the extent to which land and tree tenure is treated in the literature indicates that it is possibly the most complex factor determining the success of forest governance. Because security of tenure involves consideration of traditional and State tenure systems, the legal

separation of trees from land, the long timeframe required for trees to reach harvest age, potential competition between users of major and minor forest products and the interaction of tree crops with agriculture, tenure security is the factor which most affects CFG members' motivation. For community forestry projects, this places it at the forefront of planning considerations. While community forestry has proven to be particularly successful in some Mexican ejidos and Nepalese CFGs, it has been less successful in other situations.

### **2.13 Ecotourism: A tool for forest governance**

Ecotourism's agenda is bold (Stronza, 2008) and aims to curb some of the world's most enduring socioeconomic and environmental problems: poverty and environmental degradation (United Nations World Tourism Organization, 2013). Even though ecotourism's conservation effectiveness and bottom-line goals have been questioned, some ecotourism-based initiatives have made important contributions by conserving species, securing habitat and by supporting local livelihoods (Buckley, 2010; Child et al., 2012; Mbaiwa, Stronza, and Kreuter (2011); Pegas, Coghlan, Stronza and Rocha (2013); Sakata and Prideaux, in press). Ecotourism is seen as a niche branch of sustainable tourism. It is often considered a sustainable bottom-up approach to increasing environmental conservation, socio-cultural and economic wellbeing in local communities. In addition, it is prominently connected to scholarship in development and biodiversity conservation. Since its inception as a practice and body of scholarship in the 1980s and 1990s, it broadly seeks to provide predominantly nature-based attractions and experiences that offer educational opportunities for tourists, to conserve natural ecosystems while benefiting communities, and often to advocate for local participation in tourism development and implementation (Harris, 2009; Weaver & Lawton, 2007).

Despite its extensive global adoption (e.g. Buckley, 2003, 2009a), ecotourism remains a "highly politicized development strategy for the developing world" (Duffy, 2006, p.1). This is especially the case of ecotourism initiatives that take place in Protected Areas, including private reserves (Barany et al., 2001; Doan, 2000; Duffy, 2006). By comparison, ecotourism's ability to deliver greater sustainable returns than alternative land-use practices (Kirkby et al., 2010) highlights its potential as a conservation tool for private lands.



### **2.13.1 Defining Ecotourism**

Ecotourism scholarship has been greatly influenced by the concept (and subsequent theory) of sustainable development. This concept was popularized through the so-called Brundtland Report, which prioritizes the wellbeing of the poor and asserts that development should meet the basic needs of present and future generations (Hardy, Beaton, & Pearson, 2002; Roe, 2008; World Commission on Environment and Development [WCED], 1987). In biodiversity conservation literature, terrestrial and marine PAs and ecotourism are examples of conservation interventions. Along with community-based approaches in conservation, ecotourism presents an optimistic, powerful, and prevalent narrative that appeals to the needs of diverse stakeholders by suggesting a ‘win win’ solution for humans and nature (Campbell, Gray, & Meletis, 2008; Harris, 2009; Ross & Wall, 1999). Yet, widely accepted definitions of ecotourism have been criticized for separating humans and nature, and for promoting Western interests (Cater, 2006; Mowforth & Munt, 2009; Wall, 1997), which has prompted scholars to call for additional diverse and distant voices in ecotourism studies (Cater, 2006; Prakash, 1994; Wearing & McDonald, 2002).

Ecotourism, according to the definition by The International Ecotourism Society (2005), is “responsible travel to natural areas that conserves the environment and improves the well-being of local people.” Many of the ecotourism venues, such as national parks and protected areas, are located in remote areas with rich biological diversity and indigenous cultures (Ceballos-Lascura’ in, 1996; Hawkins & Lamoureux, 2001; Nepal, 2000). Traveling to remote destinations to experience nature and indigenous culture has become a growing phenomenon (Brandon, 1996; Eagles, 2002; Urry, 1995). The economic prospect of the interest in turning biodiversity into tourist attractions provides an opportunity to bridge the gap between natural resource conservation and community development (Lai & Nepal, 2006). Forest conservation is meaningful and long lasting, if the dependent communities see the economic benefits of conserving forests. Unfortunately, the existing “command and control” approach of forest and tourism management in Ghana, which is the top-down approach, has not been effective in ensuring sustainability of natural forests and tourism activities. For most forest conservation and ecotourism success stories, communities and institutions have played integral roles in supporting sustainable forests

and management initiatives. Catley (1999) in Huibin and Marzuki, (2012) describes community participation as involving local people in decision-making, programme implementation, sharing the benefits of development and evaluating programmes. For ecotourism development, tourism is viewed from two related perspectives: participation in decision-making, and participation in the benefits from tourism. Decentralization and participation grant local communities and institutions power, property rights, and authority to share benefit and control of managing and conserving tourism resources (Spathelf, 2010). Although decentralization promotes equity, efficiency in management of biodiversity and forest resources, many scholars hold the view that it is not a single continuum model as it encompasses varied decision-making modalities. Nonetheless, it is a key component for not only enhancing efficiency in forest and biodiversity conservation and management but also an indispensable construct in promoting rapid, equitable and sustainable economic development in rural communities.

Many authors have trumpeted the benefits of community participation in forest conservation for tourism. Brechin *et al.* (1991) argued that a “bottom-up” strategy offers the greatest potential for integrating conservation and development while ensuring cultural preservation. It therefore maximizes the benefits from tourism for a community since it gives them the responsibility to manage and to economically benefit from wildlife resources in their own communities. Also, community participation helps to reduce conflicts and misunderstandings among host communities, park authorities and tourists (Hardy *et. al.*, 2002).

Again, studies have provided some evidence to support the community participation conservation hypothesis. Norris (1992) observed that ecotourism in Rwanda’s Parc des Volcans has helped to protect the country’s endangered mountain gorillas and local watersheds. Also, Waithaka *et. al.* (2002) in an assessment of the Il Ngwesi Ecotourism Project in Kenya, based on vegetation sampling and animal sightings along transects found higher numbers and densities of tree and herbaceous species, and 93% more sightings of wildlife, inside the sanctuary than on similar ranch land outside the project area.

Lastly, Taylor (2009) points to the Communal Areas Programme for Indigenous Resources (CAMPFIRE) project in Zimbabwe where the assignment of *de facto* rights to

occupiers of titled land as custodians of wildlife, fish, and plants by the legally mandated authority responsible for wildlife management in the country led to a reduction in resource degradation. These and several other benefits of community participation in forest and tourism management will help deal with Ghana's problem of forest degradation which has been increasing the less desirability of tourism.

Ecotourism integrates natural resource conservation and sustainable management with economic and socio-cultural benefits to host communities (Ross & Wall, 1999). It is also an approach which emphasizes the participation of the local community in development and implementation to foster the three pillars of sustainability – economic development, socio-cultural enhancement and environmental sustainability. Ecotourism is most commonly established in developing countries and the success of ecotourism projects heavily depends on the quality of the natural environment and the relationship between the local population and the featured environmental activities for tourists (Boyd & Butler, 1996). If an ecotourism project is well-developed, it provides many rewarding functions and benefits for the physical and human environments. Potential results of ecotourism include increased contribution to environmental protection and dynamic resource conservation; creation of sustainable economic and socio-cultural practices that contribute to the wellbeing of locals; and enhancement of understanding, coexistence, and respect between tourists and hosts (Sirakaya et. al., 1999). With a variety of stakeholders, participants, and investment groups, ecotourism creates a holistic approach to tourism and conservation of natural resources. The active involvement and participation of all stakeholders is essential for the success of any ecotourism effort (Ross & Wall, 1999).

Boyd and Butler (1996) explain that for ecotourism to thrive as a strategy for forest governance, the planning and continued management ecotourism should take into account the following factors: defining carrying capacity and managing visitor impacts in a sustainable way; choosing a defined management regime, development of infrastructure and access to specific ecotourism sites, creation of activities and attractions to be offered; developing skill and knowledge for services provided and social interaction between participants. They stress that for the management regime for instance, it should include factors such as roles and responsibilities of all key stakeholders - governing group(s), community members, NGOs, religious/traditional units, etc.; activity development and

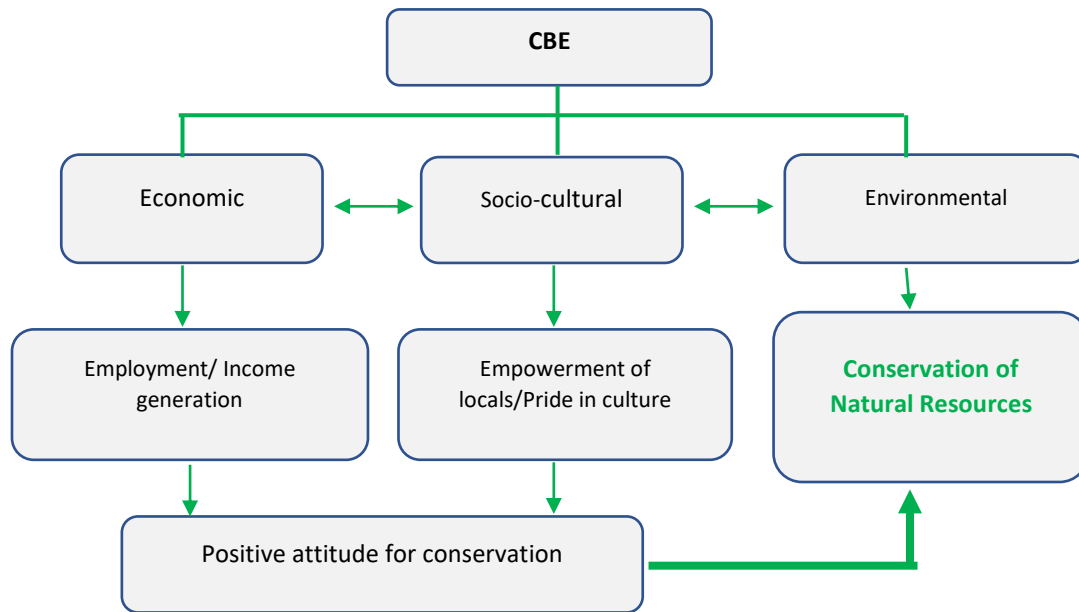
decision-making process, conflict resolution steps, and facilitation of projects. It is clear from the ecotourism literature that key factors to the success of ecotourism projects is the monitoring and evaluation of progress, and the ability to implement modifications to the project based upon the results of monitoring and evaluation efforts. Like many other features of ecotourism, there is no commonly used framework for the assessment of projects. However, some important characteristics could include clearly defined goals and objectives to be met (e.g., a reduction in illegal timber harvesting by a designated percentage), on-site study, input from stakeholders and tourists (e.g., yearly evaluation meetings and tourist feedback surveys), and high quality data (Boyd & Butler, 1996). Despite the contributions of ecotourism to the governance and sustainability of forest resources in most developing communities, some drawbacks have been reported. As a matter of fact, some scholars have explained the uncertainty of tourism development to eliminate alternative land use practices, forest conflicts and enhance the wellbeing of communities. For instance, Nepal and Saarinen (2016) explained that tourism is often used as an excuse to prevent environmental degradation. In fact, the development of tourism in national parks is an excellent example of this. One of the rationales for designating new protected areas is their future potential to deliver on the tourism promise. They documented that historically, such developments have alienated local communities, dispossessed and displaced indigenous people, restricted access and control to ancestral lands, accelerated environmental and cultural erosion, and violated nature and human rights. The potential of ecotourism reducing the problem of forest degradation is great but as to whether other aspects of sustainability are guaranteed, there is uncertainty. The poverty-environmental degradation nexus is well exploited by this narrative, which believes that tourism provides a win-win opportunity for addressing poverty and unsustainable local resource consumption patterns. Brandon and Margoluis (1996) argued that there is a misconception on the expectations from ecotourism. They argued that while ecotourism seems to be the panacea for conservation and poverty alleviation, conservation and economic development are not always compatible. Barbosa-Polanco et al. (2010) discussed the inability of ecotourism to keep a steady cash flow over the long run, thus failure to obtain economic incentives would encourage rural poor to revert to destructive practices that depend on forest use. A key argument in tourism research, from a political ecology perspective, is that

local tourism stakeholders are often marginalized, and that conditions for tourism development further escalate existing conflicts between proponents of tourism development and those negatively impacted by the development (Nepal & Saarinen, 2016). Such conflicts are largely based on different understandings and interpretations about nature of “development”, historical patterns of tourism resource use, differential access to power and control structures, and emergence of local resistance supported by strong social identities and movements. Examples from tourism development in national parks and protected areas around the world attest to these observations (Nepal & Saarinen, 2016).

These arguments seem plausible if ecotourism projects are conceived only from the economic-oriented point of view. Conversely, it has also been reported that poverty is not always the major cause of environmental degradation, and that by keeping this reference may lead to negative environmental impacts (Swinton & Quiroz, 2003). The association of forest health with community pride, personal health, and social cohesion has been reported as motivators for resources conservation, shifting economic benefits to a lesser level of importance (Stem et al. 2003; Rodriguez-Piñeros and Lewis, 2013). Thus, perceiving ecotourism as a neoliberal strategy and blaming the poor for forest degradation, is perhaps an incomplete part of the argument (Ravnborg 2003; Münster and Münster, 2012).

Conceptualizing ecotourism as a holistic activity that complements other economic activities and supports social cooperation, cultural pride, women participation, conservation, and tourist’s education seems to be a more realistic opportunity to attain sustainability. Among the several characteristics needed to keep a private forest attractive for tourists, Font and Tribe (2000) also mentioned infrastructure and its maintenance, amenities and services, and access to religious or cultural sites. The extent to which these facilities are required can vary from forest to forest (Lee et al., 2010).

**Framework for understanding how community-based ecotourism (CBE) helps in natural resources conservation**



**Fig. 2.5: Framework for understanding how community-based ecotourism (CBE) helps in natural resources conservation**

Source: Das & Chatterjee (2015)

The framework shown in Fig. 2.5 provides the basis for understanding and identifying management priorities, community’s strengths and what activities are feasible for them, and what will generate the best cost-benefit scenario for all stakeholders. Stakeholder participation and involvement, coupled with many other factors make it possible for the most immediate needs of the local community to be addressed and supported, and the government will be able to focus their limited resources to work together with the communities toward effective governance of the forest resources.

**2.14 Conceptual framework: Achieving effective forest governance through conflicts resolution, interactive governance and community-based ecotourism development**

The literature discussed above has demonstrated that, forest and tree resources play an essential role in people’s livelihoods, particularly the people of Ghana. However, forest resources are subject to excessive exploitation, resulting from a combination of increasing population pressure and competing claims from stakeholders with different interests,

needs, goals and power. These competing and conflicting interactions often result in conflicts. Conflicts have been shown to have two sides. On one hand they can be destructive and have disrupting effects on people's livelihoods and the resource base. On the other hand, they can be constructive, in which case a conflict brings a solution to injustices or inequities in the distribution of resource access and benefits. The challenge to resource users is how to balance these two facets. Understanding how the many forest conflicts that have existed in the Atewa Region is crucial to dealing with them to generate positive results for effective forest governance. The literature has also explained that as conflicts are inherent in interactions related to natural resources, and hence natural resource governance, different conflict analysis tools have been designed to help minimize these conflicts. Several conflict analysis tools have been developed to analyze conflict as a first step towards their solution. However, considering the numerous driving factors underlying natural resource conflicts, conflict tools alone will not be effective when it comes to managing natural resources conflicts, particularly forest resources conflicts. It is for this reason that a conceptual scheme is presented (Figure 2.1) which combines interactive governance theory and conflict analysis as a basis for understanding forest conflicts and conflict management strategies, for assessing the governability of these systems, and for formulating possible interventions which have the potential of eliminating conflicts and generating win-win outcomes for all stakeholders. In addition, the community-based ecotourism approach, can complement the governance theory and the conflict analysis theory in achieving forest governance objectives. The ecotourism approach is a bottom-up strategy which incorporates the three pillars of sustainability – social, economic and environmental.

Figure 2.1 shows the interactive governance framework and its three components (the system-to-be-governed, the governing system and the governance interactions) and their inherent system features. Relating this study to the figure, the system-to-be-governed is Atewa forest zone, encompassing the natural sub-system and the socio-economic sub-system. The socio-economic sub-system represents local communities and their livelihood activities such as timber operations, mining, farming, hunting, etc. The other actors are analyzed as part of the governing system and are those who have policy, management and

law enforcement roles. The governing system in the conceptual scheme is characterized by system properties (diversity, complexity, dynamics, scale), elements, orders and modes of governance; that influence actor's access (formal and informal) to forest resources, land, benefits and use and entry rights. The outcomes of interactions between the system-to-be-governed and the governing system, as well as among resource users, can result in cooperation/collaboration, conflict/competition or a mixture of these depending on the prevailing governing system, the state of the natural system and the interactions within the socioeconomic subsystem. For a deep understanding of the various governance arrangements in the Atewa Forest, the interactive governance framework, elements of conflict management theories and the community-based ecotourism strategies are employed to explore the challenges of forest governance in the area and how cooperation has implications for the governance system to generate win-win outcomes for all stakeholders.

## **2.15 Conclusion**

This chapter presented the theoretical and conceptual framework that guides the analysis in this study. From an overall political ecology, an integration of interactive governance theory and conflict analysis tools is used particularly to unearth the major causes of forest degradation and loss, and to suggest strategies for eliminating those causes while enhancing effective governance of forests. Conflicts are always present in natural resources management and the absence of adequate mechanisms to minimize them poses many challenges to the ongoing forest governance process as well as to sustainable livelihoods. This is explained by the fact that the system-to-be-governed is generally characterized by diversity, complexity and dynamics and that multiple actors and stakeholders are operating at different levels of scale. An effective governance system would therefore mean that all key stakeholders, that is those pertaining to the statutory, customary, market, civil society and hybrid governing structures, must be able to cooperate through consensus or compromise in a way that common needs and conflicting issues can be effectively addressed. The proposed combination of conflict analysis, interactive governance and community-based ecotourism approaches is a first step in identifying the problems that hinder collective action for sustainable forest governance.



## Chapter 3

### **Case Study Context: The governing system: Features, orders, modes and elements of Ghana's forest governance**

#### **3.0 Introduction**

Globally, the evolution of governance processes in the forestry sector poses many challenges to policymakers, forest managers and forest users. These challenges range from overcoming weaknesses in the rule of law and enforcement, the illegal use of forest resources, vague policy directions, institutional failure and competition with other land uses (Ostrom, 1999, Tyler, 1999, Marfo, 2006). The challenges of relevance in the context of this study are usually the absence or ineffectiveness of mechanisms to manage competing claims to forest and tree resources (i.e. to accommodate them and ensure cooperative actions), which often results in conflict. Current forest governance reforms in Ghana are oriented around stakeholder participation with a view to enhancing sustainable forest management and improving forest governance and forest-based livelihoods. In line with this the government of Ghana, through the Ministry of Land and Natural Resources and the Forestry Commission and in cooperation with civil society (with NGOs acting as 'brokers'), the timber industry and 'development partners', has pursued several governance initiatives and programmes some of which are still ongoing. Nevertheless, forest and tree-related conflicts within the sector are ubiquitous. This thesis assesses the status of Ghana's forest governing system and the governability limitations it is facing regarding dealing with forest and tree-related conflicts. From a normative perspective it also explores the opportunities that the interactive governance approach holds for the forest sector of Ghana about managing forest-related conflicts. The central question guiding this section is: what are the characteristics in terms of features, orders, modes and elements of the governing system that contribute to the governability of Ghana's forest sector and how does it deal with forest and tree-related conflicts? The information in this section is based on a review of literature on a survey among, and interviews and a workshop with, forest governors and experts and representatives of the donor community with the intention being to generate data on their knowledge, views and perceptions of forest governance and conflict management. The results are discussed against the background of scholarly literature on

the subject matter, positioning them within the myriad of forest governance initiatives in Ghana.

### **3.1 Forests and forestry in Ghana**

#### ***3.1.1 Biophysical characteristics***

The Republic of Ghana is located on the west coast of Africa, situated between latitudes 4° and 11.5°N, with a land area of 23.86 million ha and a coastline of 567 km. The country is bordered by Togo on the east and by Côte d'Ivoire on the west, with Burkina Faso to the north and the Atlantic Ocean to the south. Ghana has a tropical climate. The annual rainfall decreases from about 2200 mm in the high forest zone (HFZ) in the southwest to about 1200 mm towards the northern part of the zone. The HFZ has a two peak rainfall periods in April - July and September - November, with a comparatively short dry season in January and February. The relative humidity is always high and is seldom below 85%. The mean annual temperature falls in the range 25 - 27°C and is fairly constant throughout the year. The savannah zone (SZ) has a one peak rainfall period in August - September, which is followed by a long dry season of four or five months when the humidity is low. The unimodal rainfall (800 - 1200 mm) is erratic and frequently undependable. This, coupled with the long dry Harmattan winds, makes tree planting and survival difficult.

#### ***3.1.2 Ecological zones***

Ghana is divided into two main ecological zones: the high forest zone (HFZ) in the south, with an area of 8.2 million ha (34%), and the savannah zone (SZ) with 15.7 million ha (66%). These two zones merge in the forest savannah transition zone (FST) (see Table 1). Most of the natural vegetation in the SZ has been cleared for agriculture and there is a great shortage of wood for all purposes. The HFZ includes the wet and moist evergreen forest (WE and ME), moist and dry semi-deciduous forests (MS and FST). The moist evergreen (ME) forest contains about 27% of the commercial or economic tree species, while the moist semideciduous (MS) forest has up to 17% of such species. It has been estimated that the wet evergreen (WE) forest is relatively poor in economic species (9%). The south-east outlier and the southern marginal forests contain no commercial timber.

### ***3.1.3 Land Use Categories***

The traditional land uses in Ghana are small and large scale farming, forestry, wood fuel, cattle grazing, urbanization, tree plantations of exotic and indigenous species (cocoa, rubber, timber), and game/park reserves. Within the high forest zone, 1.76 million ha (21% of High Forest Zone) are permanently protected. Occupancy and agriculture are not permitted within the reserves, however, certain lands within the reserve, were alienated as admitted farms at the time of gazetting the reserves. Additionally, agriculture is practiced within reserves as a component of the Taungya system of plantation established under departmental control and supervision. About 126,600 ha in Forest Reserves are under the jurisdiction of the Wildlife Division as Protected Areas. Outside the permanently protected forest estates, there is very little intact forest remaining and much of this is confined to sacred groves and other culturally significant areas. Timber exploitations take place within timber contract areas, which cover both on and off Forest Reserves. Off reserved timber trees mostly stand on farmlands and fallow areas.

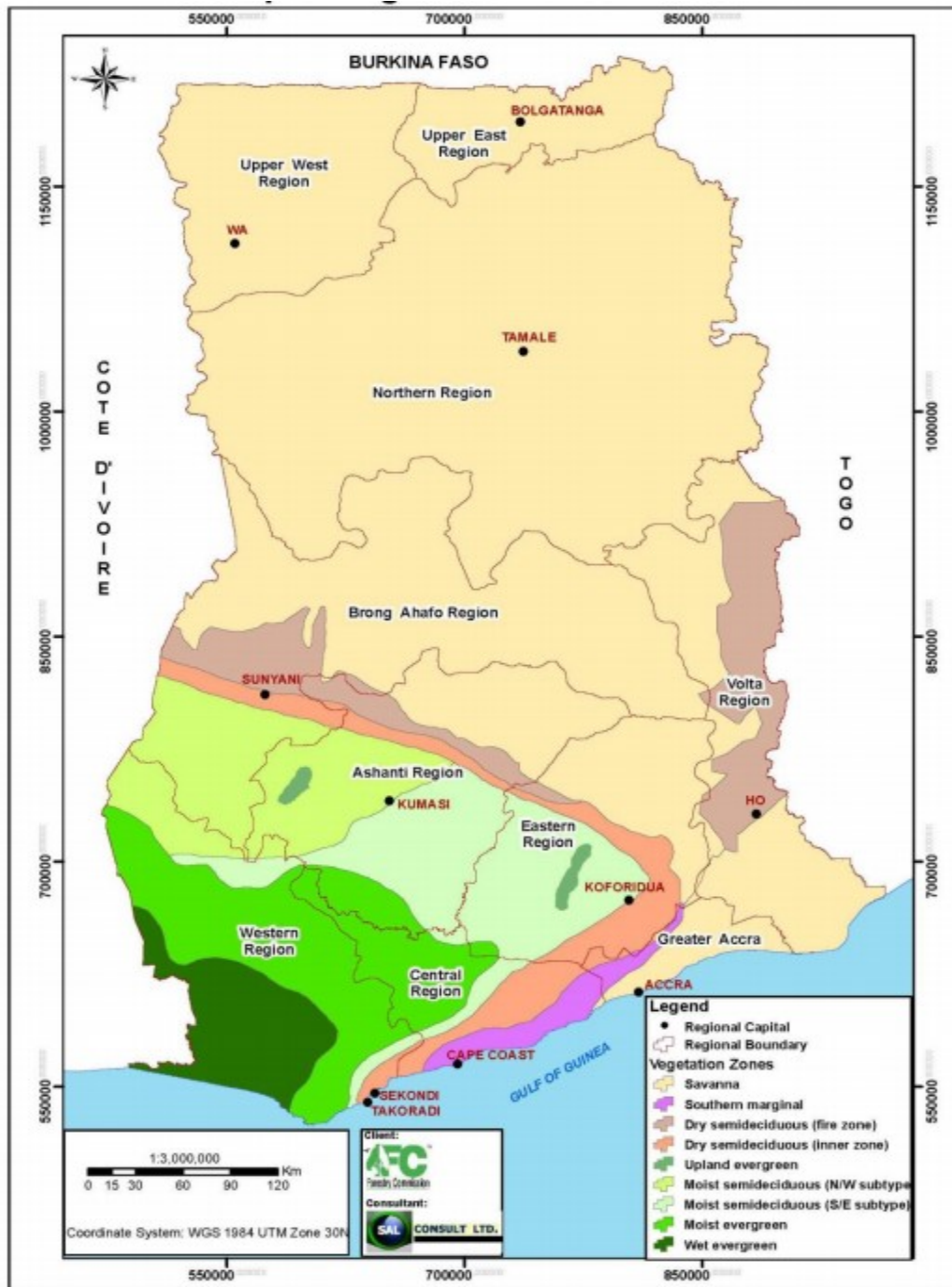
**Table 3.1: Ghana's vegetation zones and forest reserves. <sup>a</sup>**

Ecozone	Vegetation Zone	Area (number) of forest reserves (1000 ha)	Area of vegetation zone (km <sup>2</sup> )	% of land area
High forest zone (HFZ) <i>– main zone of commercial timber logging</i>	Wet evergreen (WE)	1,634 (266)	657	2.75
	Moist evergreen (ME)		1,777	7.45
	Moist semi-deciduous (MS)		3,289	13.78
	Upland evergreen (UE)		29	0.12
	Dry semi-deciduous (FST)		2,144	8.98
	Southern marginal (FST)		236	0.99
	Total HFZ		1,634 (20% of HFZ)	8,132
Savannah Zone (SZ)	Southeast outlier	836 (24)	2	0.008
	Guinea savannah		14,790	61.98
	Sudan savannah		190	0.79
	Others (thicket, swamp, grass, etc.)		750	3.14
	Total SZ		836 (5% of SZ)	15,732
Grand Total		2,470 (10.3% of total)	23,864	100

<sup>a</sup> Forest reserves are legally defined and demarcated areas of forest that have been designated for management and protection in perpetuity.

*Source: Odoom (1998), compiled from Hall and Swaine (1981). The extent of vegetation cover in each ecozone may have dwindled since 1981*

## Map of Vegetation Zones in Ghana



**Figure 3.1: Vegetation/Ecological map of Ghana**

Source: Forestry Commission of Ghana (2016). REDD+ Mechanism in Ghana: Updated Environmental and Social Management Framework (ESMF)

### **3.2 Ghanaian forest governance in a historical perspective: Colonial legacy Historical background to Ghana's forest policies and its legislative instruments**

Ghana's forestry sector has undergone a massive transformation in policy reforms since scientific forestry was introduced in the first decade of the twentieth century. The first forest policy of 1908 focused on forest preservation to protect water and boost cash crop production. In 1910 a Forest Bill was introduced which gave the colonial government the right to appropriate land for the creation of forest reserves. This was opposed by the Aborigines Rights Protection Society which interpreted the reservation process as an attempt by the colonial power to expropriate indigenous lands. It also led to the local people opposing and responding to this process by rapidly converting forests into farmlands to avoid reservation (Francois 1987). Ultimately the Bill was withdrawn in 1911 (Agyeman *et. al.* 2010). The 1908 colonial forest policy was supported by three complementary pieces of legislation, i.e. the Native Authorities' Ordinance No. 18 of 1927 (Cap. 111), the Forest Ordinance of 1927 (Cap. 157) and the Concessions Ordinance of 1939 (Cap. 136). Colonial forest policy recognized the customary governing system of giving power to traditional authorities. With the consent of the traditional authorities, provisions were made to release stool lands to be constituted as forest reserves. Most of the demarcation and reservation processes took place between 1928 and 1939. According to Amanor (2005: 17), the colonial forestry policy disempowered rural farmers to empower the state through the chiefs, by creating customary systems that vested land in paramount chiefs and facilitated expropriation of land for the creation of forest reserves. Until then, land had been under the control of the town chiefs who consequently disputed these claims (Rathbone 1993, Addo-Fenning, 1997). The ordinances of the 1920s and 1930s gave traditional rulers the right to grant timber rights to commercial loggers, albeit with endorsement from the colonial legal system (court). Even though power and rights were given to the traditional authorities, the colonial rulers sought to gain control over natural resources. Colonization through the native authorities gave them power over local communities to help foreign corporate access to land resources (Opoku, 2006). These policies discouraged traditional subsistence activities and were intended to force communities into the cash economy away from the forest resources (Ibid.). Local communities were then forbidden to farm, fell trees

or cause damage to trees in the forest except based on permits endorsed by a Forest Officer (Agyeman *et. al.*, 2010).

The year 1948 marked the start of an era in which the environmental perspective and its focus on forest protection shifted towards a utilitarian perspective with a focus on maximum productivity and value based on sustained yield (Bilijo, 2005.). The 1948 forest policy document consisted of eight clauses but fell short of meeting the desired objectives (Agyeman *et. al.* 2010). During that period, timber exploitation was high on the political agenda and the period is therefore referred to as the ‘timberisation’ era (Kotey *et. al.*, 1998, Bilijo, 2005). The priority given to the timber industry resulted in immense cash income for the timber merchants and revenue for the state, but local people’s NTFP livelihood base was destroyed by excessive logging. The new emphasis on timber production strengthened the British economy and met Europe’s post-war reconstruction needs (Bilijo, 2005). Furthermore, under the Forest Ordinance the royalties given to landowners were reduced from 70% to 40% because the colonial government shifted the burden of increased costs of reserve management to the landowners (Opoku, 2005). Nonetheless, when the Gold Coast attained independence and became the Republic of Ghana, the postcolonial government changed little in the structure and functioning of forestry in Ghana and did little to curtail the power and privileges of the industry (Smith, 1999 cited in Opoku, 2005: 20). Instead it strengthened state control over local governance and natural resources (Sasu, 2004). The Forestry and Wildlife policy of 1994 in Ghana marked a major paradigm shift towards collaboration and decentralization initiatives in the sector during almost all the past two decades. Table 1 outlines the timeline of different policies and legislations that have governed the allocation, use and management of forest resources, and the sanctions since scientific forestry was introduced in Ghana in the early 20<sup>th</sup> century.

### **3.3 Forest Policies in Ghana**

The history of forest policies and resources management in Ghana dates to 1906 when legislation was enacted to control the felling of commercial tree species and the creation of the Forestry Department in 1908. The demarcation and reservation of the forest estate was largely completed by 1939 and a forest policy was adopted in 1948 (Ghana Forestry Commission, 1994). Since then, a consistent policy of selection, demarcation,

reservation, protection of water supplies, maintenance of favorable conditions for cultivation of agricultural crops and the promotion of research and public education have been vigorously pursued. However, most of the early forest policies mainly emphasized a sustained supply of timber for the wood industry and promoted over-exploitation and an eventual demise of unreserved forests. Consequently, by the end of 1978, the Government placed about 3,267,250 ha of forests under permanent forest estate. In addition, quite a number of policies and attempted remedies were initiated by government and its agencies such as Forest Commission Act of 1960; forest improvement fund Act of 1960; Concessions Act of 1962; Forest ordinance for the protection of forests including reserves of 1972; Trees and timber (chain saw operation) regulation of 1983; Administration of land (amendment) degree of 1984; Forest products inspection Bureau Law of 1985; Forest protection (amendment) Law of 1986; Control and prevention of bushfires Law of 1990 and Trees and timber (chain saw operation) regulation of 1991 as guides for forests resources management in the country Forest (Ghana Forestry Commission, 1994). These policies and related laws were contained in various official documents and vested in specific Ministries and state agencies for implementation. The agency responsible for forest resources management in Ghana is the Forestry Commission which was established under Act 405 - Ghana Forestry Commission Act, 1980 - to coordinate the activities of the forestry sector institutions, namely: The Forestry Department, Department of Game and Wildlife, Forest Products Research Institute and Ghana Timber Marketing Board. Section 6 of the Act mandated the Commission to regulate and manage the utilization of all forestry and wildlife resources of Ghana and coordinate the policies in relation to forest resources (Forest and Wildlife Policy, 1994).

### **3.4 Relevant Legislation for REDD+ in Ghana**

The legislation and policies in Ghana relevant to REDD+ are highlighted below in Table 3.2. Laws that have been repealed are noted accordingly but are nevertheless included because they are important for entire discussion of this thesis.



Table 3.2 *Relevant Legislation for REDD+ in Ghana*

	<b>ACT/LEGISLATION</b>	<b>DETAILS</b>
1.	1992 Constitution of the Republic of Ghana, Section 269	Provides for the establishment, composition and functions of the present Forestry Commission and gives the President control over all mineral resources of Ghana, to be exercised on behalf of the people, amongst other important provisions.
2.	Forest Policy of 1948	The first formal forest policy in Ghana. It provided for conservation and protection of the forest environment, management of the permanent forest estate on a sustained yield basis, and, ultimately, the conversion of off-reserve forests.
3.	Forest and Wildlife Policy of 1994	The current formal policy on forest and wildlife and aims to further conservation and sustainable development of natural resources to ensure optimum benefits to all segments of society, amongst other goals.
4.	Forestry Commission Act of 1993 (Act 453) (repealed by the Forestry Commission Act of 1999)	Established the former Forestry Commission. Forestry Commission Act of 1999 (Act 453) repeals the Forestry Commission Act of 1993 and establishes the present Forestry Commission.
5.	Administration of Lands Act of 1962 (Act 123)	Gives the President power to acquire stool land that will be held in trust (in the public interest) and vests the management of all stool land revenue in the central government.
6.	Land Title Registration Law of 1986 (PNDCL) 153	Provides for the registration of title to lands.
7.	Forest Ordinance of 1927 (Cap 157)	The principal statute governing the constitution and management of forest reserves in Ghana. The ordinance vests in the central government the power to create forest and protected area reserves.
8.	Trees and Timber Ordinance No. 20 of 1949 (Cap 158) (repealed by the Trees and Timber Decree of 1974)	Sought to regulate and control the timber trade through the registration and issuance of property marks to concession holders and the issuance of licenses and permits for the felling of forest trees.
9.	Trees and Timber Decree of 1974 (NRCD 273)	Continues the operation of the system of property marks and makes it a criminal offence to fell timber for export without a valid property mark.
10.	Trees and Timber (Amendment) Law of 1983 (PNDCL 70)	Imposes harsher penalties for violation of the Trees and Timber Decree.
11.	Trees and Timber Amendment Act of 1994 (Act 493)	Provides for the biannual renewal of property marks and the use of levies and other forest fees in timber trade regulation. Under this Act, government authorities have imposed levies on the export of logs and substantially increased the fee for the renewal of property marks.
12.	Mining and Minerals Act of 2006 (Act 706) (repeals and replaces Minerals Act of 1962)	Vests the ownership of all the natural resources upon land in Ghana in the President in trust for the people.
13.	Forest Protection Decree of 1974 (NRCD 243)	Attempts to protect the integrity of forest reserves by prohibiting virtually all activities therein if done without the written authorization of the Forestry Department.
14.	Forest Protection (Amendment) Act of 1986 (PNDCL 142)	Imposes harsher penalties for violation of the Forest Protection Decree.

15.	Forest Protection Amendment Act of 2002 (Act 624)	Amends the Forest Protection Decree of 1974 and provides higher penalties for offences.
16.	Control of Bush Fires Law of 1983 (PNDCL 46)	Seeks to control the setting of bush fires by criminalizing the intentional, reckless, or negligent causing of such fires and holding the offender liable for all consequences of the fire.
17.	Concessions Ordinance of 1939 (Cap 136) (repealed by the Concessions Act of 1962),	Along with earlier similar legislation, provided for a system for traditional and forest-holding authorities to grant timber harvesting rights, and determine and collect revenue in both reserve and off-reserve forests.
18.	Concessions Act of 1962 (Act 124)	Vests the right to grant timber concessions and the management of all timber resources both on and off reserve in the central government. The Act was repealed by the Timber Resource Management Act of 1997, except for sections 1, exempting stool lands from most provisions of the act, and 16, regarding forest reserves and timber concessions.
19.	Protected Timber Lands Act of 1959 (Cap 34) (repealed by the Trees and Timber Decree of 1974)	Provided for the declaration of off-reserve forest lands as protected timber lands. This measure gave the Forestry Department power to regulate and control farm development and expansion in these areas.
20.	Timber Resources Management Act of 1997 (Act 547)	Introduces Timber Utilization Contracts (TUCs) for timber harvesting and enhanced benefits for landowners and farmers for harvesting of trees on their land and provides for payment of royalties in respect of timber operations.
21.	Timber Resources Management Regulations of 1998	Establishes regulations for the management of timber pursuant to the Timber Resources Management Act of 1997.
22.	Interim Measures for Controlling Illegal Harvesting Outside Forest Reserves of 1995	Introduces a new system for harvesting off-reserve timber that includes the farmer's rights to veto proposed harvesting and to receive compensation for crop damage.
23.	Economic Plant Protection Act of 1979	Abolishes the grant of timber felling rights in farms having trees, such as cocoa, with economic value.
24.	Forest Plantation Development Fund Act of 2000 (Act 583)	Provides for the grant of financial assistance for the development of private forest plantations on lands suitable for commercial timber production.
25.	Proposed Forestry Act	Aims to consolidate and to replace all existing forestry legislation. The act proposes clear identification of land and the forest holding communities that would be the primary clients of a proposed Forest Service, which would pursue sustainable forest management. The bill is now before parliament and has yet to be passed into law.

### 3.5 State of Ghana's Forests

Ghana is richly endowed with forest resources which are vital for her development and future prosperity. Ghana's forests cover about 36 percent (84,000 km<sup>2</sup>) of the total land area of the country (EU, 2006; Rice & Counsell, 1993). It is divided into two main zones – the savannah woodlands in the north and the tropical high forest in the south. Savannah woodlands are the dominant forest type; tropical high forest covers only about 7% of Ghana's land area, almost all of which is found in reserves or other protected areas.

There are presently 282 forest reserves and 15 wildlife sanctuaries/protected areas, which occupy about 16% of the land area in Ghana (FAO, 2001). Records do indicate the existence of relatively undisturbed forests, which harbor abundant biodiversity (Alpert 1993), which protect fragile soils (FAO, 1999; FAO, 2007; UNEP, 2002), and regulate the supply of scarce water resources (Glantz & Katz, 1985,). However, deforestation and global climate change impacts are significantly causing a rapid loss of biodiversity in the country. The degradation of forests and the loss of biodiversity in Ghana have increased sharply in recent decades (Dixon *et. al.*, 1996).

Ghana's total forest zone is currently estimated at 81,342 km<sup>2</sup> and accounts for about 40% of the total land area, out of which about 17,845 km<sup>2</sup> are known to be under reservation. The reserved forest is made up of 11,590 km<sup>2</sup> of production forests; 4,323 km<sup>2</sup> of protection forests; and about 1,980 km<sup>2</sup> of game production reserves (Siaw, 2001; Ghana Forestry Commission, 1995). Ghana, like many tropical countries, continues to lose its remaining closed forests at an alarming rate. The area of closed forest has reduced to less than 25% of its original value and now exists in fragmented patches estimated to be about 20 to 524 km<sup>2</sup> (Boon, Ahenkan, & Baduon, 2009). Between 1990 and 2005, Ghana has lost about 1.9 million hectares of forest or 26 percent of her forests cover (mongobay.com); the annual deforestation rate is 2.0%. The Government took steps to address the deforestation issue by introducing the Ghana National Plantation Project to plant 20,000 ha per annum (Domson *et. al.*, 2007; Ghana Forestry Commission, 2005; IUCN, 2006). Most of the forests have lost their pristine interior habitats that are critical for the protection of vulnerable species (FAO 2001; Forest Services Division of Ghana, 1995). In 1992, it was estimated that only about 1.5 million ha of 'intact closed forest' were remaining in Ghana. It is estimated that about 20,000 hectares per annum of the reserved area are lost to agriculture or through bush fires and other human activities (Tabi Agyarko, 2001; IUCN, 1992). The forests are now characterized by excessive harvesting of logs, a reduction in standing volumes of species, dwindling resource base, species depletion and loss of biodiversity (Boon, Ahenkan, & Baduon, 2009). About 14% of the total permanent forest reserves in Ghana are without adequate forest cover. The worst affected areas are the moist semi-deciduous North-west and South-east subtype of forest zones (Tabi Agyarko, 2001). The factors causing the depletion of the forests include excessive legal and illegal logging,

unsustainable farming methods, annual bushfires, surface mining and infrastructural development. Underlying these deforestation driving forces are forest policy failures, unrealistic forest fee regimes, external prices of timber, weak institutional structures, and population pressures (FAO, 2001).

Many publications have been released by independent organizations, NGOs and researchers regarding the state of Ghana's forest resources and the rate of degradation over the years. There has also been many of such documents on the major causes of forest loss in Ghana. For instance, the World Resources Institute's (WRI) on April 25, 2019 published on their website that "In 2002, just two countries - Brazil and Indonesia - made up 71 percent of tropical primary forest loss. More recent data shows that the frontiers of primary forest loss are starting to shift. Brazil and Indonesia only accounted for 46 percent of primary rainforest loss in 2018, while countries like Colombia, Côte d'Ivoire, Ghana and Democratic Republic of the Congo saw loss rates rise considerably. Interestingly, the Forestry Commission of Ghana, in a rejoinder insisted that the publication on the WRI website contains a lot of misrepresentations and exaggerations and does not represent the actual situation on the ground ([www.publicagendagh.com](http://www.publicagendagh.com)). Below is the rejoinder published by the Forestry Commission of Ghana on [www.publicagendagh.com](http://www.publicagendagh.com).

*Box 3.1 Rejoinder: The World Lost a Belgium – Sized Area of Primary Rainforest Last Year*

**Rejoinder: The World Lost a Belgium – Sized Area of Primary Rainforest Last Year**

The attention of Forestry Commission has been drawn to a publication which first appeared on the World Resource Institute's website ([www.wri.org](http://www.wri.org)) on 25th April 2019, on the above subject.

Same has been published on other media portals worldwide. We wish to acknowledge the challenge of illegal mining and farming practices as drivers of deforestation and forest degradation. Ghana is indeed not alone in this fight to keep the forest heritage for the present and future generations. A number of initiatives, has accordingly, been put in place to address this challenge. While acknowledging this, we wish to state that the conclusions arrived at in the publication are based on a faulty methodology as well as a misunderstanding of current controlled agricultural practices in Ghana.

We note that the WRI publication, from which media houses worldwide are deriving their stories, was based on research conducted by the University of Maryland in the United States. A comparison of the data that have been churned out by the original researchers with what WRI published suggest an exaggeration of the actual situation on ground and as found in the research. We therefore, wish to correct all erroneous impressions that have been created by this publication. The Commission will like to state that:

1. The presentation of forest given in the WRI publication, as well as the methodology used in the research suggests that what has been reported is relative annual change in tree cover and not forest cover. The University of Maryland defined tree cover as “all vegetation 5m in height and may take the form of natural forests or plantations across a range of canopy densities”. This definition therefore implies agricultural tree crops such as cocoa, cashew, rubber, among others, have likely been captured whereas the definition of forest cover excludes these agricultural tree crops. It must be noted that there is a significant difference between the two and the interchange of terminology can lead to grossly misleading conclusions.
2. The WRI report indicates a 60% change in annual loss and not a 60% loss of forest cover in one year (2017-2018) as is being discussed on various media platforms across the country. A further interrogation of the original research data however indicates this figure to be 31.3%. The Forestry Commission intends to write to the WRI to correct this error in the analysis of the original research data.
3. The caption used for the report was misleading in that WRI used forest cover instead of tree cover. The use of the term ‘primary forest’ is not explained in the context of the article. Primary forest is defined as “Naturally regenerated forest of native species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed” (FAO, 2015). Therefore, the study setting the minimum tree cover at 30% does not represent primary forest.

### ***Major Interventions by the Forestry Commission***

Forestry Commission has put in place a lot of interventions to improve forest cover. REDD + is an internationally accepted mechanism to combat climate change. As part of REDD+ interventions, there is massive implementation of Climate Smart Cocoa Practices which involve increasing shade on cocoa farms; setting up of rural service centers for easy access to farm inputs; increased cocoa extension services and replanting of old cocoa farms; establishment of viable additional livelihood schemes and, improved planting design for yield increment and improved livelihoods. The cocoa private sector and the Government of Ghana have also signed onto the Cocoa and Forests Initiative to halt deforestation in the chocolate and cocoa supply chains by promoting climate-smart cocoa practices.

Another key initiative to help combat illegal logging is the Voluntary Partnership Agreement (VPA) with the European Union. Under this Initiative, Ghana is strengthening its law enforcement capacity by developing a robust wood traceability system. This system has introduced an electronic capture and reconciliation of timber transaction data in a manner that allows the tracing of timber from the point of sale to its source. By allowing only timber that is traceable for sale, illegally logged timber is largely eliminated from the supply chains. Community Resource Management Area (CREMAs) Concept is an intervention that seeks to empower forest fringed communities to increase their sources of livelihoods as a way of diverting their attention from forest illegalities. This mechanism seeks partly to put the management of the natural resource in the hands of the communities thereby giving them a sense of ownership. It helps to protect the natural resource, while at the same time putting money in the pockets of the fringed communities.

The Youth in Afforestation Programme has employed over 60, 000 youth, who hitherto were unemployed, to help in afforestation throughout the country. Since its inception in April 2018, it has culminated in the planting of over 22,000 ha. One intervention worth noting is the Modified Taungya System (MTS), which is a form of agro-forestry. Degraded portions are given to farmers to plant trees, while intercropping them with foodstuffs. When there is a canopy closure, the farmers are moved to another area to do same.

Having realized that farmers cannot sit idle till the trees mature, that is in areas where all degraded areas have been planted up, Forestry Commission has also introduced the WOTRO Trees on Farm Programme where shade-loving plants like Grains of Paradise and Black Pepper have been introduced to farmers to once again give them sources of income, as they nurture the trees. Honey production is also another aspect of this programme.

The Commission has engaged the private sector in plantations development and as at the end of 2018, over 50,000 hectares have been planted. To ensure law enforcement of forest and wildlife laws, the Rapid Response Unit has been set up to operate in hot – spot areas of forest illegalities. Their operations have helped reduced illegalities. Closely related to the point above is that frontline staff of the Commission have undergone military training at the Asutuare Military Camp. This is to hone their skills in forest protection and clamp down on forest illegalities. Forestry Commission Forest Data (2012 – 2018).

From 2012 to 2018, data analyzed over the period indicates that at the end of 2012, total area under forest cover in Ghana was 6,235,102.32 ha. This figure increased to 6,357,876.03 ha at the end of 2018. This shows a marginal increase of 1.96% in total forest cover over the period. The increase in the open forest is attributable to the ongoing plantation development drive, both public and private as well as the regeneration stimulated by the opening up of the closed forest. The table and the maps below testify to this.

### **Conclusion**

Forestry Commission holds on to its mission to “Sustainably develop and manage Ghana’s forest and wildlife resources”. It will, therefore, continue to engage in forest improvement and protection activities to restore Ghana’s forest cover.

*Source: Forestry Commission of Ghana website; accessed from [www.publicagendagh.com](http://www.publicagendagh.com)*

Box 3.1 Rejoinder: The World Lost a Belgium – Sized Area of Primary Rainforest Last Year

Publications by many international and independent organizations and the claims by the Forestry Commission of Ghana in the rejoinder above indicate that there are many opinions regarding the state of Ghana's forest resources and efforts being made to sustainably manage them. Even though most of the figures put forward by these institutions have been challenged by the commission there is significant evidence that Ghana's forest resources have come under significant threat of degradation and loss. It is also true that many initiatives are being implemented by the Forestry Commission of Ghana to safeguard the nation's forest reserve. The question however is: "*Are these initiatives enough to salvage the alarming degree of forest degradation and loss in Ghana?*" For this reason, it is prudent to understand what conditions have been responsible for forest degradation and loss, and to recommend ecologically-based management approaches for effective forest governance which generates win-win outcomes for all stakeholders of Ghana's forest resources.

### **3.6 Study Area: Atewa Forest Range**

The Atewa Range is in the Eastern Region of Ghana and consists of a range of hills aligned approximately north-south with steep-sided slopes and flat summits. The Range represents the remains of the Tertiary peneplain that once covered southern Ghana and is largely characterized by very ancient soils reputed to be bauxite laden. The topography of the area is dominated by a dissected forest plateau. In the eastern region, the plateau averages an elevation of about 350 meters above sea level. However, the northern region dips into the Voltarian Basin and the topography is much gentler. The central portion is dominated by the Atewa-Atiwiredu ridge, with a general elevation of about 300 meters above sea level, but also containing the Atewa, Atiwiredu and Koto hills, with heights of 800, 723 and 711 meters above sea level respectively. As the ridge stretches westwards into the Kwaebibirem District, average elevation declines to about 200 meters above sea level. However, from Apinaman towards the Eastern border of East Akyem District, the land rises sharply to about 500 meters above sea level and culminates in the Atiwiredu hills at a height of about 800 meters above sea level.

Geologically, the area is underlain by Birimian formations, and Voltarian metamorphosed sediments, rich in minerals such as gold, diamond, bauxite and kaolin. The



Atewa Range represents some of the highest forest-covered hills in Ghana (along with the hills of the Southern Scarp and the Nyinahin Range (Swaine & Hall, 1977). Hence altitude, with its significant impacts on individual species' ecologies, plays an important role in making Atewa a rare and special place. Daytime air temperature declines consistently with increasing altitude, at a rate of 1° C to 160 - 170m on mountains in West Africa (Hall, 1973), though cold air drainage may cause temperature inversions on clear nights. Reduction in atmospheric temperature and pressure with increasing altitude also leads to a corresponding increase in precipitation, even when the altitudinal increase is small (Schnell, 1971). Increased cloudiness on mountains results in a general increase in humidity to the upper limit of the mist zone, which, together with the resulting fog-drip, represent the main causes of the greater luxuriance of epiphytes in upland areas (Swaine & Hall, 1977). Langdale-Brown *et al.* (1964) for example, have shown in Uganda that a decrease in annual evapotranspiration of up to 25% can occur with the increase in altitude from sea-level to 600 m. The botanical uniqueness of Upland Forests in Ghana has been made clear through an extensive survey and ordination analysis of Ghana's forest vegetation (Hall & Swaine, 1976).

This analysis showed that forests occurring at higher elevations had a significantly different botanical composition to all other Ghanaian forests, rather than simply containing transitional elements of different vegetation zones as previously thought. These forests contain about 50 species of plant that are unknown elsewhere in Ghana (Hall *et al.*, 1973) including many rare epiphytes with montane distributions in other regions of tropical Africa. The Upland forests differ from surrounding lowland forests most obviously in possessing a lower proportion of deciduous canopy trees, lower canopy height, greater profusion of epiphytes, and poorer stocking of commercial timber species (Swaine & Hall, 1977).

Atewa is particularly unique in harboring one of only two remaining areas in Ghana with significant Upland Evergreen forest cover (the other being Tano Ofin). The Atewa Range lies within the dry and wet semi-equatorial transition zones. The larger northern portion of the Atewa Range lies in the wet transition zone, which is characterized by high temperatures and a double maxima rainfall regime. It exhibits a mean monthly temperature

of between 24° and 29°C, and experiences a mean annual rainfall of between 1200 and 1600 mm. Atewa also lies within two vegetation zones: i) the transitional climatic zone and thicket vegetation resulting from human activities such as land cultivation, lumbering, and fuel wood extraction; ii) the moist deciduous forest zone that lies to the north of the transitional zone and covers about 80% of the Akyem Abuakwa area. Precipitation records taken from Atewa between April 1966 and May 1967 show higher precipitation, more rain days and a shorter dry season than in nearby lowland forest. Daytime observations in September 1974 showed temperatures on the Atewa plateau (at 750 m) to be approximately 4-5° C lower than those at neighboring Kibi (at 300 m) (Swaine & Hall, 1977).

Historically, the Atewa Range has been recognized as nationally important for providing the headwaters of three river systems in Ghana: the Ayensu, Densu and Birim rivers. These three rivers are the most important source of domestic and industrial water for local communities as well as for many of Ghana's major population centers, including Accra. The intact Atewa Range ecosystem acts to protect and provide a clean water source for much of Ghana's human population as well as the country's biodiversity. The population of the Atewa area is growing at a relatively slow rate, possibly because of emigration by farmers and youth. With a decline in the cocoa industry around the Atewa Range, farmers have migrated to areas like Brong-Ahafo where the cocoa industry is thriving, while many of the region's youth have migrated to urban areas. More than 40 settlements with an estimated population of about 75,180 are located within the vicinity of the Atewa Range, according to the 2000 National Population and Housing Census Report. The major economic activities of these communities include agriculture, small-scale collection of non-timber forest products (NTFPs), mining, logging and bushmeat hunting.

## Map of the Atewa Forest Range



**Figure 3.2: Map of the Atewa Forest Range**

Source: McCullough, J., Alonso, L. E., Naskrecki, P., Wright, H. E., & Osei-Owusu, Y. (2007)

### 3.7 Conservation of Atewa

The Atewa Range Forest Reserve (Atewa) was originally established in 1926 under the Akyem Abuakwa State Native Authority by-laws. It was later reconstituted under Forest Ordinance Cap 157 of 1935. Ownership of the reserve is vested in the President of Ghana and held in trust for the Akyem Abuakwa Stool (Gazettelement Supplement 1935, pg

1105). The entire reserve falls within the jurisdiction of the Akyem Abuakwa Traditional Area. The Atewa reserve includes 232 square km of forest - moist semi-deciduous at lower levels and Upland Evergreen at higher elevations. Even though the Atewa forest was declared a protected area as far back as 1926, communal rights were granted to natives of the Akyem Abuakwa Traditional Area and individual owners of lands purchased prior to the establishment of the reserve. Included within these rights were: farming within the reserve (admitted farms); collecting forest products (including building materials, canes, vines, ropes, pestles, palm trees, snails, mushrooms, chewing sticks, medicinal plants, game and wildlife); receiving a share in timber royalties resulting from forestry on privately owned land; accessing sacred places; establishing hunting camps; and washing for gold. The culture of the forest fringe communities is inextricably linked with the existence of the Atewa reserve. The forest is regarded as the home of the ancestral spirits, who provide protection, success and progress for the Akyem Abuakwa people. Some animals are regarded as totems by certain clans. Taboos such as avoidance of farming activities along river banks are all indications of the socio-cultural significance of forest resources. Forest fringe communities also depend on the forest for non-timber forest products, some of which are extracted in large quantities for sale (McCullough *et. al.*, 2017). Several streams and headwaters of major rivers like the Densu, Ayensu and Birim serve as important sources of drinking water to many people within and outside the traditional area, including Accra and other urban areas. Many individuals, institutions and communities hold a stake in the continued existence of the reserve (McCullough *et. al.*, 2017). The reserve has been managed under the Protection Working Circle system of the then Forestry Department (now Forest Services Division) where an area is managed with the intention of protecting the watershed and no logging is allowed. Atewa was designated as a Special Biological Protection Area in 1994. In 1995 it was reclassified as a Hill Sanctuary under the Forest Protection Strategy proposal. In 1999, Atewa was again re-designated as one of the 30 Globally Significant Biodiversity Areas (GSBAs). It is also among the 36 Important Bird Areas (IBAs) in Ghana as designated by BirdLife International (Ntiemoa-Baidu *et al.*, 2001). In 2003 the first management plan was prepared for the Atewa forest reserve with the main objectives of: protecting the headwaters of major rivers, namely the Birim, Densu and Ayensu and their tributaries; maintaining forest cover on the slopes of hills to prevent

excessive erosion; and preventing the encroachment or conversion of the reserve to agriculture.

### **3.8 Threats to Biodiversity in the Atewa Range Forest Reserve**

Cropping practices which encourage intensive use of the same piece of land over a prolonged period have led to leaching and loss of soil fertility in parts of Atewa. In local villages, deep channels have been created by surface water running over ground lacking plant cover. Within some of the villages, erosion has eaten away the foundation cover of houses, and in some cases washed away whole streets, bridges and other services (McCullough *et. al.*, 2017). Illegal logging has been prevalent in Atewa, especially during the 1990s, leading to further problems with erosion throughout the area. According Hawthorne (2002), logging escalated so much in 2001 to the extent that the Ghanaian army was called in to help protect the reserve from loggers. Unsustainable exploitation of forested areas, coupled with the relatively high prevalence of bush fires, has resulted in the depletion of important timber species. Trees such as mahogany, Odum, Obeche, and Emire, which were abundant before the 1960s are now locally rare. At least 954 ha (4.1%) of Atewa was converted to plantation through the taungya program between 1954 and 1975 (Hawthorne 2002). Most of these plantations have since been abandoned and remain as severely degraded areas covering most of the lower slopes of the reserve. Also, mining activities by unlicensed individuals and groups are increasing and causing problems for communities living in and around the forest.

A 2001 bushmeat market survey targeting the major bushmeat markets in both Accra and Kumasi indicated that about 15 % of the bushmeat found in these markets comes from the Atewa forest. Most of the species sold are wholly protected in Ghana. Some of these include the Black-and-white colobus, Spotted palm civet, Giant and Long-tailed pangolins (Conservation International-Ghana 2001, 2002). In addition, the survey revealed that some traditional sacred animals (totems) such as Crested porcupine (totem of the Ashantis) are being hunted and sold. Several bushmeat markets are in existence near Atewa. The largest roadside bushmeat market in Ghana is at Anyinam, at the fringe of the Atewa, where bushmeat is sold throughout the year. Hunters illegally entering Atewa are known to use automatic rifles, poisonous chemicals, traps and fires. Atewa is dissected by many rivers and their tributaries (McCullough *et. al.*, 2017). However, human activities in

the form of farming, deforestation, and to some extent mining have now polluted and silted up many of these waterways. The effluents of the many small-medium scale oil palm-processing factories in the area are also a major cause of water pollution. To secure adequate amounts of water for their operations, many of these factories are located on the banks of streams where water can be more easily obtained. Oily waste matter from the factories is then washed into the streams, especially at Kade, Boadua, Wenkyi and Mepom. Furthermore, the forests that shelter these waterways have been cleared, with many rivers and streams experiencing greater rates of evaporation for longer periods of the year. Hence, they are now increasingly unable to satisfy the water requirements of the communities they are supposed to serve. Due to the biological interest in Atewa as an Upland Evergreen forest and because of its proximity to Accra, more is known about Atewa than any forest reserve in Ghana (except perhaps Bobiri; Hawthorne, 2002).

Past botanical research has included Temporary Sample Plots (TSP) conducted during the National Forest Inventory between 1986-1992 (56 samples with 7235 plant records), and Rapid Botanic Survey plots (RBS) carried out in the early 1990s by Hawthorne and Abu Juam (16 samples with 1239 plant records; 1995). The institutions which have carried out research or are mandated to carry out research in Atewa include: The Forest Services Division. The Forest Services Division (FSD) is responsible for the conservation, protection, management and utilization of forest resources in Ghana. In the past they maintained a research unit that was responsible for research and monitoring work in all forest reserves. Permanent Sampling Plots (PSPs), one-hectare sampling units, were established in almost all the forest reserves to monitor ecological trends. Eighteen PSPs were established in Atewa and 72,474 plant records from the monitoring program are stored at the Resource Management and Support Centre of FSD in Kumasi (Hawthorne, 2002).

### **3.9 Conclusion**

This chapter explored and assessed the status of the governing system in Ghana's forest sector with a focus on the Atewa Forest. The chapter assesses Ghana's forest resources in terms of its ecological classifications, biophysical characteristics and land use activities. The historical overview clearly indicated the underlying factors of past forest

conflicts and their linkages with the present. The analysis of the features of the governing system brought the diversity and complexity of the system to the fore, as well as its multi-scalar and dynamic nature. The analysis of the governance policies highlighted the various principles and institutional instruments that guide the sector as regards achieving sustainable forest management as the core principle of its policy. However, the combination of colonial legacy of unresolved tenure and access rights issues, implementation challenges and dynamics associated with population growth have resulted in illegal land and resource use, characterized by conflicts. The identification of the many relevant legislation for REDD+ in Ghana also demonstrates that mechanisms are in place to safeguard the existing forest resources. Finally, the chapter explored the opinions of international organizations and institutions regarding the state of Ghana's forest resources and the critical areas that must be looked at for appropriate actions. In a nutshell, the chapter presents a snapshot of what Ghana's forest governance system looks like, what has been done in the past and legislations in place to ensure effective forest governance.

## **Chapter 4**

### **Methodology**

#### **4.0 Introduction**

The purpose of this chapter is to introduce the research methodology for this qualitative case study regarding what ecologically-based management strategies could be employed to generate win-win outcomes for all stakeholders of the Atewa Forest in Ghana. This approach allowed for a deeper understanding of the lived experiences and opinions of all stakeholders on best forest governance practices and provided a way to develop theory from the data to understand what the challenges of forest governance and ways to deal with tree and livelihood conflicts in Ghana's forest zone. The research design, sample population and procedures, data collection, demonstrating quality of data collection instruments, data analysis, scope of the study, fieldwork, study area and ethical concerns are also primary components of this chapter. A qualitative study is appropriate when the goal of research is to explain a phenomenon by relying on the perception of a person's experience in a given situation (Stake, 2010). Because the purpose of this study was to examine inter-stakeholder opinions and suggestions for effective forest governance, a qualitative approach was the most appropriate choice. As outlined in Chapter 1, this study sought to build a theory in answer to the following research questions:

RQ1: What are stakeholder perceptions on values and benefits of the Atewa Forest?

RQ2: What are the causes of forest degradation in the Atewa Forest?

RQ3: What are the challenges of forest governance in the Atewa Forest?

RQ4: What ecologically-based management strategies, such as ecotourism can help generate win-win outcomes for all stakeholders?

RQ5: How does ecotourism development fit into the discussion of forest governance?



## 4.1 Research Design

In addition to the research approach, research designs are the plans and procedures that guide research decision-making (Creswell, 2009). This thesis adopted a qualitative research methodology given the exploratory and primarily inductive nature of the study, using a case study approach (Creswell, 2009; Hay, 2010; Yin, 2009). Qualitative research is a means for exploring and understanding the importance that individuals or groups attribute to a social or human problem, focusing on individual meaning, studying how a culture-sharing group develops common patterns of behaviour over time (i.e., ethnography), and interpreting the complexity of a situation (Creswell, 2009; Newing, 2011). Constructivist researchers commonly rely on qualitative strategies (e.g., ethnography, case studies, grounded theory) and qualitative methods such as face-to-face interviews (Creswell, 2009; Guba & Lincoln, 2005). The following sections discuss the strategies of inquiry chosen for this research. I address why I used a specific approach and why I chose qualitative data collection methods.

### 4.1.1 Case study approach

The strategy adopted for this research was the case study. According to Creswell (2009), a case study involves research of a specific and ‘bounded system’ (or case) within a distinctive context using a variety of methods to better understand a given phenomenon, object or condition. Case studies are suitable when the research addresses descriptive (that is “what”) or explanatory (that is “how” or “why”) questions to produce rich descriptions and insightful explanations of a phenomenon within its real-world context (Yin, 2009; Stake, 1995). My choice of the case study approach which contained more than one unit of analysis was based on the fact that the Atewa Forest in the Eastern Region of Ghana is a unique forest area that houses communities at its foot with many similar characteristics. The forest was established as a national forest reserve in 1926 and has since been designated as a Globally Significant Biodiversity Area (GSBA) and an Important Bird Area (IBA) (Abu-Juam *et. al* 2003), but unfortunately, there has been many actions by individuals and in some cases, governments that have subjected the area to constant degradation and forest loss. This is a study that is concerned with the views of all stakeholders regarding ecologically-based management approaches for effective forest

governance. The case study approach allows for studying the forest conflict phenomenon in context, so that the findings generate insight into how the phenomenon occurs within the Atewa Community and how strategies could be put in place to generate win-win outcomes.

#### **4.2 Sample Population and procedures**

This study examined the opinions of broad spectrum of stakeholders involved in the governance of the Atewa Forest. These stakeholders included community members who reside in Kwabeng, the district capital of the Atewa West; government officials from the Forestry Commission of Ghana (Kwabeng, Anyinam, Kyebi, Begoro and Koforidua); officials from the Ghana Tourism Authority and students from the Kwabeng Anglican Senior High Technical School.

A total of 3 government officials, one from the Ghana Tourism Authority, and two from the Forestry Commission of Ghana were contacted to participate in the study. Also, 2 forest guards participated in interview sessions. I verbally informed the officials about the research, found out if they would be willing to participate and then booked an appointment to come back later to conduct the interviews. In addition to the government officials, 14 adults from the Kwabeng Community in the Atewa West District participated in the study. First, I visited the District Chief Executive and the Assembly Man of the area to seek permission to recruit members of the community. An elder of the community introduced me to the community members after which I verbally introduced myself and the purpose of the research to the members of the community. To recruit the 14 community members, I used convenience sampling followed by snowball sampling. The referrals by the initial participants added to the total number. Also, a total of 12 students from the Kwabeng Anglican Senior High Technical School participated in two focus group discussions (each group made of 6 students). I handed over an official letter to the school board to seek the permission to speak to students in a focus group. Once permission was granted, I introduced the objectives of the research to the students who were willing to participate. Details of the research were fully explained to the students and they had the chance to read and sign the consent forms before data collection began. Finally, two officials from A Rocha, an NGO were also interviewed for the research. Data collection

continued until saturation was reached. A total of 19 interviews and 2 focus group discussions were conducted for the study. Altogether, 31 people participated in the study.

For sampling procedures, a number of non-probability sampling procedures were utilized in accordance with the study. Community participants for the unstructured interviews were selected using convenience and purposive sampling techniques. Discussions were held in homes of some participants, public locations, including local shops and walking trails. Interviews for government officials were conducted in their offices. For focus group discussions of students, the premises of the school was used. For community stakeholders, participants were selected using a combination of purposive, snowball, and convenience sampling strategies (Cameron, 2010, Newing, 2011), with assistance from the District Chief Executive and the Assembly man of the Kwabeng community. These sampling approaches were used to capture a wide but inclusive range of local decision-makers and stakeholders living in the forest area.

### **4.3 Data Collection**

Qualitative data collection methods, by their nature, are exploratory in and mainly concerned with gaining insights and understanding into underlying reasons and motivations. These methods are often regarded as providing rich data about real life of people and situations. Also, they are more able to make sense of behaviour and to understand behaviour within its wider context. Purely qualitative tools were employed for data collection for this research. Specifically, interviews and focus groups discussions were the two data collection tools used in this research.

#### ***4.3.1 Interviews***

I conducted interviews with selected community members, forest officials, NGO workers and forest guards, either identified from the examination of the management plan or through the information given by former informants. The broad range of informants selected made it possible to gain a better understanding of the different perspectives and interests behind forest conservation efforts. The organizational structure and interest of the involved actors and stakeholders is relevant as their interest and points of view can affect the actual execution of the forest conservation policies and efforts.

Dörnyei (2007) argues that using interviews is a natural and socially acceptable way of collecting data as it can be used in various situations covering a variety of topics. In line with this, as recommended by various researchers, that is, Bell (1987) and Berg (2007), interviewing should be adopted as a tool for social research as it facilitates obtaining direct explanations for human actions through a comprehensive speech interaction. Interviewing community members engaged them to share their opinions on existing challenges of forest governance, sources of livelihood conflicts and strategies for win-win outcomes. The exercise also engaged them to suggest ways to ensure effective participation of members of the community in conservation efforts. Robson (2002) and Ho (2006) explain that interviewing is a powerful way of getting insights into interviewee's perceptions, and it helps in providing in-depth information about participants' inner values and beliefs.

#### ***4.3.2 Focus Groups***

Focus groups are a group of participants who share some similarity or experience with the topic at hand, and who may be able to provide information to researchers about the phenomenon. The participants are brought together and interviewed as a group, rather than as individuals, so that participants may talk among themselves, trigger awareness within each other, discuss similarities and differences, and feel more comfortable with the presence of other participants/peers. In this case, this tool will be useful for generating information on collective views, and the meanings that lie behind those views. Also, it will help in generating a rich understanding of participants' experiences and beliefs (Stewart & Shamdasani, 2014). This tool was only used to solicit the responses of the student participants of the study.

To justify the selection of this tool for data collection, the focus group was important in this research for several reasons. As a socially oriented research method, it helped me capture real-life data regarding forest governance concerns in the Atewa Region, in a social setting of these students. For that reason, it offered the research a high degree of flexibility in the data collection process. In addition, it has high face validity, meaning that it measures what it is intended to measure and generates quick results. The students expressed their views in such a friendly environment as most of them felt it was a great opportunity to contribute to the research. Most importantly in focus groups, group

dynamics often bring out aspects of the topic or reveal information about the subject that may not have been anticipated by the researcher or emerged from individual interviews.

#### **4.4 Rigour, trustworthiness and quality**

Several steps were taken to ensure rigour and credibility in this study. Golafshani (2003) is of the view that qualitative researchers, like their quantitative counterparts, need to demonstrate that their studies are credible, where credibility depends on the ability and effort of the researcher. Rigour refers to establishing trustworthiness or dependability of one's work and confidence in the findings (Baxter & Eyles, 1997; Bradshaw & Stratford, 2010; Golafshani, 2003; Guba & Lincoln, 2005). Trustworthiness entails the validity of the research, which is related to research quality and generalization (or transferability) of the results (Golafshani, 2003; Patton, 2002). Accurate documentation of the research, practicing reflexivity and triangulation were the approaches I used to achieve research rigour, trustworthiness and quality. Each stage of the research was carefully documented in order to report work that is open to full scrutiny by the interpretive community (Bradshaw & Stratford, 2010; Fielding, 1999). I also collected and recorded raw data from interviews and focus groups in a database of notes which was used for the analysis and discussion.

To also ensure the quality of the research, I simulated the formal data collection process on a small scale to identify practical problems regarding data collection instruments, sessions, and methodology. The essence of this simulation was to detect potential errors in cross-cultural language relevance and word ambiguity, as well as discovering possible flaws in the interview questions. I did this simulation also to potentially be provided with warning about how or why the research project can fail by indicating where research protocols are not followed or not feasible (Hurst et. al., 2015). The simulation of my instruments was undertaken at Kwabeng, the study area. It involved in-depth interviews with three key informants; the Assembly man, a teacher at the Kwabeng Anglican Senior High Technical School and one community elder. The purpose was to i) evaluate language competency and content validity of my data collection materials, ii) estimate time length of full interview and focus group delivery and marking periods of respondent fatigue, iii) maximize methodological skills and achieve proficiency

standards for qualitative data collection and iv) assess the feasibility and fidelity of translation and transcription protocols in preparation of the interview and focus group text for qualitative analysis.

#### **4.5 Data Analysis**

Data analysis for the qualitative tools followed Braun and Clarke's (2006) six phase approach to thematic analysis. It started with the transcription of the recorded interviews in verbatim. It was then followed by generation of initial codes, a search for themes, a review of themes, defining and naming themes before finally writing the discussions and findings. The NVivo 12 was used for the data analysis and presentation.

All audio recordings from the interviews and focus groups were transcribed verbatim. Once the transcriptions were complete, I read them while listening to the recording and did the following: correct any spelling or other errors; anonymize the transcript so that the participants cannot be identified from anything that is said during data collection.

While continuing with the processes of coding and theming I considered not just what the participants said during the data collection but also what 'they were *not* saying'. For example, 'is a lengthy pause an indication that the participant is finding the subject difficult', or 'is the person simply deciding what to say?' I did all these, having in mind that the aim of the whole process from data collection to presentation was to tell the participants' stories using exemplars from their own narratives, thus grounding the research findings in the participants' lived experiences. To help me for accurate codes, I compiled field notes during data collection and they were useful complementary sources of information to facilitate the coding process. I also did this because the gap in time between the interviews and focus groups, transcribing, and coding could result in memory bias regarding nonverbal or environmental context issues that may affect the interpretation of the data collected.

After generating the codes, the next thing I did was to search for themes. Theming refers to the drawing together of codes from one or more transcripts to present the findings of qualitative research in a coherent and meaningful way. The last part of the analysis was

finding ways of drawing together or ‘synthesizing’ the research findings to represent, as faithfully as possible, the meaning that participants ascribe to their life experiences. Data was guided by these principles mainly because for most readers, the synthesis of data presented by the researcher is of crucial significance. This is usually where ‘the story’ of the participants can be distilled, summarized, and told in a manner that is both respectful to those participants and meaningful to readers.

#### ***4.5.1 NVivo 12***

I chose this method due to its flexibility, as well as its suitability for using both deductive and inductive processes to examine data (Bryan & Clarke, 200). This method generally involves thorough reading and re-reading of the data (Rice & Ezzy, 1999: 58). The emerging themes were used as groupings for further analysis and code development. To further validate these codes, NVivo 12 was used to show the connections between key issues that were identified as the causes of forest degradation and loss in the Atewa Forest; and the strategies capable of generating win-win outcomes for all stakeholders. NVivo 12 is a computer-driven and thus not influenced by researcher bias (QSR International, n.d). Using NVivo 12, color coding and categorizations were narrowed down into ‘nodes’ and clustered based on analytical and descriptive codes and themes informed by the literature review and research objectives, as well as themes that emerged in the data set. To elaborate further, causes of forest degradation and loss were placed under their own nodes and sub nodes such as ‘mining’, ‘weak institutions’, etc. were categorised under the primary nodes. A color was applied to each primary node and NVivo 1 would output all sub-categories into one paged readable format. This guided the results section in chapter five.

#### **4.6 Scope of the study**

This study focused on forest conditions in Ghana and how ecologically-based management approaches, such as ecotourism development could be employed to yield maximum environmental, socio-cultural and economic benefits for win-win outcomes for all stakeholders. The most central issues that were looked at were strategies for eliminating Ghana’s tree and livelihood conflicts in forest communities, and at the same time promoting stakeholder collaborations for development? For that matter, the Atewa Forest was selected as the study area for the study. The study examined the development of forest

conservation in Ghana and challenges that have bewildered this development over the years. Also, it examined the potentials of ecotourism development as a sustainable tool for effective forest governance.

#### **4.7 Fieldwork**

The fieldwork for this research started from the 26<sup>th</sup> of December 2018 to the 4<sup>th</sup> of February 2019. I used the first two weeks to establish rapport and communicate with the various government officials and elders of the Kwabeng community, who were potential participants. On the 3<sup>rd</sup> of January 2019, I visited the District Assembly to introduce himself to the District Chief Executive and the community elders. I also met the Assembly man of the community who later introduced me to the elders of the town as is regularly done. Apart from that, I went to the Kwabeng Anglican Senior High Technical School to officially ask permission from the school board to be able to engage the students in focus group discussions. During 5-week stay in the Kwabeng community, I developed some connections with some residents of the town, made trips to Anyinam, Kyebi and Begoro (these are towns around the Atewa Forest where some government offices were located) to speak with the government officials in these surrounding towns.

I interviewed a total of 14 community members, ranging from farmers, hunters, traders, teachers, small-scale miners and district assembly officials; 2 forest guards and 3 government officials. Most interviews (and all focus groups) were conducted by me in English. Seven of the interviews were conducted in Twi (Ghanaian language) with the help of a field assistant (translator). I conducted two separate focus groups for two groups consisting 6 students each.

Apart of Kwabeng community, I visited the national, regional and district offices of the Ghana Forestry Commission, Forest Services Division, to seek approval to engage forest managers in one-on-one interviews. I conducted interviews for the Forest Range managers at Kyebi and Anyinam. While data collection was ongoing, I was doing the transcriptions and translations for the audio-recorded interviews and focus group discussions. I made my final contacts and follow-up with all the participants from the 1<sup>st</sup> – 2<sup>nd</sup> February to officially thank them and to inform the officials and traditional leaders that



I was leaving the community. The last activity I engaged in was a participation in an exhibition of the Atewa Forest which was organized by A Rocha, an NGO advocating for the designation of the Atewa Forest as a National Park. At the exhibition, I conducted a face-to-face interview the Deputy Director of *A Rocha*, an official from the Ghana Tourism Authority and some members of the media. Fieldwork officially ended on the 2<sup>nd</sup> of February 2019.

#### **4.8 Positionality of the Researcher**

In most cases, the positionality of the researcher is overlooked when evaluating how the research was approached and designed. In qualitative research, the researcher plays an active role in selecting the topic and determining how the research is undertaken, which suggests that he also influences the nature of the research and, potentially, its outcomes. In recognition of this relationship, I highlight my own positionality with the study area and the way I am involved in the research. I was born in Ghana and have lived in the country from birth until 2017 when I moved to Canada to pursue my master's degree. I had my primary, secondary, polytechnic and university education all in Ghana. During my tertiary education, I developed so much interest in issues of conservation and sustainable forest management in forest communities. The nature of my program offered me the opportunity to interact with many Ghanaians from diverse cultures. As a result, I was involved with many ethnic groups in various in the promotion of sustainable forest management for ecotourism development. As a student at the University of Cape Coast, I visited the Kakum National Park, Ghana's number one attraction for nature-based tourism, many times. The level of development happening there, coupled with the many projects that enhance sustainable development and forest conservation further increased my desire to help in contributing to Sustainable Development Goal 15. At the time, many discussions surrounding bauxite mining in the Atewa Forest became very topical, hence my decision to investigate the issues. I recognize that I am a Ghanaian from the Volta Region of Ghana, middle-class young male who is approaching this research from a "privileged position of power - both academically and personally" (Trussell, 2014, p. 343). My perspectives are shaped by this identity, and my identity impacts how I am perceived in interactions with the world around me (Bourke, 2014). For example, even though many participants in the Kwabeng community knew me as a Ghanaian, I still felt new in the environment since it is

one which I am not familiar with. Elements of the culture, such as language, are those that are different from mine, and I have to acknowledge that this identity impacted my interactions with the community. I had to be reflexive and conscious of how my identity influenced the narrative of this research.

Although some positivist scholars advocate the elimination of personal bias from the research process to be completely objective, post-positivist scholarship recognizes that it is impossible to achieve absolute objectivity in research (Babbie 2001; Trochim 2000). Similarly, Mishler (1986) argues that the challenges associated with research bias, “are not solved by making the researcher invisible and inaudible or by painting him or her out of the picture” (Mishler, 1986: 83). Thus, post-positivist research tends to position the researcher within the research and that is exactly where I have positioned myself. I concur with Hay (2005) that cross-cultural research needs to be “decolonizing” in nature and ought to provide some value to those it represents.

Colonial research reflects and reinforces domination and exploration through the attitudes and differential power embodied in its research relationships with others, its dismissal of their rights and knowledge, its intrusive and non-participatory methodologies, and often also in its goals and in its use of research findings. Postcolonial research is a reaction to and rejection of colonial research and is intended to contribute to others’ self-determination and welfare through methodologies and the use of research findings that value their rights, knowledge, perspectives, concerns, and desires and are based on open and more egalitarian relationships. Decolonizing research goes further still in attempting to use the research process and research findings to break down the cross-cultural discourses, asymmetrical power relationships, representations, and political, economic, and social structures through which colonialism and neo-colonialism are constructed and maintained (Hay 2005; 32).

For the purposes of this study, I use the term “decolonizing research” to express a method of empowering the forest communities and all stakeholders of forest resources in the Atewa Region with the training and tools required to become active participants in the decisions that affect their lives, especially with those that concern forest governance. The study was also designed to be sensitive to differences in gender, class, status, and clan. I

had to be reflexive and conscious of how my identity influenced the narrative of this research. Reflexivity is defined as the ability to manage and critically reflect upon one's identity in a research setting (Bourke, 2014; Trussell, 2014). Reflexivity can be used to “understand the personal, social, and political aspects of the research process and on the kind of knowledge that is produced” (Trussell, 2014, p. 344), or in other words, to analyze my positionality as a researcher. I maintained this reflexivity by keeping a journal of major events, together with my mental/emotional state and observations made, during the research process and then used this journal as a point of self-reflection.

#### **4.9 Ethics**

Ethical considerations in research are critical. Ethics are the norms or standards for conduct that distinguish between right and wrong. They help to determine the difference between acceptable and unacceptable behaviors on the part of the researcher (Miller, Birch, Mauthner, & Jessop, 2012). Because ethical considerations are so important in research, many professional associations and agencies have adopted codes and policies that outline ethical behavior and guide researchers. These codes address issues such as honesty, objectivity, respect for intellectual property, social responsibility, confidentiality, non-discrimination and many others. They also provide basic guidelines, but researchers will still be faced with additional issues that are not specifically addressed and this will require decision-making on the part of the researcher to avoid misconduct. This study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee (ORE #40186). For general ethical considerations, all participants were duly informed and reminded of their rights to participate or withdraw at any point before any of the interviews and focus groups. Participants were also informed to notify me or my advisor (contact details were provided) by email within one year of data collection for their data to be withdrawn from the study if they so desired.

Nuances surrounding participant recruitment and decisions to participate may involve issues related to socio-cultural and political context, trust, knowing and being known (Eide & Allen, 2005), and reimbursement of participants' time and expenses (Head, 2009). When approaching participants, traditional procedures emphasize the importance of access to official and unofficial gatekeepers. This is because it is often only through these

gatekeepers that researchers gain access to potential participants. For me to recruit participants, I visited the District Chief Executive and the Assembly Man of Kwabeng to seek permission to recruit members of the community. An elder of the community introduced me to the community members after which I verbally introduced myself and the purpose of the research to the members of the community. I later gave consent forms to participants who agreed to be part of the study to read and sign before the data collection started. Also, for students from the Kwabeng Anglican Senior High Technical School I wrote an official letter to the school board to seek the permission to speak to students in a focus group. Once permission was granted, I introduced the objectives of the research to the students who were willing to participate and consent forms were signed before the focus groups started.

Any research conducted in an environment that requires researchers to go through gatekeepers may raise questions related to risks to the participant, particularly the consequences of refusal to participate. Participants may feel pressured to participate out of a sense of duty or because they believe in the good of the researcher (Holloway & Wheeler, 1999) or any other secondary motivation that reflects the power differential in the participant-researcher relationship. To deal with this issue, I ensured that participants made their own decisions by signing the consent forms by their own volition and in the presence of no one. To support the findings of this study, any quotations and excerpts from the interviews have been kept anonymous to protect the identity of the participants. Names of participants and their respective positions in the organization did appear in the thesis or reports resulting from this study. Again, all paper field notes collected have been retained locked in a secure cabinet in Department of Geography and Environmental Management at the University of Waterloo. Paper notes would be confidentially destroyed after two years. Further, all electronic data have been stored and will be kept for at least two years in a password protected folder with no personal identifiers. Finally, only myself and my advisor, Dr. Larry Swatuk in the Department of Geography and Environmental Management at the University of Waterloo have access to these materials.

#### **4.10 Study Area: KWABENG**

##### ***4.10.1 Geography of Kwabeng***

Kwabeng is a town located in the Eastern Region of Ghana. Administratively it is the capital of Atiwa West District. The town is bounded by Akyem Akrofufu to the north, Akyem Bomaa to the south, Akyem Moseaso to the west and the Atiwa-Atwiredu Range to the east. It is a town in the Akyem Abuakwa Traditional Council near the Birem River which extends about 9.66km westwards off Akyem Anyinam located on the Accra-Kumasi stretch. The location of the town makes it a nodal one which connects routes leading to Asamankese, Kade, Akyem Akropong, Abomосу, Tumfa and Akwaboaso.

Kwabeng is located at an elevation of 191 meters above sea level. It lies in the wet semi-equatorial zone featured by two major rainy seasons. This reaches its maximum rate during the months of April-July and September-October with an annual rainfall of 1625mm approximately. The temperature of the town ranges between 25<sup>0</sup>C and 30<sup>0</sup>C. The dry season sets in from mid-November to February with a little rainfall of 31mm. Due to its location in a moist semi-deciduous rainfall forest, the town is surrounded by forest reserves, which has in abundance, commercial trees like Odum, Wawa, Mahogany, Ofram, Emele and Okyenkyen. The forest also provides game for hunting. The Atiwa forest houses series of waterfalls and scenic sites.

The soil type in Kwabeng is reddish brown in colour and this has enabled indigenes to cultivate their staple food crops, including cocoyam, cassava, varieties of yam and plantain. Cash crops like oil palm and cocoa are widely cultivated among the indigenes. The former is tapped to produce palm wine and locally prepared gin called “akpeteshie”. In addition to the farming activities, poultry and livestock such goat and sheep are also reared by the people. The town is also endowed with mineral resources such as alluvial gold, sourced from Awusu; the town’s mainstream. Other rivers include Kutuani, Akuku and Kokoben among the ninety nine rivers and streams. Mining activities in Kwabeng date back to the earlier migration of the indigenes into the present location. Presently, gold is mined legally by the Xtra Gold Company and illegally by several “galamsey operators”.

#### ***4.10.2 Atiwa West District***

The Atiwa West District is one of the 260 Metropolitan, Municipal and District Assemblies in Ghana and forms part of the thirty three 33 Municipalities and Districts in the Eastern Region. It was granted its present status by the Legislative Instrument (LI) 1784 of 2004. It was carved from the then East Akim District Assembly now East Akim Municipal Assembly, in the year 2004. Its Capital is Kwabeng which is situated at the foot of the Atiwa Range. The District is bounded on the north by Kwahu West Municipal and Kwahu South District, on the north-east by the Fanteakwa District, East Akim Municipal to the south-east, Kwaebibrim Municipal to the south and Birim North District to the west. The strategic location of Atiwa West District, sharing boundaries with districts that are famous in agricultural production, provides an opportunity to develop agro processing facilities to make use of raw materials from these areas. The large area under the jurisdiction of the District has implication for many small settlements whose population may not measure up to the population threshold for provision of certain socio-economic infrastructure. And being a relatively new district, it may also require enough financial resources to be able to close the infrastructure gap. The population of the District according to 2010 population and housing census stands at 110,662 with 54,671 males and 55,951 females.

## District Map of Atewa



**Figure 4.1: District map the Atewa District showing Kwabeng, the District Capital**  
 Source: Ghana Statistical Service, GIS

#### ***4.10.3 Society and Culture of Kwabeng***

The socio-cultural practices of Akyem Kwabeng are deeply rooted in that of Akyem Abuakwa and the Akan culture in general. It should be noted that these institutions have also transformed over time alongside the chieftaincy institution of Kwabeng. Hence, it is equally important to know how these institutions have shaped the entire society. The people of Kwabeng accord the Supreme Being as the head of the religious hierarchy. Hence, they refer to him as “Onyakopon” and give Him attributes like “Twereduapon”, meaning “one can lean on Him and will not fall”. The Supreme Being is believed to be sacred and cannot be worshiped directly but through deities. He is believed to be the final arbiter of justice, and to have divine mercy. Next in the religious hierarchy among the people of Kwabeng is deity worship. These deities are believed to live in the rivers, streams and the Atiwa forest which is considered as a sacred grove. Other deities in time were introduced by the natives themselves. A notable example is “Tigare”. Deity worship varied from individual, family and community to state-level worship. Also, they were classified by their functions. For instance, deities like Tano, Birem and Anokye were worshipped across Akyem Abuakwa. Tano and Anokye were believed to be deities responsible for ensuring successful wars while Birem deity was believed to be a source of wealth. The town deity of Kwabeng was Kofi Wusu who resided in the Awusu River. Due to its name “Kofi”, which is a name given to a male born on Friday, it was forbidden to fetch from the stream on Fridays. Sacrifices are made to the Awusu and other ninety eight deities in Kwabeng during festive occasions like the Addae festivals; Akwasidae and Wukudae which are celebrated every forty days each. Ancestral worship is also observed among the people of Kwabeng. The people believe that a member of a family who lives an exemplary life deserves to be venerated and hence a black stool is made for such individual.

Also, an ancestor must not die of any shameful disease such as leprosy. The blackened stool is kept as an object of veneration. According to Addo-Fenning, the black stool is the most venerated object in the Akan family symbolizing how the group stresses the importance good life in their societies. The black stool also serves as symbol of traditional authority in case of Traditional Leadership. The life of the people of Kwabeng is strongly bounded by their kinship and family ties. This is enshrined in their kinship systems and it is on this background that the whole society is organized.



#### ***4.10.4 Economic activities of the people of Kwabeng***

The economic activities of Kwabeng for the purpose of this research are discussed in three periods - *pre-colonial, colonial and post-colonial activities*. The post-colonial period refers to the economic activities undertaken by the people of Kwabeng from independence till date. These activities have been influenced by the resources surrounding the people, good vegetation and soil type. Subsistence farming was a common practice in the pre-colonial period since farmers grew food crops and reared a considerable number of domestic animals to feed themselves and their family. Farming, according to Addo-Fenning and Rathbone was organized on the most important economic resource, land. It was held in trust for future generations by family heads on the side of families and also by the chief, Kwabenhene on part of the whole community. Food crops cultivated at this period included cassava, plantain an indigenous yam known as “kokoo ase bayire” and maize as well as cocoyam. Consequently, fruit crops like orange, mango, banana and pineapple were introduced by migrant farmers from Krobo and Akuapem who had earlier contacts with the Gold mining had been the major source of livelihood for the people of Kwabeng by 1852; however the major source of gold in Kwabeng is the soil bed of the Awusu River. Though the people speculated that the Atiwa Mountain contained a good amount of the minerals, mining activities were not extended there. The gold industry became lucrative during the wet season as compared to the dry season. The mineral was obtained from pits known as “Nkromena” by means of ropes and bindweed and then washed down by the Awusu stream by the process in which Addo-Fenning calls vammung. Evidence of slaves helping in the mining industry suggests that slave trading was also a common economic activity in the region.

The economic activities of Kwabeng in the pre-colonial era were shaped by their religious sanctions. This is in the wider religious context of Akyem Abuakwa but varied with little variations. For instance, while it was forbidden to farm on Wednesday, farming activities were carried on Wednesday whereas certain conditions had cut across like all Fridays were considered sacred by all indigenes of Akyem Abuakwa. This day is considered as rest day for the earth goddess Asaase Yaa. Also, farmlands are not visited on festive occasions like the Akwasidae and Wukudae. Major trade routes in Kwabeng are organised along Anyinam, Kyebi, Apedwa, Adweso, Aburi, Abokobi and then to Accra.

This trade route assumed a higher popular status in the 1840's. Also routes that linked Kyebi (Kibi), Kwaman from Anyinam passed through Kwabeng to Abomосу and then to Kumasi. Cocoa cultivation increased considerably during the colonial era in Kwabeng. Most migrants undertook greater cultivation of the crop than they cultivated oil palm. The road which connects the town to Anyinam was first constructed in 1943 by the colonial government and then later reconstructed during Rawlings' Armed Forces Revolutionary Council rule. This enabled easy transportation of goods as well as raw materials from the interior towns through Kwabeng to Anyinam, Kyebi and Accra.

#### **4.11 Limitations of the Study**

Despite best intentions, there are always a number of limitations associated with any selected research methodology that could possibly lead to vast alterations in the results. Thus, it is important to critique the various limitations associated with the research methods while, at the same time, exploring the various mitigation strategies employed to minimize their impact. As far as the study is concerned, three main limitations were encountered during data collection. First, Kwabeng community, the location for my data collection, at the time of my fieldwork, had a chieftaincy dispute. This made the community politically divided and many of the residents of the town initially did not want to participate in the study. Most people saw me as being on one side and against the other. This almost delayed my schedule but instead of letting that happen, I sought permission from the District Chief Executive, who also introduced me to the Assemblyman of the town. These two people are neutral individuals who were not involved with any chieftaincy issues and so highly esteemed by members of the community. Once community members found out that I was a neutral researcher who was just in the town for academic research only, they welcome me to go ahead.

The second limitation of the study was the difficulty in getting documents and information relating to mining of bauxite and gold in the forest. Even though the government offices I visited were receptive and ready to help, it was clear to me that they were not willing to make available certain documents that I needed to use to get all the information needed. This made it quite difficult to find all the information needed for a

clear understanding into the political dimensions of the plan to mine bauxite in the Atewa Forest.

Lastly, the various communities living around the Atewa Forest are located far away one from another and I had to travel over 40km to move from one town to another. Due to that, I conducted all my interviews for residents in only one community, while I travelled to the three other communities to interview the officials from the forestry commission.

#### **4.12 Conclusion**

This chapter summarizes the methodology adopted for this thesis. It describes the rationale behind the choice of the research design that was chosen for the study. In addition to this, the chapter started off by re-introducing the main questions that were underlying the research regarding what ecologically-based management strategies could be employed to generate win-win outcomes for all stakeholders of the Atewa Forest in Ghana. The chapter also captures elements of the methodology including sampling and sample size, data collection, pre-testing of instruments, data analysis, and fieldwork. Also, it presents information on the study area for the research, in relation to the positionality of the researcher. Finally, the ethical considerations and limitations of the study constitute the last part of the chapter. The thesis now continues with its research results in the next chapter.

## **Chapter 5**

### **Results**

#### **5.0 Introduction**

In this Chapter, the results from the analysis of the qualitative data collected are presented. This thesis started with the main aim of examining ecologically based management strategies that could be adopted to resolve forests and tree livelihood conflicts in Ghana's high forest zone, specifically, the Atewa Forest to ensure effective forest governance which brings win-win outcomes for all stakeholders. The results intend to answer the five main questions that guided the entire research. The results section categorizes the findings under these five main questions. As explained in chapter four, a total of 19 interviews and 2 focus group discussions were conducted for the study. Below are the results of the analysis of data from 31 participants:

#### **5.1 Stakeholder Positions, Interests and Value perceptions of the Atewa Forest**

##### ***5.1.1 Positions, Interest and Values of stakeholder groups sampled***

To begin with, Ghana's forest resources use and management are complex, dynamic and involving multiple actors and stakeholders, at different levels and scales. There is therefore the need to understand that in the Atewa Forest, many stakeholders at different levels and scales exist many different interests and expectations. The interviews and focus groups presented participants with the opportunity to explain what the Atewa Forest means to them. It is interesting to find that each of these stakeholder groups has their respective positions, hence different interests and values in the forest. The same resource appeals to different stakeholders differently. Understanding the various positions and the multiple ways people value forests is important, as individual values regarding nature have been shown to partly determine willingness to participate in conservation initiatives. As individual values are influenced by past experiences, the way people value forests may be related to the ecosystem services they use and receive as. Individual human values, which are concepts and beliefs about desirable end states or behaviors, are fundamental for understanding people's attitudes and behavior. Values people attribute to nature, natural resources and the environment are associated with pro-environmental attitudes and behaviors. It is for this reason that understanding how and why (and to what extent) people

value non-human nature (e.g. forest resources, species, ecosystems) can be a useful tool for forest governance, environmental management and biodiversity conservation. The table below summarizes the different stakeholders identified as major stakeholders of the Atewa Forest and the various values they place on, interests and expectations they have in the forest resource.

**Table 5.1 Showing various stakeholders, their positions, interests and the value placed on the Atewa Forest**

<i>Sample Group</i>	<i>Position</i>	<i>Interests/Expectations</i>	<i>Value</i>
Government (Central & Local)	Technocentric	Economic development Employment creation Infrastructural Development International trade and collaborations (with China) Environmental sustainability	Economic/Environmental
Ghana Tourism Authority (GTA)	Ecocentric	Biodiversity protection Ecotourism development Healthy environment	Environmental/Economic
Community members	Ecocentric/ Technocentric	Food from farms Water for domestic use Water for Livestock Water for small business/ farming	Cultural/Social/ Environmental
NGOs (A Rocha)	Ecocentric	Ecosystem development and protection Biodiversity hotspots SDGs	Environmental
Traditional Leaders (Assembly men, opinion leaders)	Ecocentric	Food from farms Water for domestic use Water for Livestock Water for small business/farming	Cultural/Social Environmental
Educational Institutions (Students)	Ecocentric	Ecosystem development and protection Biodiversity hotspots SDGs	Environmental

*Source: Fieldwork, 2019*

### 5.1.2 Benefits of the Atewa Forest

In a general sense, forests have many benefits. This was revealed in the interviews and focus group discussions in Kwabeng. Generally, participants described the benefits of forests in three broad categories - environmental, social/cultural and economic. Environmentally, forests provide a range of essential ecosystem services. For example, forests preserve soils, cycle nutrients and support biodiversity. Trees and other forest plants filter pollutants from air and water, acting as natural cleansers. In addition, trees in cities and other urban areas help improve air and water quality and reduce surface and air temperatures. To explain the environmental benefits of forests, some participants made the following statements:

*“In my opinion, the Atewa Forest helps in the provision of oxygen. We human beings need oxygen for many things; we breathe it and it helps us to break down food for the release of energy. Plants ensure that we have enough oxygen by absorbing the earth’s carbon dioxide. In effect, it’s this forest that is keeping the balance. Without them, carbon dioxide will be concentrated and it’s going to harm us”.*

*Participant 2, IDI (Community member) (Fieldwork, 2019)*

*“There are also social and cultural benefits of forests. They offer many opportunities, such as ecotourism and recreation. It is very refreshing just relaxing under the canopies of the trees. In most forest communities in Ghana, such as in Kwabeng, forests are of great cultural, aesthetic and spiritual importance to many people across the country, especially communities living around them. One day, I spoke to one man and he told me that in the Atewa Forest, they had a sacred grove; that was where the gods of the land wanted to meet with them so we go in there periodically to commune with their gods. He said they are allowed by the assembly and by law to go into the forest for their religious rituals for it was what their fore fathers did and they had to continue”.*

*Participant 1, IDI (Community member) (Fieldwork, 2019)*

In addition to the environmental and socio-cultural benefits highlighted by participants, other participants revealed in their comments that the forest industry also provides economic benefits through jobs and income and these benefits are especially important in many rural communities. The jobs can be direct or indirect. Some of these

direct jobs include foresters, scientists, engineers, computer technologists, technicians and skilled tradespeople. The jobs help ensure the economic sustainability of rural communities, and the benefits trickle down through entire local economies. Another major benefit some participants mentioned was health. Some residents believe that the leaves, roots and barks of some tree species serve as medicine for many diseases and illnesses. They alluded to the fact that most of the people of Kwabeng do not go to the hospitals in times of illnesses; rather, they use herbs and other plants to cure many diseases. This explains that apart from the three main categories - environmental, social/cultural and economic, other benefits of forests can be explained.

### **5.1.3 Forest governance: Participants' Definition**

From the data it was clear that each participant had an interesting idea about what constitutes forest governance is. The term 'forest governance' has been defined in many ways by many authors. However, it can be generally described as the organizations, people, rules, instruments and processes through which decisions are made relating to forests. Some key elements were mentioned in the explanations put forward by the participants. It was obvious from the participants' responses that every forest governance definition must capture keywords such as rules, regulations, policies, organizations, decisions, principles and management. Talking to a cross section of the stakeholders revealed that forest governance is to be viewed as a collective process; that is, it must include multiple stakeholders at different scales and levels. A participant describes forest governance with an emphasis on the fact there, it is for future purposes. In his words, he said:

*"Forest governance, according to my understanding is a way or measures put in place to keep and make sure that the forests lasts for a long period of time so that future generations can also come and meet it"*.

*Participant 4, IDI (Community member) (Fieldwork, 2019)*

A diagram showing the three main areas of forest governance and actions that guarantee successful forest governance

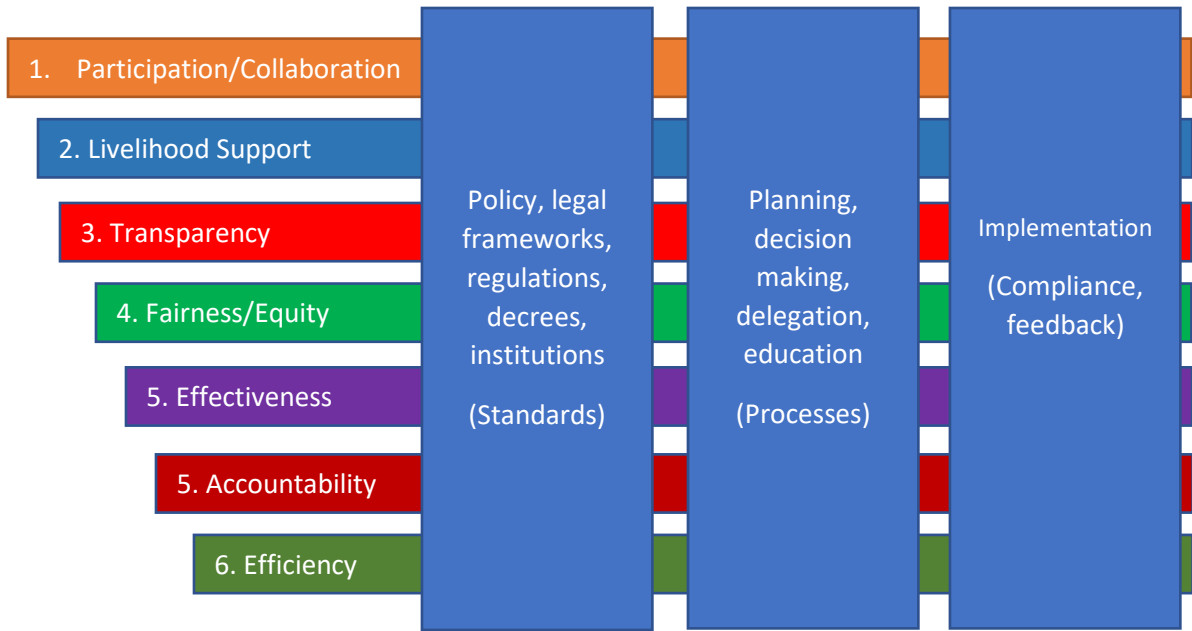


Figure 5.1 A diagram showing the three main areas of forest governance and actions that guarantee successful forest governance

Source: Fieldwork, 2019

Adapted from van Bodegom, Wigboldus, Blundell, Harwell, and Savenije, (2012).

The diagram above represents the views of participants on the elements of every successful forest governance effort. Policy, Planning and Implementation have been recognized as the three main pillars of forest governance. Also, respondents ranked in order of importance, 1 – 6, which actions by policy makers make the governance of forests most likely successful. A combination of all or most of these actions can contribute to success in forest governance. The absence of any of these actions will not necessarily result in a failure of forest governance. Overall, all the definitions and the understanding of all participants can be summarized to mean that effective forest governance processes engage forest stakeholders, address key forest-related issues, and involve other sectors that affect, or are affected by, forest governance.



## 5.2 Causes of Forest Degradation in the Atewa Forest

The international community, governments at national level, NGOs, and other such organizations are raising awareness about the dangerous consequences of forest loss to the environment and for that matter, humanity. Forest degradation has been described as any activity that affects the quality of the forest. In Ghana, and Atewa Forest to be specific, several issues have been responsible for degradation and deforestation. Results from the fieldwork reveal that inter-stakeholder conflicts, weak institutions, overpopulation and lack of education on the dangers of forest loss are the main causes of forest degradation and deforestation. While a majority of respondents blame forest loss and degradation on weak institutions and actions of corrupt officials, some other participants allude to the fact that lack of education and overpopulation are the major causes of degradation in the Atewa Forest.

### 5.2.1 *Weak institutions and insufficient funds for forest protection*

Discussions with some officials of the Forestry Commission of Ghana revealed their concern about the extent to which they are not well equipped and coordinated as lawful institutions to enforce forest laws and policies. One forestry official stated:

*“The truth is that we as an institution do not have enough funds to clearly draw the legal boundaries of admitted farms. You see, the greatest challenge we have as a commission in the Atewa Forest is these admitted farms. The communities have legal rights to some portions of the land but because we do not even know the boundaries, they keep encroaching and enlarging their farms into the main forests. We have made many appeals but to no avail. This makes it hard for us to do our work effectively...”*

*Participant 29, IDI (Forestry Official) (Fieldwork, 2019)*

My interactions with two forest guards, mandated with the responsibility of arresting illegal farmers, hunters and miners, revealed that they are not fully equipped to perform their duties. One forest guard lamented about the problems of unclear laws. These laws create confusion for regulators and make it difficult to enforce the law. The lack of coordination between different ministries (forestry, land, agriculture and mining, among others) that may need to give permissions to a project involving forest conversion makes it more difficult still for regulators to enforce laws coherently. Because of that, farmers, miners and all other perpetrators of illegal activities working at all scales in or near the

Atewa forest reserves are often not caught and punished for illegally encroaching on forests. Apart from these challenges, they spoke about the extent to which their job as forest guards is risky, making it difficult for them to be very effective. To summarize his points, he stated:

*“Our job is difficult. We are prone to attacks by people who do illegal mining and poaching. We do not have the right protection to stop these people. These people who come to do these illegal things have guns. They have motorbikes to run when they get into trouble. Unfortunately, we do not have any of these. Government must give incentives and tools we need to do our work. Motorbikes and guns will help us do our work fast and scare these bad people”*

*Participant 27, IDI (Forest Guard) (Fieldwork, 2019)*

An opinion leader who has been very much involved in local governance at the Assembly level expressed his disappointment at government for the plan to mine bauxite in the Atewa Forest and government’s inability to deal with all existing activities of mining in the Atewa Forest. He believes that most miners in the Kwabeng community use very crude and traditional methods for mining, leaving the forest in very deplorable states. He also thinks that for the forest to serve its natural purpose, no activities such as mining and poaching should be licensed or permitted in the forest. While officials of the Forestry Commission express their views about why they think inefficiencies in policies, institutions and the government machinery are the causes of forest degradation, some other members of the Kwabeng community believe that overpopulation and the need to engage in livelihood activities are the main reasons for degradation of any kind. According to one farmer, the population of Kwabeng and other communities living around the Atewa Forest has increased over the years. He believes that since farming, hunting and small scale mining are the major livelihood activities of most residents, demand for food has increased. Also, purposes of charcoal production, pasture for livestock, timber harvesting as livelihood activities have brought about the over-exploitation of forest resources.

### **5.2.2 Mining**

Discussions with residents, government officials, NGOs and students revealed that apart from farm encroachment (which is restricted since a few years now), bushmeat hunting, illegal and unsustainable logging, the Atewa Forest Reserve has been under

pressure by other threats such as artisanal gold mining (referred to as ‘galamsey’ in local language), and bauxite mining and exploration in recent decades. Specifically, bauxite mining is increasingly becoming a concern for officials and locals alike, especially given the new MoU with China. To provide a background to the MoU with China, the Assembly Man of Kwabeng explained to me the details of this MoU. Ghana has agreed with China to develop its bauxite industry, but many NGOs, civil society groups, student associations and residents of forest communities have raised concerns that mining activities in the Atewa Forest Reserve may threaten the country’s water supply and the forest.

At the end of June 2017, the Republic of Ghana signed a \$10 bn Memorandum of Understanding (MoU) with the People’s Republic of China to develop its bauxite industry. This was announced by Ghana’s Senior Minister Yaw Osafo-Maafa at the sidelines of an investor conference in London, according to *Reuters*. The deal with China appears to support President Akufo-Addo’s plan, as it includes the construction of 1,400 km of a planned 4,000 km railway network that would link bauxite mines and production sites. Details including interest rates and terms have yet to be decided. The China Railway International Group Limited is the actor providing \$10 bn, *Star FM Online* reported, while earlier reports also mentioned the Chinese Development Bank. Another number of MoUs totaling \$5 bn were signed by Ghana with other Chinese companies, including the China National Building Materials and Equipment Import and Export Corporation (agreed to build a \$2 bn facility with the private sector led by the Association of Ghana Industries), the China Development Bank (agreed to unfreeze a \$2 bn loan), and the China Exim Bank (committed to dispense about \$1 bn to Exim Bank Ghana to support infrastructure and business development).

The Ghanaian government has however rejected claims it is borrowing this money. Instead, Vice President Mahamudu Bawumia explained to reporters that it will give “less than 5% of its bauxite reserves in exchange for the money.” Ghana has large reserves of bauxite based in the Atewa Mountain Range (around 150-180 million metric tons), at Nyinahin (around 350 million) and at Awaso (around 1 bn). “Under the deal with China, Ghana’s integrated aluminium industry will be developed, including the Nyinahin and Kyebi bauxite mines and an aluminum refinery”, Vice President Bawumia said. “Around

\$460 bn can be made of about 960 million metric tons of bauxite reserves in the coming years”, he said, asserting that the deal will benefit the ordinary Ghanaian.

Several groups including A Rocha Ghana, Friends of the Earth Ghana, West African Primate Conservation Action, Ghana Wildlife Society and several professional institutions and state actors and stakeholders are opposing the project. In my exclusive interview with the Deputy Director of *A Rocha* Ghana, he explained the extent to which the already existing illegal mining has resulted in forest loss, and how the plans by government could worsen the situation. He explained:

*“Like I said before, this is not the first time the forest has been attacked by anyone or governments wanting to mine bauxite. There has been 12 different attempts by different governments to mine bauxite in this forest. According to the Minerals Commission, Atewa has got the smallest value, in terms of quality, poor quality so compared to other places, it’s not even of that quality you would say there is premium. Again, the bauxite deposits in Atewa are found in a seam on average 6 metres thick, just 1.5 to 3 metres below the surface. So, if you compare that to the opportunity and the service of water to the many communities that the Atewa Forest’s water bodies serve, you would have no basis to argue that well we need the bauxite there so we are only basing our position based on what amount of money is made from mining. ...We think it would serve Ghana better if we manage the water service rather than to go digging inside for bauxite... A century of mining in this country where has it led us?”*

*Participant 15, IDI (A Rocha Ghana) (Fieldwork, 2019)*

To buttress his concerns as to why he thinks bauxite mining will not yield the best results in the Atewa Forest, he cited a typical example of Awaso, a bauxite mining town in Ghana. He continued:

*There is currently bauxite going on in Awaso for 78 years now; when it started 800 people were employed in the site now the system of bauxite mining has become so mechanized that the numbers have reduced to half, so if anybody comes to you and says you are going to create more jobs from bauxite mining I mean where are the jobs going to come from? Finally, there is nothing like responsible bauxite mining; there is no technology that would not say I would not clear the forest. Strip mining is the only way to mine Ghana’s bauxite due to its closeness to the surface. This method removes all vegetation, habitats and top soil, while the rock beneath is then*

*broken up with explosives. A clear example of the destruction that is caused to forests by bauxite mining is Ghana's existing bauxite mine at Awaso in the Western Region, now a desert of red mud that replaced once thick forest. This is unacceptable and will further deepen Ghana's problem of forest loss and degradation, water scarcity and biodiversity loss".*

*Participant 15, IDI (A Rocha Ghana) (Fieldwork, 2019)*

Apart from the response of the official from *A Rocha Ghana*, other residents of the Kwabeng community expressed their concerns about how the menace of illegal mining has rendered many parts of the Atewa Forest degraded. Personal observation during my walk with the forest guards through the forest indicate that many illegal mining activities (both small and large scale) are responsible for forest loss and degradation. Many areas of the Atewa forest have been dug out for 'galamsey'. This makes the areas exposed to erosion in times of heavy rains. The Assembly man of Kwabeng also explained the reason why he thinks mining has been responsible for forest loss, and the fact that if not stopped, further degradation will occur resulting in many adverse impacts on both the natural and human environments. His major argument was that individuals who engage in illegal mining in the forest use crude methods that involve felling of trees, digging huge pits, polluting rivers that serve the entire communities and disturbing plant and animal species in their ecosystems. He also cited the case of Awaso where bauxite mining is currently happening in Ghana, but laments about the fact that it has not yielded any positive results. He continued:

*"...Just look at Awaso Mines, where mining has been happening since independence (1957). Now, the communities living as far as 5 – 10 km away from the mines cannot even harvest rain water. They can't (he screams). You know why? They use dynamites to blast the rocks and dust particles with all the poisonous substances settle on their roofs. Now, even their rain water is poisonous so they cannot drink. Life is becoming very unbearable at Awaso right now. We will not sit down for this to happen to us here at Kwabeng."*

*Participant 14, IDI (Assemblyman) (Fieldwork, 2019)*

Another resident of the town explained mining, not only being responsible for forest loss and degradation but also for water pollution and in some cases death. This is how he explained it:

*“...From the time mining (galamsey) started until now, water from the forest, which used to be drinking water, can’t even bathed anymore, because it is full of chemicals and mud to the extent that, it doesn’t flow anymore, it gets blocked and it stinks. It then starts breeding mosquitoes and a stench starts coming out. That is how far they are pushing the issues and then when that happens you could see the cutting down of trees because if they want to mine at a place they have to cut down the trees to mine at that place, after digging and getting what they want they leave the holes as it is, and they move away to another location. ...People may be going to a farm and then trip off and fall into the hole. A lot of people who do not know that there are pits dug somewhere fall into these holes and have died. Apart from that, many people have died in the process of the galamsey. In fact, mining has been responsible for many bad things and government’s plans to make it big scale will even worsen issues”.*

*Participant 8, IDI (Community member) (Fieldwork, 2019)*

### 5.2.3 Non-participation of key stakeholders leading to inter-stakeholder conflicts

This study involved several stakeholder groups connected to the Atewa Forest. For this study, a stakeholder has been described as a person or group of people who have an interest in, or whose interests are affected by any a project. The stakeholders who participated in this study include Forestry Commission Officials, forest guards, community members such as farmers, miners, traders; traditional leaders, other government officials from the Ghana Tourism Authority and the Ministry of Lands and Natural Resources of Ghana; NGOs such as A Rocha Ghana, students and teachers at the Kwabeng Anglican Senior High Technical School, and the Assembly Man of Kwabeng. The results reveal that stakeholder conflicts are in two main dimensions. Firstly, there seems to be a non-participation of all stakeholders in matters of collective concern. Secondly, due to different values placed on the Atewa Forest and the corresponding interests, there is a constant conflict of interest between/among all stakeholders of the forest.

To understand the extent to which communities and other stakeholders are involved in decisions that affect the forest, community members who participated in the interview

sessions responded in the negative. Just as in most communities, members of the Kwabeng community explained that they are mostly not aware of government's major decisions regarding their town. One participant touched on the fact that there is a chieftaincy dispute in the community which he thinks is responsible for most of the problems. He stated:

*“The community has not received any kind of collaboration in any way. We just sit there since there is no one to speak in our favor. In this community also, there are chieftaincy disputes so if the chief wants to talk to the government officials, the community members would not agree and it has made it difficult for community participation in any way, let alone to talk about the forest. I can't tell if the elders of the community had the chance to meet and speak to the former DCE about community concerns. When they meet to discuss issues of community importance, we are usually are not involved. It is not very good because every decision they take comes back to affect us”.*

*Participant 10, IDI (Community member) (Fieldwork, 2019)*

To further explain the non-participation of all stakeholders in community decision making, another participant who has lived in the Kwabeng community for 16 years laments about how bad the situation is. His major concern is that they only wake up to hear on public address systems and the radio that major decisions have been taken by government with no level of community of stakeholder involvement. He said:

*“The government does not involve us in any decision-making. In most cases, we do are not even aware what is happening. Concerning the forest, we only hear on the radio after decisions are made. It makes us feel like what belongs to us is going to be taken away. In my opinion, I think it is the reason why there are many conflicts”.*

*Participant 7, IDI (Community member) (Fieldwork, 2019)*

Even though it is clear from the submissions of most community members that decision making does not involve all stakeholders, some other stakeholders expressed the views that there are a few stakeholder meetings at certain levels. For instance, official from A Rocha Ghana, an NGO advocating for the designation of the Atewa Forest as a National Park, mentioned that collaborations an have happened mostly at national levels. He explained that a fundamental feature of the national policy for forest governance is

collaboration. His view is about the fact that collaboration is an integral part of national policy and that has been seen in many regards. He emphasized this point by saying:

*“Yes, if you are talking of collaboration you need to look at it in terms of the national policy. When it comes to collaboration, first it is part of government policy to ensure sustainable utilization of natural resources through collaborative strategies so even the forestry commission itself has what we call the collaborative resource management policy. As far back as 2000, this policy was supposed to encourage communities working with park management of forest staffs to ensure effective natural resources management. Collaboration already exists and every organization that is working to promote conservation and forest management would have to work within these parameters. As a result, one of our key strengths and the things we also promote is collaborative resource management where communities see usefulness not only in terms of what they get but also what other people get. ... so yes, there has been several opportunities where at our level, we have offices directly in the land so we engage at the landscape level where we engage district assemblies, traditional authorities, all of these people and there has been several platforms where we brought all of these people to look at how best we can utilize those resources for long term and maximum benefit”.*

*Participant 15, IDI (A Rocha Ghana) (Fieldwork, 2019)*

The findings reveal that stakeholder conflicts have mainly been because of non-participation and unequal representation. Even though a section of respondents stated that there are little signs of collaborations of many kinds, these seem to only be at particular scales, mostly at national levels, leaving communities at the grassroots out of discussions. This has resulted in many conflicts and non-compliance to forest policies by many community members. Some members of the community revealed to me in the discussions that when they feel that their views are not respected and considered in any way, they tend to do whatever pleases them. They therefore engage in activities such as small-scale mining, known as ‘galamsey’ in the local parlance, illegal farming, poaching, logging and many other activities deemed to be illegal.

#### ***5.2.4 Overpopulation leading to over-dependence on forest resources***

In a quest to understand respondents’ opinions on other causes of forest loss and degradation, the issue of overpopulation was brought up. Many of the community members I spoke to alluded to the fact that increase in the population of residents in Kwabeng and



other surrounding communities is one of the causes of the reduction in the size of the Atewa Forest. The participants revealed that about ten years ago, the number of people who lived in Kwabeng was smaller compared with the present population. The fact that many forms of community development and the expansion of economic activities have had many impacts on the forest size. Kwabeng is a community right at the foot of the Atewa Forest. For that matter an increase in the population means building of more houses for residents to live in. The population census results by the Ghana Statistical Service showed that over the period of 7 years (2010 -2017) the population of Kwabeng had increased by 15%, that is 24,000 to 27,823. To buttress the issue of overpopulation as a cause of forest loss, an official from the forestry commission expressed his opinion in this way:

*“During the last two decades, agricultural expansion, logging, development, and other human activities have resulted in deforestation. This has mainly been because of growing populations in the surrounding communities. An overview of many studies conducted in the 1980s and 1990s reveals a strong relationship between population growth and deforestation. Over here in Kwabeng, many households are increasing in number, people are moving from other towns and cities to live here and all these calls for development. More people means more food, more houses, more meat and so on”.*

*Participant 29, IDI (Forestry Official) (Fieldwork, 2019)*

Apart from the views of participants, personal observation from the fieldwork reveals that man degrees of development has been taking place in Kwabeng. As the district capital for the Atewa West, Kwabeng is becoming more popular for its diversity. Many people from different parts of the district and country are moving in to settle in the town. This has necessitated the expansion of housing units, agriculture, schools and many other social amenities. My observations also reveal many road construction activities leading to certain parts of the forest, excavator activities for constructions, timber processing for many domestic and commercial activities, expansion of cocoa farms and the processing of the seedlings for export, and many other activities induced by population rise.

#### ***5.2.5 Lack of education on dangers of forest loss***

Apart from the first-two causes identified by respondents, another cause of degradation that emerged from discussions is the lack of public education on the dangers of forest loss. Even though many respondents explained the benefits of forests in multiple

dimensions, there seems to be little knowledge and attention being paid to the dangers of forest loss. For that reason, many people engage in charcoal production, pasture for livestock, timber harvesting as livelihood activities without necessarily thinking about the dangers associated with the over-exploitation of forest resources. Speaking to some teachers and students from the Kwabeng Anglican Senior High School revealed that when education is intensified, individuals pass on the knowledge to members of the wider community. A teacher from the school stated:

*“I have always maintained that education can enable individuals to make informed decisions and to act towards sustainable development. Unfortunately, in most forest communities, and Kwabeng to be specific, education is lacking. When people know the dangers of their actions on the forest and their own lives, they will change their behavior. Effective forest governance can only be achieved through a dynamic process of adaptation, learning and action, which has been shown in many parts of the world. Another reason is that educational interventions which address local, tangible and actionable environmental management practices will contribute significantly to halting forest degradation as we see in this communities and others. Because there is no transfer of knowledge on these major issues, individuals cannot disseminate the same to the larger community”.*

*Participant 11, IDI (Teacher, KASHTS) (Fieldwork, 2019)*

Other respondents such as an official from the Forestry Commission and the Ghana Tourism Authority supported the idea of lack of education as one of the causes of ineffective forest governance in the Atewa Forest. According to the official at the Ministry of Tourism, any community that sees a forest only as food is likely to over-exploit for purposes of food. He explained further that most forest areas in Ghana, such as the Atewa forest have great potentials for tourism development, which could enhance effective governance; however, most people are ignorant of these potentials. He attributed this to a lack of education on dangers of forest loss as well as potentials for tourism development.

### **5.3 Strategies for Effective Forest Governance**

The challenges of the Atewa Forest need urgent responses to halt and reverse the extent of forest and biodiversity loss. One of the ways to do this is to ensure effective forest governance that generates win-win outcomes for all stakeholders of the forest. Forest

governance is increasingly seen as a key building block for sustainable forest management. The totality of responses from participants of the study capture effective forest governance in a way that applies to policy and planning, implementation, monitoring and improvement, including the related legislative and institutional arrangements. Due to the growing recognition of the importance of forest governance in progress towards the reduction of deforestation and forest degradation, efforts need to be put in place to ensure win-win outcomes for all stakeholders involved. Respondents shared their views on strategies that could be employed to facilitate the removal of inter-stakeholder conflicts, while promoting collaborations at the same time. These strategies have been grouped under four main headings: institutional collaboration and strengthening, stakeholder support platforms, accountability, environmental education, incentives and benefit sharing.

### ***5.3.1 Institutional collaboration and strengthening***

For the major causes of forest loss in the Atewa Forest to be dealt with, there is first, the need for synergy in the roles and responsibilities of the institutions that are mandated to govern the forest. Discussions from forest officials indicate that forest loss can be tackled when measures are put in place at all levels to enable the various institutions to do their work. A forestry commissioner explains that “functioning institutions are a key ingredient to development, sustainable forest governance, and societal adaptation to social, economic, and environmental change”. To further explain what would comprise institutional strengthening and collaboration, officials from the Forestry Commission of Ghana, Ghana Tourism Authority, forest guards and some section of residents mentioned that it should entail the following:

- a) Creation of synergy in the roles and responsibilities of institutions
- b) Provision of funds for clear demarcation of admitted farms and boundaries of forest land
- c) Guaranteeing the safety and welfare of forest employees, especially forest guards

To explain what he meant by synergy, the forestry official stated:

*“When we as institutions understand clearly what our roles are, and when we need that there are no overlapping functions, it makes our work easier than it is now. Sometimes, you hear that a development is taking place in relation to forestry and you are not even aware. All the institutions you*

*mentioned, that is the Forestry Commission, Ghana Tourism Authority, Land and Minerals Commission and several other institutions all have a vital role to play. If we can have a unified front, I believe that everyone will play their part so we all achieve what we want”.*

*Participant 30, IDI (Forestry Official) (Fieldwork, 2019)*

Another participant, who is a resident of Kwabeng shared his thoughts about who he thinks forest governance can be made effective. He discussed with me the extent to which he believes forest guards have the legal backing to protect the forest but are not able to due to insufficient funds and motivation. He said:

*“First of all, how can only three forest guards protect this big forest? I know one forest guard who told me they are only three. He said, sometimes they get so tired that they are not able to go to every part of the forest. The ‘galamsey’ people ride motorbikes into the very deep places but the guards cannot. They are even scared of losing their lives because the illegal miners sometimes kill the guards. To solve this problem, government must first, employ more guards, motivate them by equipping them well. Their safety is very important. Buy them motorbikes, guns for self-defense, pay them well and they will give their best. If you do not, they only take bribes from these bad people and the activities continue”.*

*Participant 12, IDI (Teacher, KASHTS) (Fieldwork, 2019)*

It is obvious from the submissions of the respondents that one way to deal with the challenges of forest governance in the Atewa Forest is a focus on empowering the institutions responsible for the governance. It was clear from the responses of some participants that the forest is currently being governed but many things have rendered the institutional capacity for governance ineffective. This only buttresses the fact that the Forestry Commission of Ghana, the Ghana Tourism Authority, The Ministry of Land and Minerals Commission, and other institutions must work together towards the achievement of sustainable forest governance that generates win-win outcomes for all stakeholders.

### **5.3.2 Inter-Stakeholder support platforms**

In a general sense, forest governance captures public and private actors and stakeholders, including formal and informal institutions, smallholder and indigenous organizations, small, medium-sized and large enterprises, civil-society organizations and

other stakeholders who negotiate to make and enforce binding decisions about the management, use and conservation of forest resources. It is for this reason that inter-stakeholder platforms as suggested by participants is a potential strategy for eliminating livelihood conflicts and promoting collaboration for effective governance. The creation of platforms for all stakeholders to deliberate over issues regarding the governance of the Atewa Forest is likely to ensure effective governance. This is because all stakeholders are represented and local communities are given management responsibility, authority, and recognition, which helps to facilitate development of clear ownership and tenure security. With decentralized power and community participation in decision-making processes, the community can identify members who have access and rights to use the resources and who are expected to contribute effort, time, and labor to the community activities.

Participants who responded to the interviews and focus groups all alluded to the fact that stakeholder representation at all levels promotes unity and effective governance. A resident of the Kwabeng community explained this by saying that:

*“There is the need for a great involvement of all stakeholders and a greater one of local communities and support to the private sector. This will provide increased livelihood opportunities for the poor especially those living close to forest reserves. The reason is that when there are problems, natural disasters, and any other bad thing happening, it is those of us on the ground, forest communities, that suffer the most. It is for this reason that there must be abundant opportunities for us to be involved in decision making and action”.*

*Participant 7, IDI (Community member) (Fieldwork, 2019)*

As has been evidenced by this research, unsustainable extraction of fuel wood, premature and destructive harvesting of non-timber forest products, unregulated grazing and other agricultural expansions, illegal mining and poaching are the main forest activities which cause forest degradation and loss in the Atewa Forest. However, with the involvement of communities in forest management, the same communities start regulating these forest uses. As a result, the health and natural regeneration of forests improves. When communities are empowered, they tend to take care of ‘what belongs to them’. A student from the KASHTS explained that:

*“Stakeholder participation, which I define as participation by those who are affected by or can affect a decision is based on the principle that, that those closest to the resource must effectively participate in its management for it to be managed responsibly. I believe that people take care of things when they feel like they have the responsibility of taking care of it. It is just typical of people that when they feel like they are not involved and their views are not taken, they refuse to comply with regulations”.*

*Participant 14, FGD (Student, KASHTS) (Fieldwork, 2019)*

The responses of all participants suggest that it is important to build ownership and responsibility among stakeholders, especially with the local community being the key stakeholders to manage and protect forests. It was noted by one respondent that, “participation is a form of decentralization”. Decentralization will not only provide local community access to the decision-making process, but also strengthen capacity in implementing project activities and other activities related to effective forest governance in the Atewa Forest.

### **5.3.3 Transparency and Accountability**

In my opinion, a key aspect of forest governance that gets less attention is accountability, the relationship in which an actor or set of actors is held responsible for meeting a specific goal or adhering to a certain standard. In a normal situation, without strong accountability, forest governance programs will not achieve their objectives and may lead to undesired impacts such as forest degradation and loss, inequitable distribution of benefits, weakening of land and resource rights, and failure to achieve the overall environmental outcomes. The outcome of the interviews and focus groups also reveal that for any forest governance program to be effective, there must be an overall adherence to the specific standards, that is the policies, regulations, frameworks; transparency and low levels of corruption. This is what is referred to as accountability. One retired teacher who is a resident of Kwabeng said:

*“Forest managers, people at the top and users should keep in mind that the forest sector does not operate in isolation: other sectors, policies and land uses can affect how forests are governed at various scales such as the local to the national scales. For that matter, people in charge must know that they are accountable to all stakeholders. It is sad how too many corrupt officers*

*exist now. Good forest governance acknowledges and considers such influences. It is like this: if I know that you are honest about the mandate, and accountable to the people who give you power, I will help you achieve your goal”.*

*Participant 14, IDI (Retired Teacher) (Fieldwork, 2019)*

Other discussions with participants explained accountability as an ability to deal with corruption of any kind. From observations during my fieldwork, it was obvious that wood is illegally cut regularly. This results in lost revenue. As in many developing countries, it robs these societies of precious revenue, thwarting development goals and keeping people in poverty. “If we want to end poverty and protect the environment, and be proud of our forest governance programs, such illegal logging and other illegal forest activities need to be stopped”, the Assemblyman of Kwabeng suggested. To add to the issue of corruption and how it can be dealt with through accountability, the retired teacher who participated in the study continued to explain that:

*“As a first step to ending corruption-driven activities in the forestry sector, it is important that citizens know what is going on and understand the dangers of corruption in the timber industry and forestry governance. On a global scale, apart from citizens, governments in forest-rich producer countries and those of consumer countries buying forest products both need to work together to stop forest destruction. It must be a collective effort. So, in my opinion, officials, from forestry officers to judicial staff, customs agents and government inspectors, all need training and education so they have the technical skills to combat corruption and enforce environmental, forestry, transport and trade laws”.*

*Participant 14, IDI (Retired Teacher) (Fieldwork, 2019)*

Another major thing that emerged from the discussion with participants was the idea of transparency. Many study participants believe that transparency and accountability are central tenets of good forest governance and keys to effective planning and decision-making processes that lead to win-win outcomes for all stakeholders. Transparency is “the process of revealing actions so that outsiders can scrutinize them. The retired teacher continued:

*“For a governance system to be transparent, it must include the comprehensiveness, timeliness, availability, and understanding of information, as well as the proactiveness of efforts to inform individuals and groups that are affected. What I mean is that, transparency in forest*

*governance is the extent to which the legal framework on forests supports public access to information, promotes evidence-based debate on forest policies, and imposes sanctions for the failure of agencies to meet obligations to disclose information.... if these things cannot be seen in a forest governance program, we cannot achieve effective governance, and you know what will happen”.*

*Participant 14, IDI (Retired Teacher) (Fieldwork, 2019)*

For example, some participants informed me that there are many individuals and companies who have been shown to lack permits for the forest clearing and mining they carry out. “Galamsey” and chain saw operators in most cases have many people in powerful positions backing them. Such breaches of the law may result in lost revenue for governments and their citizens, and the lack of detection diminishes the trust in forest policies, frameworks and regulations. This causes severe economic, social and environmental consequences.

#### **5.3.4 Stakeholder Education on dangers of forest degradation and loss**

Overall, the responses of participants explain that stakeholder education on the dangers of forest loss and degradation will be able to create the behavioral changes that are needed in terms of knowledge, attitudes, values and skills required for compliance with forest policies leading to best forest practices for win-win outcomes for all stakeholders. It was also established in the interviews that these desired behavioral changes could be achieved through formal or non-formal forestry education. Through formal and non-formal education approaches, advocacy, information/knowledge generation, and capability building or human resource development were mentioned as methods that could be adopted to educate all stakeholders, especially communities living around the Atewa Forest, on the dangers of forest degradation and loss. My discussion with the retired teacher once again revealed several things. First, he said:

*“Like I mentioned earlier, one way in which education can help is through advocacy. Advocacy in the case should aim to create public awareness, interest, and appreciation of sustainable forest management policies, programs and strategies through a systematically planned and well implemented advocacy programs. Note this, to be effective, the advocacy programs must be designed to respond to the behavioral needs of all stakeholders involved in this matter. This is one sure way that people can begin to change their behavior”.*



*Participant 14, IDI (Retired Teacher) (Fieldwork, 2019)*

Other participants touched on the use of student groups, professionals and community forest groups in championing these programs. They were of the view that using individuals and groups that stakeholders are familiar with can also expediate the process of behavioral change. The second thing that was emphasized by the retired teacher is the use of capacity building as a form of stakeholder education. He lamented that many people do not understand the dangers that are associated with their bad forest activities. Also, he mentioned that even for those who know, they are not well equipped or capable of implementing actions that help reduce forest loss and degradation. He believes that capacity building will complement advocacy in ensuring effective forest governance in the Atewa Forest. He said:

*“Through the role of capacity building, forestry education produces the human resources needed for sustainable forest management. Through formal forestry education, forestry professionals could acquire the basic competencies in the form of knowledge, attitudes, values, and skills, which are required for effective forest management. Apart from the formal education, non-formal forestry education helps existing sustainable forest management capabilities of forestry professionals to be reinforced. This can even happen in our schools. Curricular development and change is a very good strategy that could ensure that forestry education effectively performs its capability building role relative to the needs of sustainable forest management. All stakeholders, especially community members who participate in these training opportunities will see the need for sustainable forest management”.*

*Participant 14, IDI (Retired Teacher) (Fieldwork, 2019)*

The last part of stakeholder education that was highlighted by some participants is the generation of information, knowledge and technology. The Assemblyman stressed that the world is developing at a technologically amazing way. For that matter he sees the need for technology to be involved in the stakeholder education process. His assumption is that through research, forestry education institutions could help generate and build on the information and knowledge base for forest governance policies, strategies and programs. This scientific knowledge base for the policy and practice of forest should include not only

biophysical and technical aspects of forest governance but also social and human dimensions.

It was interesting to find that most of the students who participated in the forest group discussions shared the same thought with one Forestry official who believes that stakeholder education can also be made an integral part of the current curriculum in educational institutions. He believes that students and young ones alike, are the future of every nation. For that matter, sustainable forest governance practices must be taught in schools. He said:

*“In my opinion, one simple strategy to promote sustainable forest management capabilities is to integrate sustainable development concepts in already existing courses in the forestry or natural resource management courses in our schools. If these courses do not exist in the lower levels of education, we must start Enriching existing curriculum by instituting new courses in sustainable forest management. It should involve the development of new courses which will support sustainable forest management in addition to those already existing in the curriculum. Students should be encouraged to take these courses as additional core courses or electives”.*

*Participant 31, IDI (Forestry Official) (Fieldwork, 2019)*

### **5.3.5 Benefit Sharing and Provision of incentives**

The last strategy that was mentioned by most participants as having the ability to ensure effective forest governance is benefit sharing and the provision of incentives. It was revealed in my interactions with the residents of Kwabeng that one of the reasons why people in the community engage in illegal forest activities is the extent to which they do not benefit from the material benefits that the forest produces. Material benefits to community members, such as timber or nontimber forest products, employment or payment for timber rights do not come to members of the community.

There is widespread agreement that for forest governance projects to succeed, they must make provisions for the supply of early and regular material benefits to forest community members. These benefits may include cash, products, investment in community public goods and even guaranteed access to resources which were previously illegal.

*“Unfortunately, in Kwabeng, community members do not in most cases, benefit from forest resources. This has made many people in this community passive rather than active in local participation and compliance to forest regulations”,* said by the Assemblyman of Kwabeng.

When asked whether benefit sharing could help reduce the problems of forest degradation and loss, one forestry official said:

*“Providing financial incentives to communities living and working in or around the forest is a key to replacing degrading practices with alternative livelihoods, promoting fair and equitable business practice and conserving the forests. This has been proven in many parts of the world to be the case.”.*

*Participant 31, IDI (Forestry Official) (Fieldwork, 2019)*

Participants’ understanding of community benefit-sharing mechanisms refer to fair and equitable arrangements geared towards the distribution of revenues in the forest sector to local communities, a stakeholder group traditionally disenfranchised and holding limited decision-making power in the value chain. Examples of some of these benefits are cash payments, Protection of the territories, stool lands and rights of local communities, livelihood development and community facilities such as schools, hospitals, and many others.

## **Chapter 6**

### **Discussion**

#### **6.0 Introduction**

This section discusses the findings of the study in relation to the theoretical strands discussed in chapter two. The discussion is meant to enhance our understanding of forest governance, conflicts and conflict management strategies, causes of forest degradation and loss as well as ecologically-based management approaches that generate win-win outcomes for forest stakeholders in the Atewa's high forest zone. Political ecology suggests, first, that there are multi-scalar and dynamic interactions between people and natural resource systems, which are mediated by institutions (Dietz, 1996). Using an interactive governance approach allowed me to understand and analyze the interactions between resource users, that is, local people of Kwabeng and forest resources as means of livelihoods under different forest governance regimes, as well as to complement this by studying governance interactions between the system-to-be-governed and the governing system.

A study on this topic in Ghana's high forest zone, the Atewa Forest, was intended to generate an understanding into ecologically-based management approaches for win-win outcomes for all stakeholders in the Atewa Forest. As explained by Yasmi, (2007) over the last two decades, forest governance has been given recognition on Ghana's development agenda by state and non-state actors and stakeholders with influence from the international community. Examples are the Ghana Natural Resource and Environment Governance (NREG) Review, the Forest Law Enforcement, Governance and Trade (FLEGT) Voluntary Partnership Agreement (VPA) with the European Union to combat illegal logging and strengthen forest governance and Reducing Emissions from Deforestation and Degradation plus (REDD+). Some of these initiatives have increased the diversity of actors and stakeholders in decision-making, resource use and management, mostly at the national level (Derkyi, 2012). It was obvious in the data collected that many groups and stakeholders at local levels have not seen and benefited from the inclusion in resource use and decision making. This has generated a growing competition for resources and conflicting objectives between and among stakeholders in the system-to-be-governed and actors in the governing systems with various degrees of forest loss and degradation being the result. The theoretical framework, the interactive governance, guided the study and it

revealed the extent to which an all-inclusive approach results in successes in forest resources governance.

### **6.1 Actor/Stakeholder Positions and Interest in Forests**

The results of this study have shown that forests are not unique in terms of having conflicting values attached to them and their uses. Different actors and stakeholders have different positions and interests, hence, attach different values to all resources, everywhere in the world. Table 5.1 (Chapter 5) provides an example of the different positions, interests and value perspectives of stakeholder groups of the Atewa Forest in the Kwabeng Community. In fact, no matter how many different positions of interests and perceptions of value these actors and stakeholders identify, it was clear as was established by Gregersen and Contreras (1992) that what ultimately matters in terms of action in most forest communities are the positions, interests and value perceptions of those who will determine what happens to the forest. Therefore Derkyi (2012) recommends the application of the interactive governance in understanding the diverse interest and expectations of the many actors and stakeholders in the system. The study revealed that the Atewa Forest is owned, controlled and used by many different groups. By implication, it is considered a public forests - a forest under the responsibility of communities, regional or state authorities, or national governments. For the purposes of this thesis, I agree with Gregersen and Contreras (1992) by identifying four main categories of people who have differing interests in the Atewa forest values:

1. Groups with commercial interests in specific parts or aspects of the forest. These groups are interested in the market or barter values associated with uses of certain parts of the forest, e.g., timber industries and consumers of commercially sold timber. Apart from timber, other natural minerals such as gold and bauxite, which are heavily present in the soils of the Atewa Forest have appealed these groups of people.
2. Local forest dwellers with their interest in livelihood/survival values. These groups are interested in the forest as their living environment and as a source of sustenance and livelihood.

3. Environmental advocacy groups and non-consumptive users. These groups are interested in the forest as an ecosystem or in saving species or groups of species. They also are interested in the educational, recreational, and spiritual values associated with forest preservation. The groups can be local, national, or international. For the Atewa Forest, one notable advocacy group is A Rocha Ghana.
4. Others with an interest in the land under the forest. This group may give a negative value to the trees and animals of the forests they want to clear, i.e., they would like to see them gone. To these groups, the forest is a nuisance: letting it stand involves a cost; it harbors dangerous animals; it is the home for animals and insects that attack their adjacent agricultural crops. From the point of view of these groups, the forest grown on the underlying land they want has a negative value at least equal to the cost of clearing it.

Each of these groups of people have their own positions, interests and have attached values they on the Atewa, hence shaping their understanding on what forest benefits are. All these put together, the study revealed that positions as well as benefits of forests can also be categorized into three areas: environmental, social/cultural and economic.

Environmentally, the findings revealed that forests provide a range of essential ecosystem services. They preserve soils, cycle nutrients and support biodiversity. Trees and other forest plants filter pollutants from air and water, acting as natural cleansers. In addition, trees in cities and other urban areas help improve air and water quality and reduce surface and air temperatures. Other benefits of forests include controlling the movement of water, anchoring the soil and serving as a sink for the earth's carbon budget.

From the discussions with participants, economic benefits are usually measured in monetary terms and may include income from employment in the forest sector and the value of the production of goods and services from forests. The latter as highlighted as the main motivation for many activities in the Kwabeng community. Government's decision to mine bauxite, small scale miners (both legal and illegal) are all motivated by this reason. Lastly, forests contribute to the national economy, energy supplies and international trade.

In addition, the economic viability or sustainability of the sector can be assessed by measures such as the profitability of forest enterprises or the level of investment.

The social/cultural benefits of forests are often more difficult to measure and can vary considerably among communities, depending on their level of development and traditions. For example, in developed societies, the benefits of forests for recreation and amenity values or the maintenance of a rural way of life may be most important, while in developing countries, the area of forests available for subsistence activities or the number of people employed in the sector may be a better indication of their social/cultural value. In the case of Kwabeng, community members see the Atewa Forest beyond its environmental and economic values. Some members of the community attach religious benefits to the forest. There are several sacred groves in the forest where members of the traditional religious groups go to offer prayers and sacrifices to their ancestors. Given the difficulties of measuring the social benefits of forests, social functions are often measured in terms of inputs rather than outputs (e.g. the area or proportion of forests used to provide various social functions). Other benefits of forests exist such as health. Substances from forests such as leaves, roots, barks and some juices serve as medicines and cures for certain diseases and illnesses.

## **6.2 Forest Governance**

In general terms, the formal and informal rules, organizations and processes through which public and private actors and stakeholders articulate their interests and make and implement decisions concerning forest resources is referred to as forest governance. According to the Food and Agricultural Organization of the United Nations, forest governance is defined as the way in which public and private actors, including formal and informal institutions, smallholder and indigenous organizations, small, medium-sized and large enterprises, civil-society organizations and other stakeholders negotiate, make and enforce binding decisions about the management, use and conservation of forest resources. According to the (FAO, 2005) the concept of forest governance has evolved to engage multiple, that is public and private actors at multiple scales, from local to global levels. It may include:

- a) rules about how forests should be governed, governmental regulations about who benefits from forest resources, and traditional and customary rights;
- b) the use of private-sector mechanisms such as voluntary certification to support SFM and legal timber supply;
- c) and international measures to support timber legality and promote good governance, such as the European Union's Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan and payment schemes for environmental services, such as REDD+

Overall, all the definitions and the understanding of all participants can be summarized to mean that effective forest governance processes engage forest stakeholders, address key forest-related issues, and involve other sectors that affect, or are affected by, forest governance. These assumptions fit into the discussion of viewing forest governance as a subset of the broader interactive governance approach – *an approach whose core focus is putting governability in perspective* (Derkyi, 2012). She argues that since the approach allows for the understanding of the governing system and the system-to-be-governed, the interests and expectations of all stakeholders can be well managed. Again, it is prudent to establish that forest governance is considered good and responsible when it is characterized by the following elements: adherence to the laid down policies for governance; transparency and low levels of corruption; stakeholder participation in decision-making; adequate equal rights for stakeholders; accountability; a low regulatory complexities; a coherent set of laws and regulations, both within the forest sector and in other sectors that, influence forest management and the fair and equitable distribution of benefits to members of the surrounding communities (FAO, 2016). As a confirmation of these statements, the study revealed that forest managers and users should keep in mind that the forest sector does not operate in isolation: other sectors, policies and land uses can affect how forests are governed at various scales, that is from the local to the global. Good forest governance acknowledges and considers such influences. In the case of the Atewa Forest, many other public institutions such as the Lands and Minerals Commission of Ghana, the Ghana Tourism Authority and the Ministry of Tourism can work in conjunction with the Forestry Commission of Ghana to ensure that the best decisions are made. This only demonstrates



that governance is not merely something governors do but comprises the totality of the interactions between the governing system and the system-to-be-governed (Kooiman & Bavinck, 2005). From Figure 5.1 (Chapter 5), three main pillars of forest governance together with six distinct actions and principles characterize the quality of forest governance.

### **6.3 Pillars of Forest Governance**

As captured by Kooiman and Bavinck (2005), cited in Derkyi (2012), the interactive governance theory, governance of natural resources, particularly forest resources involves multiple actors and stakeholders, actions and interventions at different scales and levels to be successful. Based on that premise, the study identified pillars of forest governance which are necessary components of the theory. These pillars have been identified as policy, legal/regulatory and institutional frameworks; planning and decision-making processes and implementation, enforcement and compliance with policies (FAO, 2012). For forest governance to be effective, there is the need for these pillars to be present at every scale and level.

#### ***6.3.1 Policy, legal/regulatory and institutional frameworks***

Officials from the forestry commission and other participants of the study established that effective forest governance is founded on forest policies and laws that promote efficient, effective and lawful forest management as well as fair and equitable outcomes from such management. Effective forest policies and laws provide a clear and coherent system that facilitates the sustainable management and use of forest resources. It is for this reason that Pagdee, Kim and Daugherty (2006) argue that management practices established as a result of well-defined and institutions can effectively address the problems of natural resource access and use. From the literature review, a good forest policy provides a long-term vision for the forest sector in any country. This vision is consistent with international commitments and obligations and guides the development and implementation of legal and institutional frameworks. In addition, effective laws help put forest policy into practice (FAO, 2010). For example, forest policies and laws should establish clear, coherent rules regarding who holds rights to, and who benefits from, forest and tree resources and the revenues they generate.

### ***6.3.2 Planning and decision-making processes***

Apart from policies, stakeholder participation, transparency and accountability, and stakeholder capacity and action, are all important for good forest governance (Secco, Da Re, Pettenella & Gatto, 2014). The study showed clearly that an indicator of good forest governance is the extent to which all actors and stakeholders, identified in the Atewa Forest area, with interests in forests can participate in decisions about the forest. Another indicator is the quality and reach of that participation. The extent to which disadvantaged or vulnerable segments of society, such as women, youth and the elderly, can participate in these processes is especially important. As established in the literature review, Pagdee, Kim and Daugherty (2006) explain that decentralization, in which local communities are given management responsibility, authority, and recognition, can also facilitate development of clear ownership and effective forest governance. The government of Ghana can play an important role by creating dialogue processes in which all actors and stakeholders voice their opinions, expectations and concerns. Another major factor is the extent to which governments provide or encourage mechanisms for conflict resolution. These are sure ways of ensuring effective Atewa Forest governance in a way that generates win-win outcomes for all stakeholders.

### ***6.3.3 Implementation, enforcement and compliance***

The third pillar of forest governance as revealed by the study is implementation. Enforcement and compliance. Law enforcement and compliance are two linked aspects of good forest governance. Generally, compliance is likely to be low if enforcement is lacking, and strict law enforcement does not always contribute to legal and sustainable forestry. Laws may be unclear, contradictory and unrealistic and therefore difficult to enforce. They may also be vulnerable to exploitation by vested interests. Overlapping and contradictory resource rights (e.g. customary versus statutory) and the inequitable redistribution of benefits are other challenges to effective law enforcement and compliance. For this reason, legal clarity is fundamental to both compliance and law enforcement. Also, effective coordination among national, subnational and local governments is usually a prerequisite for good forest governance. The implementation of international forest-related commitments, and effective cross-border cooperation on transnational forest crimes, may also be helpful.

## **6.4 Causes of Forest Degradation in the Atewa Forest**

From the perspective of Buckles and Rusnak (1999) concerning causes of natural resources conflicts, the many causes of forest loss and degradation in the Atewa Forest can be linked. They relate conflict causes to four characteristics inherent in natural resources:

1. The interconnectedness of the space in which natural resources occur, because of which actions by one individual or group may generate effects for others, sometimes way beyond the actual site in which resources are used;
2. The shared social space in which natural resources are embedded, with complex and unequal relations among a wide range of actors and stakeholders with diverging interests in the same resource;
3. Their increasing scarcity of natural resources; resulting either from increasing demand, decreasing supply;
4. Their symbolic value related to a way of life, ethnic identity, gender or age roles.

These characteristics were evident in the discussions that took place during the study. It was observed from the study that there are several factors that account for the high rate of forest loss and degradation in Ghana. These causes are not independent of one another and most of them are interrelated. Majority of the primary causes of deforestation in Ghana are anthropogenic and can be linked to livelihood, survival and development at both the sub national and national level. For the purposes of this study, five main causes are forest loss are discussed. They are weak institutions and insufficient funds for forest protection; mining; non-participation of key stakeholders leading to inter-stakeholder conflicts; overpopulation leading to over-dependence on forest resources and lack of education on dangers of forest loss.

### ***6.4.1 Weak institutions and insufficient funds for forest protection***

Another major cause of forest degradation and loss in the Atewa Forest is the lack of coordination among national, subnational and local governments. Even though district and local institutions have made many efforts in staying up-to-date on latest developments and policies at the grassroots, there still exists low levels of coordination. As portrayed by Kooiman and Bavinck (2005) in the interactive governance theory and the conflict management approach, a determinant in any successful forest governance is a good

coordination between the system-to-be-governed (that is the local community and all other stakeholders) and the governing system (the national, regional, district and local authorities, together with the various policies, frameworks and regulations for forest governance). Derkyi (2012) puts it this way: failure of the governing system, that is the institutions mandated with forest governance responsibilities, to coordinate the activities between/among all stakeholders of forest resources can generate conflicts. Also, discussions with participants of the study revealed several challenges that have bewildered the institutions mandated to ensure effective governance of the Atewa Forest. Just as in many developing forest communities, a lack of compliance with forest regulations by communities living around the Atewa Forest has become serious. McKean and Ostrom (1995) revealed that conflicts over natural resources arise because of the failure of mandated organizations to govern effectively. Many forms of corruption by public officials have been partly responsible for this. Despite often heroic efforts, however, corruption still cripples many forestry administrations and, as a result, critical aspects of forest governance happen only on paper. From a reliable source, there has not been effective internal controls and internal and external audits of forest-related public and private agencies, and meaningful penalties for breaches of the law. These challenges render the institutions weak, hence poor forest governance. Apart from the problem of corruption, there is inadequate human and capital resources to enforce forest regulations. Forest service workers such as forest guards in charge of the Atewa Forest have been faced with many dangers of threats against their lives. These guards are not well equipped with tools and incentives to carry out their mandate. Since there are no forms of easy transport to cover the length and breadth of the forests, the guards only have no choice but to go on foot making their work difficult. They are for that matter unable to cover many parts of the forest to drive out people who engage in illegal forest activities. In some cases, guards take bribes from some of these perpetrators to allow them secretly into the forest.

#### **6.4.2 Mining**

Mineral exploitation in the forest zones is another cause of forest loss and degradation in most forest communities in Ghana. Mining activities especially mining of gold by both the licensed mining companies and illegal mining groups, known as ‘galamsey mining’ causes so much damage to the nation’s forest reserves. Ghana’s mineral

resources are mostly found in Ashanti, Central, Western, Eastern and Brong-Ahafo Regions. These regions house about 70% of the nation's tropical rain forests. Mining activities in these forests are significantly contributing to degradation of forest cover since the forest is generally cleared before mining takes place. Surface mining in these forest regions contributes to deforestation than underground mining. To connect it with the interactive governance theory and the conflict management theory, existing conflicts between governments and individuals and groups engaging in illegal mining, also known as 'galamsey' are not properly managed. The governing system's inability to regulate the activities of the system-to-be-governed has intensified the problem of mining. In other words, due to the variations in interests and expectations of all stakeholders, the issue of mining in the Atewa Forest is a contested one. Glasl (1999) added to the intermediating variables that trigger conflicts the differences in perceptions, emotions and interests, which he labelled 'sources of impairment'. Findings reveal that most mining companies in Ghana, and Kwabeng in specific engage in surface mining where large tracks of forests are cleared and the soils are turned using various heavy duty machines in search of gold. Even though the licensed mining companies are mandated by law to have land restoration and afforestation programs to restore the degraded land including forests back to almost their original state, most of them do not do it after their mining activities. Unfortunately, the plan by the government of Ghana to mine bauxite in the Atewa Forest is not making matters better. Stakeholders have kicked against the plan because they believe that strip mining is the only way to mine Ghana's bauxite due to its closeness to the surface. They hold the view that this method removes all vegetation, habitats and top soil, while the rock beneath is then broken up with explosives.

#### ***6.4.3 Overpopulation***

In general sense, growing populations mean increased demand for food, and a corresponding necessity to convert forests to agricultural land. Land shortages in traditional farming areas, such as Kwabeng result from the combination of several factors. Some of these factors is growing number of people and a high population density. Most land conversion from natural states to human uses is happening in the developing world, where population growth is most prevalent. As mentioned in chapter four, the population of Kwabeng increased by 15%, that is 24,000 to 27,823 from 2010 to 2017. The increase has

led to land-use conversion, forest loss and degradation, and rapid changes to the area landscape. In most developing countries, the highest fertility occurs in remote, sparsely settled regions. These forest frontier areas often have fragile ecosystems, and rapid population growth contributes to land conversion for agricultural use. Cocoa plantation has been one of the major activities of the people of Kwabeng for a long time. Due to the high demand for cocoa and the cocoa bean which is exported, many farmers have under many instances illegally extended the boundaries of their admitted farms, thereby encroaching on forest lands meant to be left untouched. The unfortunate thing is that although agricultural productivity has generally increased in the community, it has hardly kept the pace with population growth in Kwabeng and in Ghana at large. Apart from farming activities, increased demand for fuel wood for household consumption is another driver of deforestation in the Atewa West District capital. On a larger scale, demand for forest products continues to increase globally and will continue to increase in line with growth in population and income. In some parts of Ghana with high population densities, the demand for wood has already outpaced local supply. This has led to many challenges in access to wood for daily household needs such as cooking and heating.

#### ***6.4.4 Non-participation of forest stakeholders***

It has become evident in forest governance literature that participation of stakeholders, particularly communities around the forests, in forest management helps to achieve sustainable forest management and to generate win-win outcomes in many countries (Johansson, 2018). For effective forest governance, stakeholders are expected to participate in all aspects of forest management. Unfortunately, in most forest communities, this is not the case (McKean & Ostrom, 1995; Derkyi 2012). In Kwabeng and other forest communities in the Atewa West District, participation remains skewed towards the central government and some ‘powerful members’ of the community. Community members revealed during interviews that the less ‘powerful’ are mostly marginalized due to factors including socio-economic inequity, power struggles at local levels, weak institution and institutional relations, and conflicting interests among government, private entities and communities. It is important to note that all-inclusiveness is an aspect of conflict resolution (Engel and Korf, 2005). The non-participation of all stakeholders of forest resources is only

an indication that the interactive governance approach to forest governance is problematic (Kooiman & Bavinck, 2005). This has been one of the major causes of forest degradation and loss in the Atewa Forest region. In an environment where stakeholders of the Atewa Forest include a wide range of actors, the problem of non-participation of all these stakeholders only impedes effective forest governance. This is because each group of stakeholders feels left out hence will not be willing to cooperate with governance policies.

#### ***6.4.5 Lack of education***

Another major cause of forest degradation and loss in the Atewa Forest region is the lack of public education on the dangers of forest loss. It was revealed in the data collected from Kwabeng that most people who engage in activities that threaten the life of the forest are not aware of the short term and long term dangers associated with forest loss. My discussions with stakeholders from all levels indicate that because people do not know the dangers of their actions on the forest and their own lives, they continue to engage in activities that threaten the Atewa Forest. The FAO (2010) explains that effective forest governance can only be achieved through a dynamic process of adaptation, learning and action, which has been shown in many parts of the world. Derkyi (2012) also explains that educational interventions which address local, tangible and actionable environmental management practices contribute significantly to halting forest degradation as is seen in many communities and around the world that have effectively managed their forest resources. Because there is no transfer of knowledge on these major issues, individuals cannot disseminate the same to the larger community.

### **6.5 Strategies for Effective Forest Governance**

#### ***6.5.1 Institutional collaboration***

Collaboration is a process that involves people constructively exploring their differences and common aims, and then seeking a vision and developing plans for the achievement of specific goals, agreeable to all parties. The literature again reveals that collaboration involves more than just organized participation because, in collaborative management, stakeholders must come to the table with a desire to develop shared goals and then work out strategies for achieving those goals. Pagdee, Kim and Daugherty (2006) are of

reiterated this by saying that management practices established as a result of well-defined and well-collaborated institutions can effectively address the problems of forest resource access, use and governance. The problem of Atewa Forest loss, can only be well managed and curtailed when there is effective collaboration between the various institutions mandated to manage the forest. Officials from the Forestry Commission of Ghana and the Ghana Tourism Authority explained in their interviews, the extent to which there is a lack of synergy in the duties and authority of these institutions. The process of collaboration in this case, must be ‘emergent’, thus, emerging from the efforts of all institutions, rather than a prescribed plan designed and enforced by just one organization (Calderon & Nawir, 2006; Pandit *et al.*, 2009). As explained by Kooiman and Bavinck (2005) in the forestry context, sector development depends on an institutional framework that comprises ‘rules of the game’ as well as several organizations, public and private, with differing mandates, roles and functions. Within this broad institutional framework, public forest institutions (such as forestry departments and agencies) play many key roles and their performance is crucial for sector development. This assertion was buttressed by the officials from the Forestry Commission of Ghana. Based on this argument, there is the need for complementarity between the law enforcement agencies at all levels of decision making. This will allow for responsibilities to be properly spelt out to avoid overlapping authority and power. In addition, capacity development of the Forestry Commission officials, both academically trained staff and field officers, must be intensified.

### ***6.5.2 Inter-Stakeholder support platforms***

Data from the fieldwork suggest that decisions about land use and forest management in the Atewa Forest region are in the exclusive domain of the forest industry and the central government. Unfortunately, the phenomenon of public and stakeholder participation has not been an element of forest management, even though community members have demanded an increasing role in decision-making. There is widespread agreement that for forest governance projects to succeed, they must make provisions for the active inclusion of all stakeholders and the supply of early and regular material benefits to forest community members (Calderon & Nawir, 2006 in the Philippines; Tenenbaum, 1996 in Mexico; Pokharel, 2011 in Nepal). Some NGOs such as A Rocha Ghana have claimed to have been involved in many ways with regards to decisions concerning the



Atewa Forest. The fundamental basis of this shift has come about as a reaction against government centralization, the rise of environmental movements, the pervasiveness and influence of mass media, and the recognition that forests provide many values and benefits other than timber. The argument here is that, for effective governance of the Atewa Forest, there must be an adoption of a strategy that aligns with the modern approaches. Most modern approaches to forest management call attention to the importance of public and stakeholder participation as a means of improving equity, effectiveness and sustainability. Again, as stipulated by Pagdee, Kim and Daugherty (2006) an all-inclusive approach, where local communities are given management responsibility, authority, and recognition, facilitates development of effective forest governance. Many citizens in the Kwabeng community continue to express frustration at feeling excluded from decision-making to which, they argue, they contribute pertinent insights that decision-makers often lack, ignore, or interpret in an unbalanced manner.

### ***6.5.3 Transparency and Accountability***

As was established in chapter five, the relationship in which an actor or set of actors is held responsible for meeting a specific goal or adhering to a certain standard explains the concept of accountability. The FAO (2010) explains that without strong accountability and transparency, forest governance programs will not achieve their objectives and may lead to undesired impacts such as forest degradation and loss, inequitable distribution of benefits, weakening of land and resource rights, and failure to achieve the overall environmental outcomes. As has been revealed by this study, community members most of the time engage in illegal activities because of existing conflicts between their needs for livelihood support and government regulations. How the interactive governance model and conflict management approach fits into this is that, the model presents the opportunity for the governing system to be transparent and accountable to all. The interesting thing to note is that a transparent and accountable framework like that has the potential of eliminating inter-stakeholder conflicts while guaranteeing win-win outcomes for all stakeholders (Kooiman and Bavinck, 2005). Atewa Forest is again challenged by the issue of corruption. The inability of public officials, forest guards and other forest stewards to deal with corruption of any kind has been responsible for the illegal cutting of wood regularly, galamsey and other destructive uses of the forest. This results in lost revenue and

degradation of the Atewa Forest. As a first step to curbing corruption-driven activities in the Kwabeng community and other forest community, it is important that governments, citizens and all stakeholders know what is going on, and understand the corruption risks prevalent in the timber industry and forestry governance. Officials from forestry officers to judicial staff, customs agents and government inspectors need training and education so they have the technical skills to combat corruption and enforce environmental, forestry, transport and trade laws. They must be well trained to identify controlled species and recognize forged certification as well. To also ensure increased transparency in government decisions, the institutions mandated to govern the Atewa Forest need to be empowered to consult with various groups of civil society. Other authors also view institutional failures as a result of corrupt officials, lapses in policy and legislation, and governance failures as causes of conflicts resulting in ineffective forest governance (Tyler, 1999: 263). After decentralization and the reorganization of the forest sector administration, forest resources decisions must no longer be at the exclusive discretion of bureaucrats but must instead be subject to public scrutiny and made with public participation.

#### ***6.5.4 Clear roadmap for bauxite and gold mining***

Basically, every forest has two sides that cannot be separated; the forest as a natural resource and as an ecosystem. Forest as a natural resource positions it for the purposes of national development interests. Derkyi (2012) asserts that the forest as an ecosystem ensures the preservation of natural resources which consist of animals, plants that live in as a natural phenomenon, either individually or together. For that reason, she believes forest management policies must see both sides of the forest which cannot be separated. It is interesting to note that this is what drives some residents of the Kwabeng community to support the idea of mining in the Atewa Forest. With government's plan to mine bauxite in the Atewa Forest already reaching the commencement stage, it is important to recognize that the main objective of sustainable land management is to harmonize the complementary goals of providing environmental, economic and social opportunities for the benefit of present and future generations while maintaining and enhancing the quality of land resources. Much of the impact from mining is directly or indirectly linked to land. According to Popovic, Miljkovic, Subic, Jean-Vasile, Adrian, & Nicolaescu, (2015), the exploitation of mineral resources, especially surface mining, causes numerous negative

environmental externalities and socio-economic impacts, e.g., land use changes, ecosystem disturbances, watercourse relocation and a decrease in ground water level, changes in infrastructure networks, non-balanced industrial development, resettlement and changes in the economic and social structure of the local population. It is also important to note that exploration of mineral resources can also generate positive impacts. Based on all these concerns, it is crucial to acknowledge that for effective forest management in the Atewa Forest, there is the need for a clear roadmap for any type of mining. This roadmap must clearly spell out all aspects of the plan including the methods and technologies to be used, how requirements for lower emissions, energy, waste and water use will be met, and plans for rehabilitation standards and strategies. The key to success in the role of minerals in sustainable development is in the utilization of this resource as a platform for achieving economic diversification, growth and broad development goals, while maintaining social stability and protecting environmental integrity (Derkyi, 2012). For this reason, the focus must be on how mining companies which will be operating in a responsible and sustainable manner, can contribute to sustainable development at all levels. Discussions with a section of the respondents revealed that once a clear roadmap is drawn, with participation from all stakeholders, the best results will be achieved to generate win-win outcomes for all involved.

#### ***6.5.5 Stakeholder education***

In most developing communities, particularly forest communities, securing basic needs daily is the priority of individuals and therefore interest in issues of environmental protection and biodiversity conservation is very low. This is the case in Kwabeng as most of the residents of the town are farmers, miners or hunters. This obstacle is compounded by the fact that literacy rates are low which negatively impact other aspects of the individual's life including how they manage environments and their knowledge on the dangers of forest degradation and loss. Even though some residents are aware of the potential dangers of their activities that threaten the Atewa Forest, the need to survive is the only motivation for their actions. So long as this continues, Atewa Forest governance is most likely to be ineffective. To salvage the situation, there is the need for the creation of awareness on environmental degradation including building of capacity of public

institutions, local communities, media and other identifiable groups on linkages between sustainable forest management, environmental services and livelihoods and to effectively engage in conservation mechanisms in support of climate change mitigation. In similar vein, the strategies proposed through consultations with stakeholders must include awareness raising among the communities on environmental degradation and negative effects on human well-being (Derkyi, 2012; FAO, 2010, Klooster & Masera 2000; Calderon & Nawir, 2006). The interactive governance model and the conflict management mechanism are both designed to manage conflicts and enforce laws, and to arbitrate, become involved in adjudication, mediate, educate and constantly engage in a dialogue with all its stakeholders for a clear direction on forest governance policies (Derkyi, 2012; Kooiman & Bavinck, 2005). What this means is that proper educational activities, grounded in these theories have the potential of dealing with the causes of forest degradation and loss in the Atewa Forest. Community education needs to be intensified and the dangers of forest loss and its negative impacts should be carefully explained to local people through local radio stations and other channels of communication. In addition, there needs to be public and political awareness on international/national laws and dissemination of biodiversity information and strategies using various media.

#### ***6.5.6 Benefit Sharing***

As was mentioned in Chapter two, benefit sharing has been identified as one of the strategies to reduce forest degradation and loss in the Atewa Forest region. This provides a clear system to designate who gets rewarded, why, under what conditions, in what proportions and for how long. Benefit-sharing mechanisms is a broad term that encompasses all institutional means, structures and instruments for distributing finance and other net benefits from REDD+ programs. The interactive governance model represents a collaborative arrangement between local communities, other stakeholders and the governing institutions such as the Forestry Commission with legal backing, clearly defined institutions and a benefit-sharing scheme (Derkyi, 2012; Kooiman & Bavinck, 2005). One of the ways of eliminating forest and tree livelihood conflicts is to ensure that benefit sharing elements are well enforced. There is widespread agreement that for forest governance projects to succeed, they must make provisions for the active inclusion of all stakeholders and the supply of early and regular material benefits to forest community

members (Calderon & Nawir, 2006 in the Philippines; Tenenbaum, 1996 in Mexico; Pokharel, 2011 in Nepal). Benefit sharing is important for creating the necessary incentives to change deforestation and forest degradation behaviors and thus reduce carbon emissions. Another important thing to note is that these financial incentives or benefits should be distributed through a community benefit-sharing mechanism and should entail the transforming of funds from forest resources into fair and equitably allocated benefits with additional and permanent outcomes for communities. It was reported that in some developing countries, finance rather than ecology is a key driver of community forests (Estoria et al., 2004; Pulhin et al., 2007). Benefits position communities to be receptive to forest governance policies and guidelines. As was established in the data collection process, if stakeholders do not see the system as fair, it will threaten the legitimacy of, and support for, all forest governance efforts. A well-designed benefit-sharing mechanism can also support the effectiveness of forest management and increase the efficiency of REDD+ programs that generate win-win outcomes for all stakeholders involved.

## **6.6 Ecotourism Development: An ecologically based management approach to forest governance**

Aside the strategies discussed above, ecotourism can also be used as an ecologically-based management approach to forest governance in the Atewa Forest to guarantee win-win outcomes for all stakeholders. Ecotourism is an enlightening, participatory travel experience to environmental, both natural and cultural areas, that ensures the sustainable use, at an appropriate level, of environmental resources and, whilst producing viable economic opportunities for the tourism industry and host communities, makes the use of these resources through conservation beneficial to all key players. In their work conducted in Taiwan, Lai and Nepal (2006) suggested that in order to ensure the sustainability of community ecotourism development, guidelines and principles of ecotourism must be established and followed. They identified four general dimensions of ecotourism guidelines and principles from selected literature to encompass the areas of socially appropriate tourism (Cooke, 1982), environmentally sustainable tourism (Wight, 1994), ecotourism (Honey, 1999; Wallace, 1996), and community-based ecotourism (Sproule & Suhandi, 1998). The four dimensions which they identified included

conservation of natural resources, preservation of cultural tradition, sustainable community development and local participation in ecotourism planning and management. For this particular study, the focus was on ecotourism's ability to deliver on two of the four dimensions – (a) *conservation of natural resources* and (b) *local participation in ecotourism planning and management*. Successful ecotourism projects effectively promote the preservation of the entire local ecosystem; are economically viable to attract financing and be sustainable. It can be well planned, financed, managed and marketed to meet the stringent environmental and recreational demands of a true ecotourism development. Buckley (2009) assert that a lack of social and economic infrastructure in the forest villages has a potential of bringing social pressure on forest resources, which should be reduced for the sustainable management of forest resources. Local people have the right to live in their environment, but not by destroying natural resources. These assertions give the indication that a properly planned ecotourism program has the ability of both conserving the natural environment, in this case the Atewa Forest, and ensuring local participation. Effective forest governance and planning should take account of the demands of the local people in terms of social needs and forest resources. All these are features of every ecotourism project. It is for this reason that ecotourism is seen as a sustainable tool for forest governance. Apart from income-generating activities that are also ecological, ecotourism projects also aim for direct and indirect improvement of income levels and living standards of the local people, reduce pressures on the natural resources, protect the ecological balance, fosters cooperation among regions and countries, and finally accelerates information and experience exchange between rural and urban people. If ecotourism is well planned, most remarkable change could be seen in the forests. The provision of alternative livelihoods through ecotourism will reduce over dependence on the forest resources for survival.

## Chapter 7

### Conclusions and Recommendations

#### 7.0 Conclusions

This study's main purpose was to find answers to the main question that guided the entire research: *how can forests and tree livelihood conflicts in Ghana's high forest zone, specifically, the Atewa Forest be understood and constructively managed for effective forest governance which generates win-win outcomes for all stakeholders?* To fully understand the key elements and the demands of the study, the interactive governance theory guided the study. The study illustrates that the governance theory can be adapted to inculcate concepts that relate to forest resources conflict resolution, political ecology, co-management, stakeholder participation, ecotourism development and the many interactions between/among all stakeholders of forest resources.

Political ecology suggests, first, that there are multi-scalar and dynamic interactions between people and natural resource systems, which are mediated by institutions (Dietz, 1996). Using an interactive governance approach allowed me to understand and analyze the interactions between resource users, that is, local people of Kwabeng and forest resources as means of livelihoods under different forest governance regimes, as well as to complement this by studying governance interactions between the system-to-be-governed and the governing system. This theory provided the basis for understanding how these interactions have led to the causes of forest degradation and loss in the area. Secondly, political ecology highlights the politics of these interactions and the power imbalances involved (Bryant, 1992, Dietz, 1996, Gezon, 1997, Blakie & Brookfield, 1987, Peet & Watts, 1996). Chapter five of this study illustrated these politics and power imbalances by analyzing the conflicts between various actors and stakeholders within and beyond the community level and by revealing their direct and indirect impacts on the behavior of community members towards forest governance policies. It also showed that power plays by either politicians or important actors in the forest industry, particularly how mining of bauxite is being carried out, may affect the political will to deal effectively with forest offences and thus hinder law enforcement. Thirdly, political ecology stresses uneven access

to resources as a cause of imbalanced interactions, as became obvious particularly in interviews with community members in Kwabeng which illustrated how local people living in these forest communities are mostly excluded from access to forest resources, decision making and benefits from the forest resources.

To explain the academic contributions of this work, the study has provided an understanding into ecologically-based management approaches that can be adopted to minimize conflicts that have existed in Ghana's high forest zone, specifically the Atewa Forest, at the same time strengthening of the already existing but weak forest governance processes in Ghana. First, the study provides an understanding into the many ways in which forest resources are viewed and valued by different stakeholders that exist in the Atewa Forest Region. The study also throws light on benefits of forest resources from the viewpoints of all stakeholders. Another interesting thing is the fact that the study presents different opinions on what forest governance entails, from the perspectives of all stakeholders.

Secondly, the study also throws light on several reasons for forest degradation and loss in the Atewa Forest. This was done with the view of obtaining a deeper understanding of the major causes of forest degradation and loss in the Atewa Forest Region. Thirdly, in the analysis of the causes of forest degradation and loss in Ghana's high forest zone, the study examines many strategies, deemed as ecologically-based, that have the potential of eliminating the many causes of forest loss, at the same time creating a balance between/among all the expectations of the various stakeholders of the Atewa Forest.

Finally, the study holds the view, from the findings, that ecotourism development, which is mostly given minimal attention, has the potential of eliminating the causes of forest degradation and loss, at the same time ensuring win-win outcomes for all forest stakeholders.

Despite the many already existing forest governance initiatives in Ghana that are intended to ensure effective and sustainable forest management and good forest governance, tree and livelihood conflicts and ecotourism development still receive little or no attention as major concerns for the achievement of good forest governance. I trust that this study will contribute to the widespread recognition of the importance of these key determinants of effective forest governance.



## **7.1 Recommendations**

To help towards the achievement of Sustainable Development Goal 15 which seeks to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss, I present the following recommendations. These recommendations will help ensure that forest resources in Ghana's high forest zone and effectively governed in a manner which ensures win-win outcomes for all stakeholders. The recommendations do not only reflect my views, but also those of the research respondents, i.e. forest governors and experts, officials from the institutions mandated with the responsibility of forest governance in Ghana, members of local communities, actors and stakeholders working in international organizations, civil society and students and teachers from the Kwabeng Anglican Senior High Technical School. These recommendations present some opportunities as well as challenges for achieving them. They are captured in Table 7.1

### **7.1.1 Recommendations for policy and practice**

- Recognizing that conflict management must be integrated into forest management, policy and governance, the Forestry Commission should develop and organize multi-stakeholder platforms for all stakeholders to come together to share their concerns on challenges in relation to the governance of the forest. This platform should also allow for brainstorming sessions to deal with the challenges identified
- As a way of intensifying public and political awareness on international/national laws and dissemination of biodiversity information and strategies using various media, the Forest Commission of Ghana, in collaboration with the District Assembly, should organize an "SDG 15 Day Celebration". All stakeholder groups including students, communities, NGOs, private and public institutions and the Forestry Commission should be in attendance. This event will create awareness about the objectives of the Goal 15 and its potential for effective forest management
- To enable various stakeholders to demand accountability and transparency from their representatives, the District Assembly should initiate the formation of sustainable forest champions committee. This committee should be tasked with the responsibility of serving as a watchdog in all activities that concern the Atewa

Forest. The committee must include volunteers from all stakeholder groups at all levels.

- To ensure effective conflict resolution in relation to forest use, the Forestry Commission in collaboration with the District Assembly must organize periodic training events to teach stakeholders on how to deal with challenges of forest governance
- To create awareness and ensure conservation culture is instilled, environmental education should be incorporate into schools curricular to enable young people to be well informed about the environment and issues of effective environmental resources management
- To further empower all stakeholders, especially educational institutions, the Forestry Commission and the District Assembly should initiate the formation of ‘Conservation Club’ or ‘SDG 15 Club’ in educational institutions to encourage young people to participate in efforts for effective forest governance
- Recognizing that mining is one of the major causes of forest degradation in the Atewa Forest, the Ministry of Lands and Mineral Resources, together with the Forestry Commission should establish a community forest group (CFG) to discuss the prospects of sustainable mining. The CFG should be responsible for drafting a clear roadmap for and given recommendations for sustainable mining in Atewa.

Table 7:1 Recommendations for the study showing possible opportunities and challenges

Recommendations	Opportunities	Challenges
<p>1. Develop and organize multi-stakeholder platforms</p>	<p><b>Development of SDG Target 15.1:</b> <i>ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements</i></p>	<ul style="list-style-type: none"> <li>- Lack of interest</li> <li>- Fear of stakeholders to speak their minds</li> </ul>
<p>2. Organize an “SDG 15 Day Celebration”</p>	<ul style="list-style-type: none"> <li>- SDG support from international and local organisations</li> </ul>	<ul style="list-style-type: none"> <li>- Getting volunteers for planning</li> <li>- Lack of funds for the event</li> <li>- Lack of interest</li> </ul>
<p>3. Initiate the formation of sustainable forest champions committee</p>	<ul style="list-style-type: none"> <li>- Opportunity to delegate</li> <li>- Stakeholder empowerment</li> <li>- Watchdogs</li> </ul>	<ul style="list-style-type: none"> <li>- Sabotage from government institutions</li> <li>- Lack of funds to pay committee members</li> </ul>
<p>4. Organize periodic training events</p>	<ul style="list-style-type: none"> <li>- Knowledge acquisition</li> <li>- 3-5 day workshops on conflict management</li> <li>- Massive support for effective forest governance</li> </ul>	<ul style="list-style-type: none"> <li>- Unavailability of all stakeholders</li> <li>- Frequency of training events</li> <li>- Lack of funds to keep it running</li> </ul>
<p>5. Incorporate into schools curricular environmental education</p>	<ul style="list-style-type: none"> <li>- Opportunity to instill conservation issues in younger generation</li> <li>- Towards SDG 15</li> </ul>	<ul style="list-style-type: none"> <li>- Bureaucracy</li> <li>- Delays in getting proposals approved</li> </ul>
<p>6. Initiate the formation of ‘Conservation Club’ or ‘SDG 15 Club’ in educational institutions</p>	<ul style="list-style-type: none"> <li>- Active participation of students</li> <li>- Intervention of international and local organisations such as UN, WWF, IUCN, etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of funds to keep running</li> <li>- Lack of time of students</li> </ul>
<p>7. Establish a community forest group (CFG) to discuss the prospects of sustainable mining</p>	<ul style="list-style-type: none"> <li>- Opportunity to delegate</li> <li>- Stakeholder empowerment</li> <li>- Opportunity for sustainable mining</li> <li>- Conflict management</li> </ul>	<ul style="list-style-type: none"> <li>- Sabotage from government institutions</li> <li>- Lack of funds to pay committee members</li> </ul>

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**APPENDIX A: UNIVERSITY OF WATERLOO ETHICS CLEARANCE**

**UNIVERSITY OF WATERLOO**

**Notification of Ethics Clearance to Conduct Research with Human Participants**

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Principal Investigator: Larry Swatuk (Geography and Environmental Management) Student investigator: Victor Agbo (Geography and Environmental Management) File #: 40186

Title: From Conflict to Collaboration: Atewa Forest Governance

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The Human Research Ethics Committee is pleased to inform you this study has been reviewed and given ethics clearance.

Initial Approval Date: 12/17/18 (m/d/y)

University of Waterloo Research Ethics Committees are composed in accordance with, and carry out their functions and operate in a manner consistent with, the institution's guidelines for research with human participants, the Tri-Council Policy Statement for the Ethical Conduct for Research Involving Humans (TCPS, 2nd edition), International Conference on Harmonization: Good Clinical Practice (ICH-GCP), the Ontario Personal Health Information Protection Act (PHIPA), the applicable laws and regulations of the province of Ontario. Both Committees are registered with the U.S. Department of Health and Human Services under the Federal Wide Assurance, FWA00021410, and IRB registration number IRB00002419 (HREC) and IRB00007409 (CREC).

This study is to be conducted in accordance with the submitted application and the most recently approved versions of all supporting materials.

Expiry Date: 12/18/19 (m/d/y)

Multi-year research must be renewed at least once every 12 months unless a more frequent review has otherwise been specified. Studies will only be renewed if the renewal report is received and approved before the expiry date. Failure to submit renewal reports will result in the investigators being notified ethics clearance has been suspended and Research Finance being notified the ethics clearance is no longer valid.

Level of review: Delegated Review

Signed on behalf of the Human Research Ethics Committee



Karen Pieters, Manager, Research Ethics, [karen.pieters@uwaterloo.ca](mailto:karen.pieters@uwaterloo.ca), 519-888-4567, ext. 30495

This above named study is to be conducted in accordance with the submitted application and the most recently approved versions of all supporting materials.

Documents reviewed and received ethics clearance for use in the study and/or received for information: file: Verbal\_Script\_Community Members.docx

file: Verbal\_Script\_Government Officials.docx

file: Verbal\_Script\_Students.docx

file: Agbo MES\_Information\_Paramount Chief.docx file: Email\_Script\_Students.docx

file: Interview\_Guide\_Community.docx file: Interview\_Guide\_Gov't Officials.docx

file: Focus\_Group\_Questions\_Students.docx

file: Agbo MES\_Consent form\_Community Members.docx file: Agbo MES - Organization Consent Form.docx

file: Agbo MES - Organization Information.docx file: Agbo MES\_Consent form\_Students.docx

file: Agbo MES\_New Juabeng School Board.docx

file: Agbo MES\_Information\_Paramount Chief.docx file: Information material\_Students.docx

file: Information material\_Government Official.docx file: Information material\_Community Members.docx file: Feedback/Appreciation letter.docx

Approved Protocol Version 5 in Research Ethics System

This is an official document. Retain for your files.

**You are responsible for obtaining any additional institutional approvals that might be required to complete this study.**

## **APPENDIX B: INTERVIEW GUIDE FOR COMMUNITY MEMBERS (KWABENG)**

**\*\* Note:** These are possible questions to be generally considered for interviewing community members. Not all the questions will be asked; selection of questions will be dependent on individual's expertise, knowledge and willingness to be interviewed from the beginning to the end.

Research Topic: **From conflict to collaboration: Atewa Forest governance**

Student Investigator: Victor Mawutor Agbo

*Information and Consent:* Thank you for volunteering to participate in the “*From conflict to collaboration: Atewa Forest governance*” study. This research would not be possible without your willingness to participate and support.

This interview should take approximately 35 minutes to 40 minutes to complete. The questions focus on your opinions on the practices that could be employed to promote collaboration between/among all stakeholders, leading to effective forest governance in Ghana, specifically the Atewa Forest Region. Your participation is voluntary. You may decline to answer any questions that you do not wish to answer, and you can withdraw your participation at any time.

All information you provide is considered completely confidential; indeed, your name will not be included or in any other way associated, with the data collected in the study. I would also like to assure you that this study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee.

### **SECTION A: Current processes and practices for forest conservation in Atewa Region**

*The purpose of this section is gain insight into processes and practices that have been used and are currently being used for the governance of the Atewa Forest. Views of the community members will be examined to ascertain how familiar or not they are with the forest, governance practices, policies. The section will also reveal community members' knowledge on key concepts such as governance, forest governance and forest policies.*

1. How long have you lived in this community?
2. What is the value of the Atewa forest to you and/or your family?
3. In your opinion, what do you understand by forest governance?
4. Do you think the Atewa Forest is currently being governed?
5. If yes, briefly explain which methods you think are currently being used to govern the Atewa Forest.
6. In your opinion, who is responsible for governance of forests in Ghana?
7. Do you know about any laws in Ghana governing forests?
8. What do you personally do to protect forests?
9. When community members have concerns related to management and governance of forest resources, how are these concerns addressed by decision makers in the country?

### **SECTION B: Sources of conflict in forest conservation in Atewa Region**

*Literature has revealed the extent to which forest communities generally live in conflict with policy makers over the governance of forests. This section intends to investigate the sources of conflicts between/among all stakeholders of the Atewa Forest; find out the how each of the stakeholders understand the concepts of community participation, collaboration and benefit sharing.*

10. Do you understand the concept of a ‘stakeholder’?
11. If yes, who do you think are the stakeholders of the Atewa Forest? (If no, interviewer will explain)

12. Which of these stakeholders are the major?
13. Do you use the forest for any livelihood activities?
14. Are you aware of any government plans to mine bauxite in the Atewa forest?
15. If yes, what do you know about the plans?
16. In what ways do you think mining in the forest impacts other livelihood activities?
17. Will you say there are conflicts between government and communities over the governance of the Atewa Forest?
18. If yes, what do you think are the reasons for the conflict?

### **SECTION C: Collaboration for forest conservation in Atewa Region**

*Different stakeholders have different priorities and perceptions about sustainable forest management. It is for this reason that there is the need for collaboration between/among all stakeholders for the governance of forests. This section intends to solicit the views of community members on ways in which effective collaboration could be fostered between/among all stakeholders in the Atewa Region for governance of the forest.*

19. Who manages the Atewa Forest?
20. In your opinion, do you think the Atewa Forest is increasing in size or shrinking?
21. What do you think is responsible for the growth/shrink?
22. What do you think can improve the management of the Atewa Forest in general?
23. Do you think the community has a role to play in the management of the forest?
24. What is the role of the community?
25. Do you think stakeholder participation at all levels is important in forest governance? Why? Why not?
26. In your opinion, are there any current collaboration efforts between government and communities in forest conservation/governance efforts?
27. Having lived in this region for a while, will you say there is any collaboration effort between government and communities around in governance of other natural resources?
  - a. If yes, what has been some of the benefits of these collaboration efforts?
  - b. If no, what do you think are some of the reasons for no collaboration?
28. What other practices can be employed to ensure effective forest governance in Atewa Forest?
29. Do you think communities around the forest share in the various benefits that the forest produces?
30. What viable strategies do you think could be employed to move communities and forest resources in a direction for shared benefits for both nature and people?
31. Overall, what will you consider to be the greatest challenge facing the governance of the Atewa forest?

### **SECTION D: Other uses of the Atewa Forest**

*We depend on forests for our survival, from the air we breathe to the wood we use. Besides providing habitats for animals and livelihoods for humans, forests also offer watershed protection, prevent soil erosion and mitigate climate change. This section of the interview intends to examine the views of community members of the numerous benefits forests provide which could be considered as a strong case for conservation.*

32. Do you ever visit the Atewa forest for work purposes?
  - a. If yes, what kind of work?
33. How often do you visit the forest for work?



34. Apart from visiting the forest for work, do you also visit the forest for other purposes such as recreational?
  - a. If yes, what kind of recreational activities do you engage in?
35. Approximately how many times in the last 6 months did you have any kind of recreational activities in the forest?
36. Are you familiar with the concept of ecotourism?
37. If yes, how do you understand the concept of ecotourism?
38. Do you know of any ecotourism services/business in the Atewa Forest Region?
39. In your opinion, do you think forests are important for ecotourism development? Why? Why not?
40. Do you think the water security for the communities around depends on the forest in general?
41. If yes, why do you think so?

### **APPENDIX C: INTERVIEW GUIDE FOR GOVERNMENT OFFICIALS (Forestry Commission, Ghana Tourism Authority, Lands and Minerals Commission)**

**\*\* Note:** These are possible questions to be generally considered for interviewing government officials. Not all the questions will be asked; selection of questions will be dependent on individual's expertise, knowledge and willingness to be interviewed from the beginning to the end.

#### **SECTION A: *Current processes and practices for forest conservation in Atewa Region***

*The purpose of this section is gain insight into processes and practices that have been used and are currently being used for the governance of the Atewa Forest. Views of the community members will be examined to ascertain how familiar or not they are with the forest, governance practices, policies. The section will also reveal community members' knowledge on key concepts such as governance, forest governance and forest policies.*

1. What is the value of the Atewa forest to government?
2. In your opinion, what do you understand by forest governance?
3. Do you think the Atewa Forest is currently being governed?
4. If yes, briefly explain which methods you think are currently being used to govern the Atewa Forest.
5. In your opinion, who is responsible for governance of forests in Ghana?
6. Do you know about any laws in Ghana governing forests?
7. In your opinion, do you think forest governance is the responsibility of an institution or people? Briefly explain.

#### **SECTION B: *Sources of conflict in forest conservation in Atewa Region***

*Literature has revealed the extent to which forest communities generally live in conflict with policy makers over the governance of forests. This section intends to investigate the sources of conflicts between/among all stakeholders of the Atewa Forest; find out the how each of the stakeholders understand the concepts of community participation, collaboration and benefit sharing.*

8. Who do you think are the stakeholders of the Atewa Forest?
9. Which of these stakeholders are the major?
10. In your opinion, do you think community/stakeholder participation is key to effective forest governance?
11. Will you say there is any collaboration effort between government and communities around in Atewa forest governance?

- c. If yes, what has been some of the benefits of these collaboration efforts?
- d. If no, what do you think are some of the reasons for no collaboration?
- 12. Are there any government plans to mine bauxite in the Atewa forest?
- 13. If yes, what is the plan and what is your take on it?
- 14. In your opinion, do you think there is mining currently taking place in the forest?
- 15. If yes, will you say miners in the Atewa Forest operate with government licenses or not?
- 16. Do you think mining in general has impacts on the environment, that is biodiversity and people?
- 17. In what ways do you think mining in the forest impacts the environment?
- 18. When community members have concerns related to management and governance of forest resources, how are these concerns addressed by your offices?
- 19. Does government face any form of non-compliance from community members regarding forest conservation policies?

**SECTION C: Collaboration for forest conservation in Atewa Region**

*Different stakeholders have different priorities and perceptions about sustainable forest management. It is for this reason that there is the need for collaboration between/among all stakeholders for the governance of forests. This section intends to solicit the views of community members on ways in which effective collaboration could be fostered between/among all stakeholders in the Atewa Region for governance of the forest.*

- 20. In your opinion, do you think the Atewa Forest is increasing in size or shrinking?
- 21. What do you think is responsible for the growth/shrink?
- 22. In your opinion, what is community participation in forest governance?
- 23. Do you think stakeholder participation at all levels is important in forest governance? Why? Why not?
- 24. In your opinion, are there any current collaboration efforts between government and communities in forest conservation/governance efforts?
- 25. What other practices can be employed to ensure effective forest governance in Atewa Forest?
- 26. Does government see ecotourism as a viable tool for ensuring conservation?
  - a. If yes, what is government's position on ecotourism development in the region?
- 27. In your opinion, what is benefit sharing?
- 28. Do you think communities around the forest share in the various benefits that the forest produces?
- 29. Will you say there are conflicts between government and communities over the governance of the Atewa Forest?
- 30. What viable strategies do you think could be employed to move communities and forest resources in a direction for shared benefits for both nature and people?
- 31. Overall, what will you consider to be the greatest challenge facing the governance of the Atewa forest?

**SECTION D: Other considerations of the Atewa Forest**

*We depend on forests for our survival, from the air we breathe to the wood we use. Besides providing habitats for animals and livelihoods for humans, forests also offer watershed protection, prevent soil erosion and mitigate climate change. This section of the interview intends to examine the views of community members of the numerous benefits forests provide which could be considered as a strong case for conservation.*

- 32. In which ways do you think Atewa Forest governance fits into discussions in the international community?

33. Are you familiar with the concept of ecotourism?
34. If yes, how do you understand the concept of ecotourism?
35. Do you know of any ecotourism services/business in the Atewa Forest Region?
36. In your opinion, do you think forests are important for ecotourism development? Why? Why not?
37. Do you think the water security for the communities around depends on the forest in general?
38. If yes, why do you think so?

**APPENDIX D: QUESTIONS FOR FOCUS GROUP DISCUSSION FOR STUDENTS  
(Kwabeng Anglican Senior High Technical School, KASHTS)**

**\*\* Note:** These are possible questions to be generally considered for the focus group discussions for students. Not all the questions will be asked; selection of questions will be dependent on individual's expertise, knowledge and willingness to be interviewed from the beginning to the end.

**SECTION A: *Forests: Values and Importance***

*This section seeks to solicit the views of students on values and importance of forest resources in general. It will help ascertain how each stakeholder perceives forest resources and how each one of them contributes to the governance in general.*

1. In your opinion, what will describe as a forest area?
2. What do you think are some benefits of forests?
3. What is the value of the Atewa forest to you?
4. In your opinion, what do you understand by forest governance?
5. Do you think the Atewa Forest is currently being governed?
6. If yes, briefly explain which methods you think are currently being used to govern the Atewa Forest.
7. In your opinion, who is responsible for governance of forests in Ghana?
8. Do you know about any laws in Ghana governing forests?
9. In your opinion, do you think forest governance is the responsibility of an institution or people? Briefly explain.

**SECTION B: *Sources of conflict in forest conservation in Atewa Region***

*Literature has revealed the extent to which forest communities generally live in conflict with policy makers over the governance of forests. This section intends to investigate the sources of conflicts between/among all stakeholders of the Atewa Forest; find out the how each of the stakeholders understand the concepts of community participation, collaboration and benefit sharing.*

10. Do you understand the concept of a 'stakeholder'?
11. If yes, who do you think are the stakeholders of the Atewa Forest? (If no, interviewer will explain)
12. Which of these stakeholders are the major? Why?
13. In your opinion, do you think community/stakeholder participation is key to effective forest governance?
14. Are you aware of any government plans to mine bauxite in the Atewa forest?
15. If yes, what do you know about the plans?
16. In what ways do you think mining in the forest impacts other livelihood activities?
17. In what ways do you think mining in the forest impacts the environment?

### **SECTION C: Collaboration for forest conservation in Atewa Region**

*Different stakeholders have different priorities and perceptions about sustainable forest management. It is for this reason that there is the need for collaboration between/among all stakeholders for the governance of forests. This section intends to solicit the views of community members on ways in which effective collaboration could be fostered between/among all stakeholders in the Atewa Region for governance of the forest.*

18. In your opinion, what is community participation in forest governance?
19. Do you think stakeholder participation at all levels is important in forest governance? Why? Why not?
20. Do you think educational institutions have a role to play in championing forest conservation in the Atewa Forest Region?
21. Are you familiar with the concept of environmental education?
22. If yes, how did you first hear about environmental education?
23. Do you think environmental education should be emphasized among all stakeholders of forest conservation?
24. In your opinion, should environmental education be incorporated in school's curriculum? Why? Why not?
25. What other practices can be employed to ensure effective forest governance in Atewa Forest?
26. In your opinion, what is benefit sharing?
27. What viable strategies do you think could be employed to move communities and forest resources in a direction for shared benefits for both nature and people?
28. Overall, what will you consider to be the greatest challenge facing the governance of the Atewa forest?

### **SECTION D: Other considerations of the Atewa Forest**

*We depend on forests for our survival, from the air we breathe to the wood we use. Besides providing habitats for animals and livelihoods for humans, forests also offer watershed protection, prevent soil erosion and mitigate climate change. This section of the interview intends to examine the views of community members of the numerous benefits forests provide which could be considered as a strong case for conservation.*

29. In which ways do you think Atewa Forest governance fits into discussions in the international community?
30. Do you know about the Sustainable Development Goals (SDGs)?
31. In your opinion, how does forest conservation help contribute to the SDGs?
32. Do you visit the forest for other purposes such as recreational?
  - b. If yes, what kind of recreational activities do you engage in?
33. Are you familiar with the concept of ecotourism?
34. If yes, how do you understand the concept of ecotourism?
35. Do you know of any ecotourism services/business in the Atewa Forest Region?
36. In your opinion, do you think forests are important for ecotourism development? Why? Why not?
37. Do you think the water security for the communities around depends on the forest in general?
38. If yes, why do you think so?
39. Overall, how will you describe the role of all stakeholders in ensuring that forests are effectively managed?