

UNIVERSITY FOR DEVELOPMENT STUDIES

**DYNAMICS OF NATURAL RESOURCE USE CONFLICTS AND
MULTI-STAKEHOLDER COLLABORATION IN GHANA: THE CASE
OF THE MOLE NATIONAL PARK, LARABANGA**

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VIVIAN NSIAH

2020

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**THIS THESIS SUBMITTED TO THE DEPARTMENT OF GOVERNANCE AND
DEVELOPMENT MANAGEMENT, FACULTY OF PLANNING AND LAND
MANAGEMENT, UNIVERSITY FOR DEVELOPMENT STUDIES, TAMALE,
GHANA IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE
AWARD OF A MASTER OF PHILOSOPHY IN DEVELOPMENT MANAGEMENT**

OCTOBER, 2020

DECLARATION

Student

I hereby declare that this thesis is the result of my own work supervised by Dr. Samuel Ziem Bonye and that aside references that have been duly acknowledged, no part of this work has been presented elsewhere or in this University for another degree.

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I hereby declare that this thesis has been prepared by the student and the results presented are in accordance with the laid down procedures of the University for Development Studies.



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ABSTRACT

The competition over opportunities to access, ownership, control and management of Natural Resources (NR) by multi-stakeholders at all levels has been the bane of Natural Resource Management (NRM) in Africa. This is exacerbated by the inherent conflicts generated from the complexities of management structures, especially in areas where livelihoods of local people depend on NR. Therefore, the study was aimed at assessing the dynamics of natural resource use conflicts and multi-stakeholder collaboration in Ghana. This study adopted the qualitative research design approach. Data was collected using Focus Group Discussions, in-depth interviews and observation. Participants, including the Chief, hunters, farmers, herbalist, the Mole Park Manager, and A Rocha Ghana, were contacted and interviewed. The results show that: first, renewable natural resources such as land and water bodies, thatch and wildlife were essential to the livelihood, prestige and socio-cultural sustenance of farmers and hunters as well as the traditional authority in Larabanga; second, it was revealed that the natural resources in the Mole Park have many stakeholders whose interests in NR use and management conflict revolves around livelihood survival and ecological sustenance; third, underlying factors such as access, ownership and control of NR, centralized management of the Park, absence of compensation for crop raiding, trust among the local resource users and the Park Staff are the main causes of resource use conflicts in the study communities; and fourth, the weak collaboration among the major stakeholders of NRs in the Mole Park is associated with resource use conflict in the study area. The study recommends that the FC and the Park Management adopt a bottom-up approach to reviewing and negotiating the principles of the Collaborative Wildlife Management Policy. Mainstreaming policies of collaborative management of NRs in some parts of Africa and in actions of global like the SDGs (Goal 15) which focuses on Life on Earth is recommended.



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DEDICATION

With love to my mother.

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LIST OF ACRONYMNS

ALS	Alternative Livelihood Strategies
CAMPFIRE	Communal Area Management Programme for Indigenous Resources
CARE	Cooperative for Assistance and Relief Everywhere
CBD	Convention on Biological Diversity
CBNRM	Community Based Natural Resource Management
CPR(s)	Common Pool Resource(s)
CREMA	Community Resource Management Area
CSO(s)	Civil Society Organisation(s)
CWMP	Collaborative Wildlife Management Policy
DP(s)	Design Principle(s)
EC	European Commission
EM	Environmental Matters
EST	Environmental Scarcity Theory
FAO	Food and Agricultural Organisation
FC	Forestry Commission
FGD	Focus Group Discussion
GEF	Global Environment Fund



GSS	Ghana Statistical Service
IAASTD	International Assessment of Agricultural Knowledge, Science and Technology for Development
IDI	In-Depth Interview
KII(s)	Key Informant Interview(s)
KWS	Kenya Wildlife Service
LA	Livelihood Activities
LI	Legislative Instrument
LO	Livelihood Outcomes
MDGs	Millennium Development Goals
MLNR	Ministry of Land and Natural Resources
NGOs	Non-Governmental Organisation(s)
 NR(s)	Natural Resource(s)
NRC	Natural Resource Council
NRM	Natural Resource Management
NTFPs	Non-Timber Forest Products
PAMAU	Protected Areas Management Advisory Unit
REDD	Reduced Emissions from Deforestation and Degradation
SDGs	Sustainable Development Goals

SES	Socio-Ecological System
SESA	Strategic Environmental and Social Assessment
TA	Traditional Authority
TANAPA	Tanzania National Parks
UMA	Uganda Wildlife Authority
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
UNIFTPA	United Nations Interagency Framework Team for Preventive Action
 WB	World Bank
WRI	World Resources Institute
WTR	World Trade Report

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Nkonya et al. (2008), Derman et al. (2007), Saito (2004) and Hulme and Infield (2001) argued that there have been some popular decentralized NRM strategies in some local communities in Uganda, Cameroon, Burkina Faso, South Africa, Zimbabwe, Tanzania, Kenya and Sudan, which have enhanced local share of benefits whilst reducing conflict of resource uses, resolving inherent state management conflicts, management of land, forest, pastoral and waters resources for collective benefits and conservation of the environment. Discourse on sustainable natural resource management strategies that involves the many stakeholders of a natural resource system is critical towards sustaining life on earth and resolving resource use conflict, which has been one of the challenges that has faced the world and stripped it of human potential (McNeish, 2010; Derman et al., 2007).

Most natural resources are communally owned (Alao, 2011). Hence, Barnes and Laerhoven (2013), Cox (2010), Agrawal (2001) and Ostrom (1990) refer to them as common goods. The collective management of common natural resources is particularly important in ensuring livelihood security and efficient conservation of natural resources whilst preventing the inherent conflicts (Yami et al., 2009).

However, some studies on natural resources in Africa indicate that 98 percent of the forests and almost all the pastures (28 percent of the globe's pastures) in Africa are managed by the public or government (Barrow et al., 2009; Lambin et al., 2003). This is as a result of colonisation and independence of many developing countries in Africa, which shifted prominence on natural resource management from local communities to colonial administration and new African elitist governments/state, respectively (Eguavoen & Wolfram,



2010; Eyong, 2007; Saito, 2004; Singh, 2002). Inherent in the transfers of access, ownership, control and management of the natural resources have sparked a series of complex competing interests and unending conflicts, especially in areas where livelihoods of local people are dependent on them (Agrawal & Chhatre, 2011; Agrawal, 2007). The competition over opportunities to access, ownership and their related control and management by the various actors, which include multiple stakeholders at all levels - government agencies, community stakeholders, domestic and multinational businesses, politicians, international agencies and non-governmental organizations (NGOs) - has been the bane of NRM due to the inherent conflicts generated from the complexity of the management structures (UNEP, 2015; Garrett & Piccinni, 2012; Namangaya, 2011; Agrawal, 2007). Due to the effects of the inherent conflicts of NRM, the concept has attracted wider globe institutional interest in discussions related to expanding understanding on the complex interactions between societal welfare (actors interests) and natural resources towards managing natural resource based conflicts (Namangaya, 2011).

Effective collaboration among stakeholders is a major challenge in the management of natural resources, which has played important roles in people's livelihoods for centuries (Saito, 2004). As a result of the multifaceted characteristics of Natural Resources (NRs), the management of them has been recognized as requiring collaboration among all users (Ribot, 2002).

Hence, Agrawal (2007) has argued that multi-stakeholders management strategies have been particularly popular in Natural Resources Management (NRM). This is due to the growing recognition that problems of natural resources management are the outcomes of disjointed actions among resource users and can only be solved by some form of cooperation (Eguavoen & Wolfram, 2010).



Furthermore, the inability to generate sound and inclusive resource management regimes, which involve complex actors, has also led to resource conflicts and their relapse phases (Namangaya, 2011). This phenomenon informed the evolution of collaborative management approaches to natural resources, especially on resources that are communally owned with varied users. Derman et al. (2007) contended that the institutional and political spins that generate resource conflicts cannot be managed without huge coordinated efforts by all the stakeholders involved.

It has been argued by Cundill and Rodela (2012), Blackmore (2007) and Bernard and Young (1997) that collaborative natural resource management approaches have the higher potential to reduce conflict and foster participation among actors associated with natural resource access, ownership, control and management. Brick et al. (2000) indicated that they build social capital whilst Cox (2010), Weber (2000) and Ostrom (1990) argued that they allow environmental, social, and economic issues to be addressed in tandem and ensure collective benefit of the various actors and prescribe alternative and promising ways to deal with contentious natural resource issues and produce better decisions (Conley & Mootey, 2003; Kenney & Lord, 1999).



The northern regions of Ghana have been among the poorest regions in the history of Ghana (Ghana Statistical Service, 2013). Hence, competition over available natural resources, especially forest resources to sustain livelihoods, is high as most inhabitants depend on farming and hunting (FC, 2016). Mole National Park, just like other forest reserves and protected areas in Ghana and elsewhere, has attracted a lot of social scientists and academic interest due to the series and levels of conflict that are characterized and have existed between the fringed communities and authorities of the former residents of the Park since the

1970s when the management control of the NR in the Park was shifted from the fringed communities to government management (FC, 2016).

This and many other isolated cases across Ghana led to the development of the Collaborative Wildlife Management Policy to involve multiple stakeholders in the management of protected areas in Ghana (Forestry Commission, 2000). The policy was carved into two basic institutional mechanisms for implementing collaborative forest and wildlife management both within and outside protected areas: Protected Areas Management Advisory Units (PAMAU) and Community Resource Management Areas (CREMA) (Soliku & Schraml, 2018). The latter is an approach whereby management authority and responsibilities for wildlife are decentralised from the Wildlife Division of the Forestry Commission to rural communities within the same socio-ecological landscape, who then collaborate with other non-local stakeholders to achieve linked conservation and development goals (Soliku & Schraml, 2018). The strategy seeks to include the necessary stakeholders in the management of forest resources in order to lessen conflicts of access, control and ownership. Invariably, it empowers community members to form semi-formal wildlife management teams to ensure collective conservation of forest resources (Soliku & Schraml, 2018).



However, regardless of the advantages of collaborative natural resource management approach, it has been criticized by many authors (Eguavoen & Wolfram, 2010; Nelson, 2007; Blaikie, 2006; Saito, 2004; Campbell et al., 2001; Songorwa, 1999) who argue that the approach has the capacity to reinforce and outstretch the power of the state or government agencies amidst unbalanced power relations, which have the potential to cause and sustain natural resource use conflicts. Empirical studies of Blaikie (2006) and Campbell et al. (2001) on the weaknesses of collaborative management of natural resources in Malawi and Botswana, and Zimbabwe respectively indicate that studies targeted at assessing the

dynamics of multi-stakeholder collaboration are critical in natural resource management. This is because of the competing interests by the various actors on natural resources which affect sustainable natural resource management systems and the management of natural resource use conflicts (Sirak et al., 2017). This study therefore focused on the dynamics of natural resource use conflicts and multi-stakeholder collaboration in Ghana using the Mole National Park, Larabanga as a case study.

1.2 Problem Statement

Globally, half a billion people, with the greatest concentration on rural areas, depend on forest and other forms of commons or natural resources (Agrawal, 2007). For many of these people living in severe poverty, natural resources are the daily lifeline and assets for those with few other material means (WRI, 2005), especially the rural poor (Bedru, 2007; Frost, et al., 2007; Girmay, 2006; Benin et al., 2003; Appiah, 2002; Beck & Nesmith, 2001). Although the African continent abounds in natural resources, poverty and material deprivation continue to be fundamental challenges of its people (Alao, 2011; Derman et al., 2007; Saito 2004).

In Garrett and Piccinni's (2012) view, most natural resource conflicts arise from competition over ownership and access to natural resources, which guarantee control, usage and management of natural resources for livelihood opportunities. When these competitions meet delineated natural resources systems, they can and often provoke and sustain internal conflicts as different groups fight for control or use of the natural resources (NRC, 1986).

Unlike the forest zone of Ghana that has vast and thick forest vegetation and other natural resources that support basic rural livelihood like farming and hunting, the case is comparatively opposite in the savannah zone and its regions (GSS, 2013; 2012). Regardless, the zone possesses strategic resources like the vast Mole National Park, which could serve as a source of livelihood strategy for its surrounding communities (FC, 2016). However, the



Park is a protected zone by the Government of Ghana due to the presence of endangered species and the huge potential tourist attractions (FC, 2011).

Bosu (2011) and A Rocha Ghana (2008) indicated that the thirty-three (33) fringed communities that depended, to a large extent, on the natural resources within the communal landscapes and the Park boundaries for their livelihoods could not have legal access, ownership and control over the natural resources. Abukari and Mwalyosi (2018) and Balangtaa (2015) argued that the consequence of the conflicting positions, interests and unbalanced relations between the Park Management and the fringed communities result in the latter adopting strategies to access resources, which meets resistance from the Park Management and results in conflict.

These overlapping interests have resulted in a series of conflicts, especially between Park Guards and hunters in the communal landscape (ghanaweb.com (April, 2020; June, 2019); Abukari & Mwalyosi, 2018; Soliku & Schraml, 2018; Balangtaa, 2015; Bosu, 2011; A Rocha Ghana, 2008). The fragile fringed community livelihood is further compromised by raiding resulting from wildlife in the Park trespassing into nearby communities like Larabanga further setting the tone of antagonism, which generates conflict between the Park and the resource users in fringed communities.

Collaborative approaches to natural resource conflict management in such areas have been argued by many authors (Robinson, 2016; Alao, 2011; Roe et al., 2009) due to the potential that collaborative resource management carries in reducing conflicts, their relapse and effects. Larson and Ribot (2004), Adam and Hulme (2001) and Lind and Cappon (2001) have revealed that the field of collective natural resource management has gained academic premium in the past three decades, particularly in Africa due to the conflicts that featured in most natural resource systems.



Series of collective natural resource management cases around the world reflect the advantages that accrue to the socio-ecological nexus as a result of drawing multiple stakeholders (especially local actors) into the management of common natural resources. For instance, the collaborative management of irrigation, marine, forest and other natural resource management systems in the Campo de Montiel of Spain and the Murray-Darling Basin of Australia (Ross & Martinez-Santos, 2010); the Japanese irrigation systems (Sarker & Itoh, 2000); the Mexican State of Michoacan (Klooster, 2000); Canada (Berry, 2006), Lenox Island and Abgewit in Canada (Charles, 2006); Nepal (Varughese & Ostrom, 2001); Malagasy and Kenya (Cinner et al., 2009) and Southern California (Ostrom, 1990) were successful due to commitment of appropriators or local actors in managing resource systems that affect their lives.

On that contrary, the use of collective management strategies in the some instances did not yield the returns anticipated as in the case of the Bulgarian irrigation systems (Theesfeld, 2004); Tanzania (Quinn et al., 2007); Western America (Ostrom 2011); Mancha aquifer in Spain (Ross & Martinez-Santos, 2010); forest resources management in Malawi and Botswana (Shackleton & Campbell, 2001); Zimbabwe (Blaikie, 2006); Oaxaca State in Mexico (Klooster, 2000); Yanasha in Peru (Morrow & Hull, 1996); Slovakia (Chobotova & Oravska, 2011); and the Acadja system in Nigeria (Olopade et al., 2008). Therefore, Sirak et al. (2017) called for a more in-depth understanding of the dynamics and evolution of appropriate institutions that support collective management of natural resource by its stakeholders. For instance, some scholars have devoted studies to the diagnosis of the underlying factors that guarantee the effectiveness of collaborative management of natural resources for collective benefits. The appropriation of the design principles (Cox et al., 2010; Ostrom, 2008; 1990), group size and characteristics (Bardhan et al., 2008; Aggrawal & Goyal, 2001; Varughese & Ostrom, 2001; Morrow & Hull, 1996), social capital (Theesfeld,



2004; Sarker & Itoh, 2000) and the level of external interventions (Ostrom 2011; Quinn et al., 2007; Schmidtz & Willott, 2003) among many factors have been identified as the underlying conditions that contributed to the success of the collaborative natural resource management cases supra.

In the Ghanaian context, the creation of the Collaborative Wildlife Management Policy was geared towards decentralizing management authority and responsibilities to rural communities within the socio-ecological landscape of forest reserves and its natural resources to collaborate with other non-local stakeholders to ensure collective conservation whilst appropriating the benefits accruing from the process (Forestry Commission, 2000; Soliku & Schraml, 2018). After Two decades of the policy being in existence, only three (3) communities within the 33 fringed communities of the Mole Park have subscribed to the CREMA strategy with two (2) amongst them being on the verge of collapsing due to the rising interest in deforestation and harvesting of timber products around the area (FC, 2016). As well, poaching by hunters, which has been among the major sources of encroachment and cause of conflict around the Park, still persists (Abukari & Mwalyosi, 2018; FC, 2016; Balangtaa, 2015; Bosu, 2011).

The Forestry Commission (2004) has argued that the absence of a clear strategy to capture hunting as an inherent Ghanaian culture; the inaccessibility of some sacred groves and shrines that are within the Park; the competition between farmers and some animal species on the former's cultivated crops; as well as unclear protein replacement strategy somehow encourage poaching and encroachment by local actors and the conflicts arising therefrom. Ghanaweb.com (17th June, 2019; 24th April, 2020), Abukari and Mwalyosi (2018) and Balangtaa (2015) revealed that encroachment and poaching continue to generate conflicts




around the Park all in efforts by local people to have access to sustain their livelihoods from the natural resource amidst the existence of the Collaborative Wildlife Management Policy.

Although Abukari and Mwalyosi (2018), Balangtaa (2015) and Bosu (2011) have conducted studies on the resource use conflicts between the Mole Park and its fringed communities, they dwelled on the incidence and trends of poaching rather than the perspectives of local resource users that motivate poaching. For instance, Balangtaa (2015) recommended that the Park Management strengthens measures against poaching to maintain the ecological quality of the Park without assessing the underlying socio-cultural, livelihood and environmental attachments of the people who hitherto depended on the Park. The foregoing discussions encourage scholarship in Mole Park to assess the dynamics of resource use conflicts and multi-stakeholder collaboration strategies as basis to the management of natural resources for collective appropriation and conservation between Mole National Park and communities on its fringes.

1.3 Research Questions

1.3.1 Main Question



What are the dynamics of natural resource use conflicts and multi-stakeholder collaboration in the management of natural resource in Mole National Park and its fringed community, Larabanga?

1.3.2 Specific Questions

1. What is the nature of natural resources and their contributions to community livelihoods?
2. Who are the stakeholders and what are their stakes in natural resource management based conflicts?
3. What factors account for natural resource use and management based conflicts?

4. How can multi-stakeholder collaboration enhance efficient and sustainable natural resource management systems?

1.4 Research Objectives

The main objective of the study was to examine the dynamics of natural resource use conflicts and multi-stakeholders' collaborations in the management of natural resource based conflicts. Specifically, the study:

1. Assessed the nature of natural resources and their contributions to community livelihoods;
2. Analysed the different stakeholders and their stakes in natural resource management based conflicts;
3. Examined the factors that account for natural resource management based conflicts; and
4. Ascertained how multi-stakeholder collaboration enhances sustainable natural resource management systems.

1.5 Justification for the Study



The study will contribute in closing the literature gap on the subject matter of sustainable collaborative management approaches on natural resources globally. The study used the case of Mole Park, Larabanga to assess the dynamics of resource use conflicts and multi-stakeholders' collaboration in natural resources management which influence livelihood outcomes of rural communities like Larabanga. This will lead to the development of a multi-stakeholders' platform that will serve as a framework through which collaborative approaches to natural resource management can sustain and resolve conflicting interests among multiple stakeholders on a resource in the study area and elsewhere.

Again, the document could be referred to by policy analysts and decision makers in efforts towards finding sustainable management mechanisms and frameworks to govern natural resource management conflicts in Ghana and the global context especially in efforts towards attaining some targets in the Sustainable Development Goals (SDGs). Thus, the complete work can serve as a reference point for agencies like the UN, UNESCO, Forestry Commission of Ghana, Ministry of Lands and Natural Resources, NGOs like A Rocha Ghana, Catholic Relief Services and other agencies engaged in community livelihood activities, management of natural resources and conflict resolution. By extension, it will enhance the policy directions on sustaininag and reviewing the CREMA and PAMAU strategies that connote the Collaborative Wildlife Management Policy in Ghana.

Furthermore, this study will be the basis for further research in the area of natural resource management conflicts as well as serving as a foundation for theories and hypothesis in the subject matter. The results of the study will provide the basis for future studies in the area of natural resources especially in the establishment of hypothesis for theoretical studies. Finally, the study will recommend some research gaps. This will capture study limitations that will deserve scholarly attention after the study. Such academic recommendations will expand the

knowledge development of issues surrounding natural resources, their conflict management and collective management.

1.6 Scope of the Study

The study was based at Mole Park, Larabanga in the West Gonja Municipality of the Republic of Ghana. The place was chosen due to its proximity as the gateway to the Mole National Park, which has a lot of critical forms of natural resources such as forest vegetation, vast annexed communal land and water resources that the community and others were using as a means of livelihood until the Park was gazette in the 1970s.



It is particularly chosen due to the fact that the main livelihood strategies of the majority of the people, as is the case of many rural communities, are farming and hunting, which have met a vast protected forest resource by the government. The struggle over the resource has been a matter of concern as it has fuelled different levels of conflict generated by poaching and encroachment by natives and other inhabitants and their blockages by the Park Management. The study explored the dynamics of natural resource use conflicts and multi-stakeholder collaboration.

The roles of the Forestry Commission, CSOs, the Park Management, the opinion leaders and resource users in Larabanga were harnessed for the study. The study analysed the nature of natural resources and their contributions to community livelihoods; evaluated the factors that account for natural resource management-based conflicts; ascertained the different stakeholders and their stakes in natural resource management-based conflicts; and examined how multi-stakeholder collaboration can enhance efficient and sustainable natural resource management systems for sustainable socio-cultural outcomes.

1.7 Organization of the Study

The study was organized into five main chapters with sub themes. First, Chapter One of the study captured the background to the study, problem statement, research questions, objectives of the study, justification for the study, scope of the study and the organization of the study. Chapter Two of this study is a meticulous literature review related to the subject matter. It captures the various concepts and theories underpinning the subject of natural resource use and management conflicts. The third chapter discussed the methodology of the work. This includes the study design, study population, sample size determination and ethical considerations. Chapter Four presented and discussed the results of the study. Finally, Chapter Five of the study summarised the major findings, conclusions and the recommendations that emanated from the study.



CHAPTER TWO

THEORITICAL AND CONCEPTUAL PERSPECTIVES

2.1 Introduction

This chapter reviewed the theoretical and conceptual issues of the study. The concepts reviewed includes natural resources, natural resource use conflicts, collective action for natural resource conflict management, multi-stakeholder collaboration in natural resource management, and empirical evidence around the world. The theoretical issues discussed include Common Pool Resource (CPR) Theory, the Environmental Scarcity Theory (EST) and the Access Theory.

2.2 Theoretical Issues

2.2.1 *Common Pool Resource (CPR) Theory*

Ostrom and Ostrom (1999), Edwards and Steins (1998), Ostrom et al. (1994) and Ostrom (1990) described Common Pool Resources (CPRs) as resources where the ability to exclude other users is difficult (technically referred to as excludability), and the use of such resources by one user decreases resource benefits for other users (referred to as subtractability). Unlike the Environmental Security Theory, the CPR theory is a problem solving approach towards designing effective platforms in which collaboration could be harnessed to reverse the underlying deficits that characterize the centralized form of natural resource governance (Edwards & Steins, 1999). The basic focus of the CPR theory dwells on the analysis of the complex relationships between local users and management of the natural resource commons in connection with the social and environmental outcomes that characterize same (Dolsak & Ostrom, 2003; Poteete & Ostrom, 2004; Agrawal, 2001; Agrawal & Ostrom, 2001; Baland &Platteau, 1996; Ostrom, 1990; Jodha, 1986).



Scholarship on CPR theory is highly evolved in the drive to find sustainability in the management of natural resources over some decades after Garret Hardin (1968) conceptualization of resource degradation as a product of overexploitation of natural resources to satisfy the insatiable and 'greedy' needs by resource users, hence, the need to privatize or state-centre resource management. In van-Ginkel's (1989) view, empirical evidence from around the world indicates that Hardin's (1968) recommendations have not lived up to expectations in all scenarios with instances of causing or accelerating degradation of CPRs and user conflicts.

Furthermore, the discourse on CPR has targeted sustainability of natural resource management by examining human behaviour, cooperation and relations to natural resource use (Poteete et al., 2010; Meinzen-Dick, 2007; Ostrom, 2007; Wollenberg et al., 2007; Meinzen-Dick et al., 2002; Ostrom 1990). Although Santha and Ratheeshkumar (2006) argued that CPR theories provide direction in forging new institutional models for natural resource management to avoid 'tragedies of the commons' espoused by Garret Hardin (1968), Nkonya et al. (2008) see collective CPR management in sub-Saharan Africa as a

concept burdened with challenges in the face of the inadequate and lack of human and financial capacity needed to manage access to and control of CPRs.

Edwards and Steins (1999) pointed out that the CPR theory is a collection from theories like collective action (Olson, 1965), social dilemmas (Hardin, 1968) in the tragedy of the commons, shirking (Alchian & Demsetz, 1972), free-riders conceptualization (Grossman & Hart, 1980) and the scholarship on reciprocity (Sugden, 1984). However, Sick (2008) argued that aside Edwards (1996), McKean (1996), van-Ginkel (1996; 1995) and some few scholars who have carried out longitudinal researches that dive into the evolution of resource management regimes focused on how stakeholders develop adaptive strategies



for CPR use and management, most practical works within the CPR knowledge community focus on snapshots and scanty faces of management regimes. Often, the snapshots are without in-depth consideration to the historical and futuristic patterns through which collective management of natural resources evolved and will revolve respectively (Sick, 2008). Thereby, Steins et al. (2000) argued that there should be a radical reconstruction of the CPR ontological foundation if the CPR theory is to be used as a foundation for the analysis of complex CPRs or as a conceptual framework in pursuing the idea that collective action is a powerful alternative to deal with complex resource management problems such as conflicts.

In the view of Edwards and Steins (1999) and Baland and Platteau (1996), the CPR theory focuses on the shared rights, responsibilities and use of localised knowledge, culture and norms to manage resources for collective benefits. However, Santha and Ratheeshkumar (2006) argued that existing theories on common resource management assume that culture and social structure will remain stagnant. Meanwhile, local conditions of resource management could change due to some internal and external factors, hence making culture and social structure dynamic to situations.

In the phase of the growing critiques of Hardin's (1968) Tragedy of the Commons, the seminal work of Ostrom (1990), 'Governing the Commons', sought to provide guidelines to avert the tragedies that were conceptualized by Hardin (1968). In her efforts towards collective action, the CPR theory was developed based on compiled proofs from long enduring and locally managed common pool resource settings around the world to show that Hardin's assumptions were, in many cases, off-based. The work of Ostrom (1990) established eight principles under which the CPR theory could be defined towards effecting bottom-up management of common resources, namely: clearly defined



boundaries (DP1); proportional equivalence between benefits and costs (DP2); collective choice arrangements (DP3); monitoring (DP4); graduated sanctions (DP5); fast and fair conflict resolution (DP6); local autonomy (DP7); and appropriate relations with other tiers of rule-making authority (that is, polycentric governance) (DP8). However, Steins et al. (2000) argued that a focus on pre-defined design principles, which have been the bedrock of natural or common resource management for success, is an overreliance on a dilemma since it has diverted attention from the internal and external complexities involved in the emergence and evolution of collective action processes; and hinders the understanding of the dynamic and interactive nature of the translation trajectory they involve. That is, concepts regarding the CPR theory are problematic since they are based on some assumptions such as a simplistic assumption of single use, a static rationality model, and the assumption that collective management outcomes are determined by predefined principles, thereby diverting attention from the stakeholders' constructions of collective resource management and the influence of contextual factors.

Regardless, it was evident in Ostrom's (1990) ideas that many communities with common pool resource systems have been able to avert the 'tragedy of the commons' with ways to effectively self-govern resources without external authorities' intervention or privatization.

Bromley (2003) and Wade (1988) contributed to the scholarship on collective management of natural resources by arguing that tailored decision-making arrangements or institutions have the capacity to provide favourable conditions and mechanisms, which can transcend the commons dilemma or tragedy to prevent the resource from degradation.

On institutions that resource users devised to manage CPRs, Agrawal (2001), Edward and Stein (1999) and Ostrom (1990) discussed that there are peculiar common premises that are tied to the features of the resource and characteristics of resource users, which can help



explain the emergence of self-governing institutions for resource management. Some of the common conditions of the resource that have been found to be associated with the establishment of CPR institutions included: the feasibility of improving the resource; available information about the resource; predictability of resource flows; and relatively small spatial extent of the resource. Whereas the characteristics of resource users at areas of sustainable self-governing CPRs institutions captured the situation where the majority of appropriators or resource users: depended on the resource system; share common understanding of the resource system; have a long-term perception of the CPRs benefits; trust other resource users and resource management processes with norms of reciprocity; exercise the autonomy to organize; and are conscious of erstwhile organizational experience, lessons learned and leadership (Cox, 2010; Ostrom, 2009; Agrawal, 2001; Wade, 1988).

Moreover, Varughese and Ostrom (2001) highlighted how the effects of economic and social heterogeneities on rule making and adherence related to CPRs become critical variables in the course of collective actions towards local management of CPRs.

Blomquist (1992) investigated the role of social capital in supporting collective action whilst Agrawal (2001) and Lam (1998) have diagnosed the dynamics of group size and their effects on participation in collective choice and activities surrounding CPRs. Furthermore, Blomquist et al. (2001) espoused how collective choice processes that govern CPRs inform the nature of conflicts that emerge among CPR users over time and their resolution; whilst van-Laerhoven and Andersson (2006) assess the dynamics of conflict in common natural resource systems. In the face of this, Edwards and Steins (1999) argued that despite the confusion over terminology and application regarding CRP theory, it has offered enough to the policy formulation process and planning regarding



natural resource as well as a strong scholarship on natural resource management and governance.

2.2.2 Environmental Scarcity Theory

The Environmental Scarcity Theory (EST) offers a problem diagnoses within a natural resource system. In semblance with the social-ecological systems developed by Ostrom (2009), the EST provides researchers the opportunity to assess the iterative relationship between ecological systems and social outcomes on a natural resource system (Zurlini & Muller, 2008). Floyd (2008) indicated that much attention in the environmental security literature has been invested in the area of environmental conflicts due to the growing recognition that current and many future conflicts may spark from environmental scarcity as an independent variable as population keeps growing with nature's finite renewable natural resources stock. Specifically, the theory conceptualizes the relationship between environmental degradation, increased demand of natural resources and unequal distribution to the benefits and costs accrued from a natural resource system as a cause of resource use conflict. However, according to Dabelko et al. (2001), there are many factors

that are multiple, complex, and well integrated that account for conflicts and insecurities associated with natural resources; hence, isolating the role of environmental degradation and resource depletion as independent causes of conflict and insecurity is quite absurd and difficult to accept. Regardless, Swatuk (2004) indicated that the theory can serve as a basis for constructing a framework within which development issues can be addressed from a broader perspective that encompasses economic, political, cultural and demographic systems.

According to Gleditsch (1998), the ideas on environmental scarcity as a cause of resource conflict is not new to academia but the ideas have gained much academic currency since



the early 1970s due to the premiering of environment and conflict on the international political agenda. In the perspective of Zurlini and Muller (2008), environmental degradation has various effects on the behaviour of the involved actors and might play a role as reason, trigger, target, channel, and catalysts of conflicts among people within the same community, nation or trans-border. Although Dabelko et al. (2001) have argued that the first phase of the EST research ended towards the end of the Cold War, Floyd (2008) has argued that the Homer-Dixon (1994) group in Toronto, Canada has been noted for their enormous stewardship to the theory since the 1980s with cases from countries like Mexico, Pakistan, Gaza, Rwanda and South Africa. According to Gleditsch (1997) and Conca (1994), the case studies used to substantiate the theory of the Homer-Dixon (1994) group on EST are skewed to developing countries that dominate in features of environmentally-induced conflict attributable to material deprivation, illiteracy, poor governance and over reliance on natural resources by a vast number of its population.

Floyd (2008) argued that EST as conceptualized by Homer-Dixon and his colleagues has not been universally accepted by the academic community due to the deterministic perspective of his cause and effect relationships, the varying quality of the case studies,

and a lack of control cases. Beyond this critique, the theory presents an excellent and broad ranging basis for further empirical studies on environment and security (Floyd, 2008). Gleditsch (1998) created a link between environmental degradation, resource scarcity and violence in terms of contesting interests over territory, raw materials, continental shelves and islands, energy and food. That is, as a population grows exponentially with a decline in quantity and quality of renewable, property rights to resources change and eventually affect access to the resources by people who hitherto had access to same (Floyd, 2008; Swatuk, 2004).



These changes may, in turn, cause violence among those denied or given reduced access to the resources. That will not be the case of such conflicts on non-renewable resources like coal due to the advancement of technological innovations and advancement of markets (Dabelko et al., 2001). Homer-Dixon (1994; 1999) argued that an increasing population will lead to increasing environmental degradation and resource depletion, which will eventually result in higher use of natural resources per capita as against a constant supply of natural (environmental) resources. This scenario is expected to increase environmental scarcity, thereby resulting in resource scarcity conflicts (Baechler, 1998; Kahl, 1997). However, political ecologists argue that the power relations that underlie mechanisms of access, control, and struggle over environmental resources should spearhead discussions on environmental security conflict discourse rather than commencing with scarcity or abundance (Brandao, 2014).

Homer-Dixon (1994) themed three scenarios that can singlehandedly or in combination with other factors result to environmentally induced conflicts. One, decreasing supplies of renewable natural resources like water and agricultural land would generate 'simple-scarcity' conflicts. Two, 'group identity' conflicts were expected to occur as large population movements occur as a result of the 'simple scarcity' conflicts accrued from environmental stress. Three, environmental scarcity is expected to bring about increased economic deprivation, which in turn disrupts the functions of key social institutions to cause 'deprivation' conflicts. Furthermore, Homer-Dixon (1994) amplified the circumstances surrounding the EST by debating that all types of environmental depletion or damage are various types of renewable resources. Therefore, deforestation will lead to scarcity of forest resources, water pollution will exacerbate clean water scarcity whilst climate change expands the scarcity of regular patterns of rainfall and temperature on which farmers rely leading to general scarcity of natural resources (Homer-Dixon, 1994).



The debates surrounding environmental scarcity theory as dominated by Homer-Dixon (1994) assumes scarcity as a means (cause) to an end (conflicts). That is, the Homer-Dixon (1994) project on environmentally induced scarcity conflicts explained that population growth can result in conflicts, especially the demand for agricultural land and fragmentation of fixed natural resources. When this occurs, individuals may block access of others in the face of power dynamics to natural resources that support livelihoods. This action may encourage population movement to ecological fragile areas within the same country or outside resulting in group identity conflicts as in the case of Bangladeshi migrants to India and the Fulani-herdsmen conflicts in many parts of West Africa (Hazarika, 1993). However, works from Auty (1993) and other scholars on the resource curse theory, with some empirical evidence in Libya, Congo and other African countries, depict that it is rather resource abundance that generates civil conflict and not scarcity. Nevertheless, proponents of the environmental scarcity thesis point out that the resource abundance thesis ultimately collapses into the scarcity thesis as locally abundant resources are only valuable because they are scarce on the global scale (Homer-Dixon, 1994).



The concept of 'resource capture' as expressed by Homer-Dixon (1999) illustrated the means by which environmental scarcity grants power holders the opportunity to monopolise the ownership of valuable environmental resources, thereby causing environmental scarcity and the likelihood of social instability. That is, resource capture is said to occur when demand- and supply-induced scarcities interact to produce structural scarcity. According to Homer-Dixon and Blitt (1998), resource capture depicts the situation where powerful groups within society, anticipating future shortages due to increased population growth and a decrease in the quantity and quality of the resource, shift resource distribution in their favour, which subjects the remaining population to scarcity. Therefore, Schwarz et al. (2000) indicated that the power dynamics that create

supply induced scarcity needs to be investigated as against the supply base of renewable resources if environmental induced conflicts are to be resolved. Power dynamics that express the inherent injustices in the management and use of resources amidst scarcity are very eminent to the evolving trend of environmental scarcity theory.

2.2.3 Access Theory

The access theory analyses the means, relations, and processes that enable various actors to appropriate benefits and utility from resources. The foundation of the theory is connected to the work of Ribot and Peluso (2003) that distinguishes access and property rights on natural resources and other forms of gains derived from resources. The essence of the theory is to enable scholars, planners, and policy makers to empirically map the dynamic processes and relationships of access (Ribot and Peluso, 2003). The theory conceptualizes the relationship between gaining, controlling and maintaining access to a natural resource. According to Ribot and Peluso (2003), although the notion of access has been used frequently by property analysts and other social theorists, it has not been adequately theorized. Ribot and Peluso (2003) connected access to the ability to derive benefits and utility from things like natural resources through legal or illegal right based mechanisms. Hence, access in this context can be viewed as more akin to a bundle of powers rather than from property's perspective of a bundle of rights.

This formulation includes a wider range of social relationships that constrain or enable benefits from resource use rather than property relations alone. The concept of access argued by Ribot and Peluso (2003) aims to facilitate grounded analyses of who actually benefits from things and through what processes they are able to do so. That is, the access theory retains an empirical focus on the issues of who does (and who does not) get to use what, in what ways, and when (that is, in what circumstances) (Neale 1998). In



Hunt (1998) opinion, 'use' refers to the enjoyment of some kind of benefit or stream of benefits that are derived from a natural resource system. According to Ribot and Peluso (2003), benefits are important because people, institutions, and societies live on them, clash and cooperate over them.

The Access Theory explores the range of powers that are embodied in and practiced using various mechanisms, processes, and social relations that inform people's ability to benefit from natural resources (Ribot and Peluso, 2003). The powers in the context of the theory are made up of the material, environmental, cultural, political and economic strands within which the bundles and webs of powers that inform access are derived to enable actors to gain, control, and maintain access. The study of access is concerned with understanding the multiplicity of ways through which people gain utility and other forms of benefits from natural resource. Access in that regard connotes all possible means by which a person or group of persons is able to benefit from things.

There are two major mechanisms of access in the access theory. They are the right-based access and illegal access mechanisms which shape how benefits are gained, controlled,

and maintained in a natural resource system. Legal access connotes the ability of actors to benefit from something through rights attributed by law, custom, or convention, which contemporary theorists refer as property (MacPherson 1978). Rights-based means of access imply the involvement of a community (in the broadest sense of this term), state, or government that will enforce a claim on the natural. Illegal access on the other hand also reflects any form of access to natural resource benefits gained "illegally". This is also rights-based because it is a form of direct access defined against its users based on the sanctions of custom, convention, or law. By extension, the theory argues that criminality is a matter of perspective based on the actor's relationship to the law or other forms of rules, values, views or sanctioned conventional practices in a particular social setting (Peluso



1992b; Thompson, 1975b). By definition, then, illegal access refers to the enjoyment of benefits from things in ways that are not socially sanctioned by state and society (Hay, 1975).

The other mechanisms of access include technology, capital, markets, labor, knowledge, authority, identities, and social relations (Ribot and Peluso, 2003). The other structural and relational mechanisms of access include or reinforce access gained directly through configurations of rights-based or illicit access. To Ribot and Peluso (2003), social relations and differentiation emerge from cooperation and conflict over benefits within particular political-economic moments in the framework of access. The benefits accrued from access to NRs can be redistributed and recaptured in the course of the changing social relations and legal frameworks as new conflicts and cooperative arrangements emerge (Ribot and Peluso, 2003). The ways various access mechanisms fit into political-economic moments must be determined empirically. Thus, access analysis is the process of identifying and mapping the mechanisms by which access is gained, maintained, and controlled. The access framework presents means to analyze specific resource conflicts to understand how those conflicts can become the very means by which different actors gain or lose the benefits from tangible and intangible resources (Ribot and Peluso, 2003).

Access analysis can be focused on the policy environments that enable and disable different actors to gain, maintain, or control resource access or the micro-dynamics of who benefits from resources and how. Access analysis puts property in place among the many other mechanisms that shape the distribution of benefits, the landscape of incentives, the efficiency and equity of resource use, and the dynamics of conflicts emanating from the social relations in the access framework (Ribot and Peluso, 2003). Regardless of the contributions of the theory in understanding access and the related mechanisms of control



and conflicts of power and relations, it is challenged by inconsistencies basically centred on the conceptualization mechanisms of access and the bundles of power (Koch, 2008).

2.3 Conceptual Issues

This section of the study establishes the conceptual relationship among the variables in resource use conflicts and multi-stakeholder NRM collaboration as a means of enhancing holistic appreciation of how the concepts interplay to yield certain outcomes that are detrimental or supportive to social coherence and sustainable resource management.

2.3.1 Conceptualizing Natural Resources

Maranga et al. (2010) argued that the definition of natural resources is mostly affected by the interest of the author. For example, he argued that sociologists and economists view natural resources from a humanistic and purely economic sense, which assume natural resources as material sources of wealth such as timber, mineral deposits, or water that occur in a natural state. An instance of economic definition of natural resources can be identified in WTR (2010), which defined natural resources as stocks of materials that exist in the natural environment that are both scarce and economically useful in production or

consumption, either in their raw state or after a minimal amount of processing. The economic perspectives of natural resources consider the commercial value of natural resources and the industries that they support. As well, the economic perspective of natural resource throws light on private ownership of natural resources as means to achieve efficient consumption through profit making incentives, which encourage realistic pricing (Maranga et al., 2010). The materialistic and exploitative dimensions of resources as seen in the definition of WTR (2010) serve as one of the basis of conflicts associated with the utility of natural resources. Again, the exposition of natural resources in the face of their economic value falls short of the generic view of natural resources as defined by Maranga



et al. (2010). This is because Maranga et al. (2010) view natural resource as any material from nature that has potential economic, social and ecological value to life such as water, natural tree products, minerals and vital gases. In this regard, the emphasis on economic value as dominated in the definition of WTR (2010) can be argued as non-exhaustive of the definition of NR. However, WTR's (2010) definition throw focus on the fact that resources that are economically valuable and scarce in nature like land, forest and its content as well as minerals serve as incentive to competition for access, ownership, control and their inherent conflicts.

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Furthermore, natural resources can be defined as natural capital assets, rather than physical and human capital since they are not created by human activities (WTR, 2010). However, it must be noted that natural resource sustainability and utility largely depends on human activities and ingenuity whether positive or negative (Bagine et al., 2010). Therefore, a redundant focus on human activities that trigger conflicts and unsustainable use of natural resources could be detrimental to the discourse on NRM. In the view of UNIFTPA (2012), natural resources could be conceptualised as the actual or potential sources of wealth that occur in a natural state, such as timber, water, fertile land, wildlife, minerals, metals, stones, and hydrocarbons.



According to Bagine et al. (2010), NR can be classified into two distinct groups: renewable and non-renewable resources. Renewable natural resources are those that may be replaced after exploitation or extraction due to their ability for renewal through natural processes of growth or replenishment. Examples of renewable resources include animals, fisheries, timber plants, agricultural soil, rain, wind and tidal energy. Renewable resources are critical to livelihoods at community, sub-national national and international levels (Homer-Dixon, 1994). In the view of Lujala (2003), researchers like Brander and Taylor

(1998) and Homer-Dixon & Blitt (1998) who have developed thesis on resource scarcity conflicts often argue that renewable natural resources are the types of resources that generate conflict. On the other hand, non-renewable resources are natural resources that possess the potential to reach a peak beyond which regeneration after exploitation or extraction is difficult (Ochola et al., 2010; Lujala, 2003). Examples of such resources are mineral substances such as coal, gold, aluminum, copper, and oils.

In the view of Ochola et al. (2010), consensus exists among policy makers, academia and dialectical discourse on natural resources, especially those of land, soil, water, forest, plant and animal diversity, vegetation, renewable energy sources, climate change and ecosystems services as a fundamental source of opportunities for improving the livelihoods and achieving sustainable development in Africa. Chowdhury and Ahmed (2010) opined that natural resources are widely accepted for their immense contribution to economic development activities, especially among deprived people whose basis of existence is on agriculture as well as provision of environmental services such as quality air and so on. According to UNEP (2015), IAASTD (2009) and Khan (2008), NRs have been described as a livelihood strategy that provides jobs for people such as farmers, hunters, tourism outfits and many more.

2.3.2 Natural Resources and Community Livelihood

Natural resources serve as a livelihood strategy for most households in many less developed counties. Nunan (2016) espoused that natural resources, especially renewable types, are essential elements of economic and social systems all over the world since they are vital sources of livelihoods for people in less developed countries, especially those in rural areas. For example, Shyamsundar et al. (2005) indicated that the benefits of NRs (especially forest resources) abound for households and communities through the



distribution of monetary rewards from income generated from timber, fuel-wood, fodder, and non-timber forest products (NTFP). Nunan (2016) and Klooster (2000) opined that employment opportunities are among the numerous benefits generated from natural resources that sustain domestic and community level livelihoods. Klooster (2000) exemplified this position with instances from logging employment that accrue to San Antonio Community in Mexico, which distributed 2,500 pesos to each community member in 1994 as profits accrued from the community forestry.

Furthermore, Appiah (2002) revealed that NRs offer opportunities for income generation by households and communities to sustain living. For example, the benefits accrued from beekeeping to households and communities like Gwira-Banso in Western Region, Ghana, Chimaliro Hills in Malawi, and the Suledo village forest in Tanzania from empirical studies of Appiah (2002), Sjolholm and Luono (2002) and Shackleton and Campbell (2001) are evidence of the income generation claims of NRs. In addition, Nunan (2016) indicated that NRs boost local economies through the provision of employment, which has a positive relationship with overall government revenue. The FAO (2014) revealed that direct dependence on natural resources covers over 58 million people who are engaged in the primary sector like fisheries and aquaculture, forestry and others.



Finally, but not being exhaustive, NRs have been noted for their contributions to the overall development of communities. For instance, income generated from the sale of timber, non-timber forest products, and other products from community forest in Gambia (Sonko & Chamara, 1999), Tanzania (Mlinge, 2002) and Nepal (Adhikari et al., 2004) have improved community development activities such as the construction of school buildings and irrigation in the respective countries.

2.3.3 Conceptualizing Natural Resource Use Conflicts

The UNIFTPA (2012) has revealed that 40 percent of civil wars that the world has witnessed over the past 60 years can be associated with natural resources whilst eighteen (18) violent conflicts since 1990 have been generated or financed by natural resources. UNEP (2012) indicated that poor management, inequitably sharing, and implementation of business operations that forfeit the context of communities can contribute to tensions that can escalate into violent conflict, or feed into and exacerbate pre-existing conflict dynamics. To UNEP (2015), depletion of renewable natural resources in conjunction with environmental degradation and climate change position human beings in a state of insecurity. As a result, Governments in developing countries, fragile states and emerging economies, are making tremendous efforts to manage natural resources in sustainable ways whilst devising means to resolve the inherent conflicts, which feature around NRs ownership, management, allocation and control (UNEP, 2015; 2012). According to Roe et al. (2009), conflicts associated with renewable resources mostly lead to conflicting scenarios that emanate over issues such as the right to access, control, and influence on decision making regarding their allocation, sharing of benefits, management and rate of use of the resource.

Moreover, population growth and environmental degradation are intensifying competition over already scarce resources, such as land and water, and climate change threatens to increase such competition even further (Homer-Dixon, 1999; 1994). Thus, resource use conflicts are believed to be the main environmental problems and the challenges that bedevil local and regional sustainable development due to population pressure and economic driving forces (Bagine et al., 2010). It comes as no surprise that many experts and governments expect natural resources to become key drivers in a growing number of



disputes, with potentially significant consequences for international, regional, and national peace and security (UNEP, 2015).

According to UN (1989), conflict that breaks out in any form and for any reason is a condition commonly considered a threat to security. In the view of Alao (2011), conflict over natural resources such as land, water, and forests is unending once human generation is still in existence. Caselli et al. (2014) argue that a polarization of interests rather than dialogue between the interest groups of a natural resource system that results in tension and conflict is bound to be witnessed as poor local users lose their usufruct rights on a natural resource system, which served as a source of livelihood to Governments or other national bodies like the Tourism Sector. Based on the above triggers of resource use conflicts, UNEP (2012) and UNIFTPA (2012) themed natural resource conflicts into four areas that can singlehandedly or combine with other categories to generate resource based conflicts, namely: conflict over resource ownership; conflict over resource access; conflict over decision making associated with resource management; and conflict over distribution of resource revenues as well as other benefits and burdens that accrue from NRs.



According to Bagine et al. (2010), the apparent diversity in NRM stakeholders make it susceptible to conflicting motivations and aspirations which can raise hostilities among the stakeholders of that resource system when needed attention is not given. UNEP (2012) indicated that natural resources have diverse actors based on the resource and location in context but generally they include local communities, companies or some other users involved in direct extraction; regulators like national and local government actors; beneficiaries, which consist of downstream buyers, consumers, illegal or illicit users; impacted groups who are those that experience a net loss from extraction activities; and civil society organizations, which includes NGOs, media and academia.

2.3.4 Preconditions of Natural Resource Use Conflicts

The UNEP (2015) indicated that there are certain preconditions that characterize natural resource use and management situations with the ability to trigger and sustain conflicting positions among stakeholders to a natural resource system. One, many natural resources are influenced by a range of natural (ecological) and social factors leading to a high level of complexity and uncertainty in their availability, quality, and value. Two, natural resources involved in disputes are often ascribed with highly sensitive historic and symbolic values that may be linked to national or group identity like cultural and religious identity symbolized by mountains, shrines and groves, or to a specific livelihood like farming, hunting and fishing. Three, natural resource conflicts often occur on different scales or levels in ways that interconnect at local, regional, national, trans-boundary, or international levels. Four, natural resource disputes often involve uneven geographic patterns of resource distribution that can be particularly salient when they occur along ethnic, religious, or linguistic lines. Five, tensions between competing livelihood groups over scarce natural resources often occur in seasonal cycles, which can escalate into violent outcomes following sudden shocks or stresses to the system like climate change, fire outbreaks and drought. Six, natural resources can play a number of different roles in the generation and escalation of tensions between stakeholders, ranging from triggering and intensifying conflicts to prolonging them. Seven, natural resource conflicts can involve a wide range of actors and stakeholders, including nation-states, local governments, ethnic groups, communities, civil society organizations, and private companies. Eight, natural resources frequently play a key role in the broader political economy, often reinforcing the power of elite actors, which Homer-Dixon (1999; 1994) links to resource capture. Nine, natural resource disputes are sometimes associated with significant power imbalances and asymmetries between the parties (e.g., international



corporations versus local communities, or lack of formal representation of a specific livelihood group in a decision-making process). Ten, when natural resources are governed by a combination of customary and statutory institutions, or hybrid political orders.

2.3.5 Effects of Natural Resource Use Conflicts

Hussein and Al-Mamary (2019) argued that conflicts are not always negative. This notion rests on the fact that conflict could be the grounds for cooperative dialogue that guides peaceful coexistence, especially among people with conflicts positions on a particular issue like natural resource use and management. As such, Tyler (2005) indicated that resource use conflicts provide a platform for policy and academic discourses into diagnosing sustainable means of managing natural resources for ecological and social benefits as well as the effective means for collective action on natural resource use and management. Regardless, natural resource use conflicts have gained much academic and policy attention due to the numerous negative effects they possess to communities, nations and the globe. For instance, natural resource use conflicts lead to environmental insecurity (UNEP, 2012), which, when prolonged, could affect the social capital of a society (Ostrom, 2002).

In the view of Bagine et al. (2010), natural resource conflicts mostly result in chaotic and needless deployment of human capacities and the depletion of the very natural resources on which livelihoods, economies, and societies are based. Moreover, resource use conflicts just as other types of social conflicts break the effectiveness of institutions to forge sustainable resolutions (Brown & Keating, 2015). Finally, resource use conflicts account for the loss of human lives. According to Brown and Keating (2015) and Bagine et al. (2010), NR conflicts can lead to bloodshed and the resultant interest in vengeance and



reciprocity, which further break the bond in societies whilst expanding mistrust and antagonism among the various interest groups in a resource system.

2.3.6 Multi-stakeholder Collaboration in Natural Resource Management

According to Ochola et al. (2010), understanding and tackling complex challenges in natural resource management are critical towards reversing the hostilities that characterize natural resource use and control for a balance in social and ecological goals. As such, management of natural resources requires creativity, integration and holistic approaches that engage the multiple stakeholders fully, to bring multiple and complementary perspectives, knowledge and skills to facilitate socially equitable, economically efficient and environmentally sound development initiatives (Ochola et al., 2010). The concept of integrated and community-based resource management approaches as well multi-stakeholder approaches started gaining momentum and popularity as the concepts were assuring participatory means for dealing with the complexities and interconnectedness of natural resource management problems as well as balancing the interests of multiple parties to achieve sustainable resource use (UNEP, 2015). In the view of Shyamsundar et

al. (2005), there have been increased collaborative natural resource management approaches between land management authorities and local people, especially in agricultural, forestry, and rangeland systems, geared at promoting joint conservation and development strategies since the 1980s. All over the world, stakeholders at various levels of decision-making have been breaking new grounds in attempting to find solutions to externalities such as conflict and degradation associated with natural resource management (Nunan, 2016).

There is also increasing awareness that a collective action approach, which considers management issues from a broader perspective of stakeholders collectively working towards



problem solving, is a strong alternative to the centralized and external form of natural resource management, which have been problem riddled in most cases (Roe et al., 2009). The conflicts associated with centralized resource ownership informed concepts revolving around collective and localized management of natural resources, especially after the World Commission on Environment and Development (Brundtland et al., 1987). According to Nunan (2016), collective management needs increasing attention in the management of natural resources, which is riddled with competition and conflict.

Annis (1992) and World Bank (1990) argued that poverty connected with livelihood insecurity in the presence of natural resources has been the premise for increasing environmental degradation and social conflicts. Hence, UNDP (2008) recommended that there is the need to assure local actors (especially disadvantaged people) of sustainable means of livelihood in order to achieve ecological goals and wellbeing of people located across natural resources regions. According to Laerhoven and Andersson (2006), collective action that involves many stakeholders is essential to escape the tragedy of the commons, which includes conflicts among resource users. Ratner et al. (2017) and Brouwer and Woodhill (2015) viewed multi-stakeholder collaboration as a platform that facilitate dialogue between the various stakeholders, which include local actors, individuals and government agencies; and is sometimes facilitated by NGOs to achieve conservation and social goals associated with a resource system.

Sick (2008) pointed out that the network of multiple actors that feature in the multiple existing, and emerging social relationships and informal institutions include people within and among communities of resource users, state agencies, NGOs, and international development organizations whose focus is the provision of the frameworks for social interaction through which resource boundaries, rights, user groups, and rules for use and management are conceived, defined, allocated, negotiated, contested, implemented,



revised, and provided legitimacy. Crona and Parker (2012) emphasized the importance of linking multiple actors through some form of collaboration in managing a natural resource to avoid conflicts associated with its use. In the conception of UNEP (2015), collaboration over natural resource ownership, management, and use is very essential in building peace and stability in societies and the globe at large. Nunan (2016; 2015) indicated that multi-stakeholder collaboration in natural resource management is a multi-level governance process that involves the identification and analysis of the full range of actors and agencies that influence the governance and management of a natural resource. Giest and Howlett (2013) argued that the concept of multi-stakeholder collaboration has been identified as a precondition that sustains peace among the various interests groups, being it internal or external to natural resources.

Ostrom (2011) and Saunders (2011) indicated that a body of ongoing research and growing literature have identified a number of institutional conditions that serve as preconditions for effective management of natural resources by helping to reduce uncertainty, increase trust, and foster cooperation among the multiple and nested stakeholders in the use and management of natural resources to avoid conflicts that are

associated with their access, use and control. Bray (2013) argued that multi-stakeholder collaboration expresses the multi-level interactions between communities (indigenous people) and external actors (the government and NGOs) to dialogue on rules and management patterns that promote sustainable use of natural resources and resolve their inherent conflicts. The concept provides insights into the cross-scale and multi-level resource management arrangements, which involve resource users, NGOs and inter-community associations who are key players in managing community resources (Garcia-Lopez, 2013; Barsimantov, 2010). Examples of collaborative forms of natural resource management include fisheries co-management and joint forest management. In the view of



Nunan (2016), collaborative NR strategies involve power sharing arrangements between central or government agencies and resource users enhancing participation of user groups, from consultation to full responsibility.

Agrawal (2002) and Ostrom (1992; 1990) revealed that well-defined boundaries and user groups; clear rules regulating rights and responsibilities, congruence between institutional rules and the attributes of the resource and community of users; effective mechanisms for monitoring use and enforcing exclusion; fair and graduated sanctions for misuse; effective conflict resolution mechanisms; recognized rights to organize; and, for larger systems, nested institutions are necessary grounds that facilitate collaboration among the multiple stakeholders in a natural resource system. Chaudhary et al. (2015) and Chhetri et al. (2012) used empirical evidence of Lake Rupa in Nepal to reason the extent to which multiple stakeholder collaboration enhances dialectical relations to transcend conflicting relations into collaboration towards natural resource management. Hence, Nunan (2016) argued that despite the limited empirical evidence, collective NRM that engages many stakeholders offers opportunities for collateral successes: where lessons from one natural resource situation are transferred to other situations. As well, Weber (1998) indicated that collaboration of stakeholders in decision making guarding natural resources allows greater flexibility and exchange of information among various interest groups to a resource system, without which conflicts of mistrust sprout.

However, Garcia-Lopez (2013) maintained that regardless of the multifaceted nature of actors and their interests involved in multi-stakeholder NRM and conflict dynamics, the linkages and network among the various stakeholders to a resource system have not always yielded positive results. Similarly, Wilshusen (2009) debated that inequalities and power relations imbalances among local actors and between communities and as well as the State or other stakeholders like NGOs and international agencies can have an effect on



the processes of collective natural resource management. In that vein, Perez-Cirera and Lovett (2006) demonstrated this by giving insights that more powerful actors like the State and other international agencies as well local authorities who have the technologies to extract more resources can enforce common resource management rules on less powerful actors and interest groups whilst manipulating them to their favour, thereby causing resource degradation and conflict scenarios, which collective NRM is to mitigate.

Regardless of the setbacks that can undermine multiple stakeholder collaboration in NRM, Weber (2003; 1998) contended that collaborative resource management initiatives, which involve the multiple cluster of stakeholders, have gained significance and chalked substantial successes especially in relation to mitigating destructive and antagonistic conflicts through means that discover and build on common ground to capture the diverse interest groups associated with a natural resource system.

A number of cases across Africa exemplify the landmarks of collaborative natural resource management. For instance, the Protected Area outreach of Uganda Wildlife Authority's (UWA) Tourist Revenue Sharing Programme has provided support to a range of

community projects such as schools, clinics and other infrastructure projects since the late 1990s (Nelson, 2007; Namara, 2006; Chhetri et al., 2004; Blomley, 2003). This has made Uganda a leader in East Africa in advancing co-management over the past two decades with flagship programmes like co-management fisheries on Lake George and Kyoga. This has motivated similar actions from the Rwandan Government on NRM (Roe et al., 2009). Likewise, Williams et al. (2001) revealed how the Buhoma Community Rest Camp in Bwindi National Park benefits local communities in several ways through the tourism sector; and Tanzania National Parks (TANAPA) and Kenya Wildlife Service (KWS) have shared Park revenues with surrounding communities since late 1980s and early 1990s, which have promoted local involvement in natural resources management through



legislative reforms passed in 2002 and 2005, respectively. Consequently, the joint forest management in Tanzania as at 2009 covered about 1.8 million hector of forest land (Roe et al., 2009). In addition, the Zimbabwe's Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) legislative reforms passed in early 1980's have chalked much success since its inception by granting authority over wildlife to Rural District Councils after colonial independence (Roe et al., 2009).

2.3.7 Community-based Natural Resource Management

Nunan (2016) outlined that community-based natural resource management (CBNRM) is conceptualized as a way of empowering people living close to, and depending on, a natural resource. Since the 1980s, CBNRM was seen as a way of empowering people living close to, and depending on, a natural resource. In Roe et al.'s (2009) view, CBNRM is a natural resource management strategy that involves a collection of local institutions for local benefit accrued to natural resources such as land, forests, wildlife and water. Garcia-Lopez (2013) argued that explaining the long-term success of collective or community-based natural resource governance is complex but in the view of Saunders (2011), CBNRM

programmes provide means and platforms that strengthen management capacity of local communities. The utility of the local strength is vested in two conduits: sustainable use of natural resources with focus on alternative means of livelihood for natural resource dependent communities especially around protected areas; and empowerment of local communities with the ability to have a greater stake in the decision-making power, which affects their natural resources and livelihoods.

Furthermore, Roe et al. (2009) pointed out that many local communities within Africa have assumed natural resources to be a strategic part of life that support livelihoods and have managed them since the Stone Age. They further argued that the concept of



CBNRM, which synergies rural development, local empowerment and nature conservation, has evolved as a development strategy to substitute the subsistence strategy in which local people adopted to survive and manage natural resources available to them. In the view of Alao (2011), local communities were outlined as the problem and the solution to local level environmental threats; hence, CBNRM is an importance means to decline the virtuous cycle of degradation caused by poverty. In the view of Saunders (2011), engaging local stakeholders in the use of natural resources is a better conduit in reverting environmental degradation and preservation of the environment because of the intimate knowledge and greater concern local stakeholders have in protecting the resources that support their basic means of livelihoods. McKean (1996) supported this notion by indicating that the nearest neighbours to a natural resource possess the maximum incentive to enforce rules of conservation for collective benefits, when vested with the property rights to do so. Radwan (1997) further argued that the closer the proximity of monitoring systems to a natural resource, the better in ensuring resource use efficiency to cut the transaction costs associated with monitoring and sanctioning by distance technocrats who are less likely to note changes in a resource system.



CBNRM approaches have evolved in a wide range of ecological, political, and social contexts across Africa. Therefore, Saunders (2011) refers to CBNRM as a portion of a larger push to decentralize and/or devolve juridical powers to ‘relatively autonomous’ community-based organizations towards the broader umbrella of good governance measures on natural resources. Roe et al. (2009) argued that when a natural resource is managed collaboratively, it instils a good sense of ownership and stewardship among users. Moreover, Oyono (2005) argued that when local users are excluded from participating in natural resource management, it often leads to and provokes unsustainable use of common natural resources by the disenfranchised, especially when the resource

system is within a natural resource dependent environment. This is because disenfranchising local user groups from a natural resource system that bounds their livelihood encourages aggression and free riding to over-exploit and accumulate the benefits of the resources since the cost of repairing the resource will not be catered by them but the new right holder(s) of the resource system, which in many instances has been the state (Messerschmidt, 1987).

Sick (2008) argued that community-based natural resource management (CBNRM) and co-management schemes have created significantly new and different cases of institutional frameworks for the use and management of natural resources. UNEP (2012) argued that the concept of CBNRM makes provision for the tenets of development such as participation, empowerment, social capital, sustainability and good governance. These tenets of development associated with CBNRM related programmes are also core to the delivery of present-day development agenda and poverty alleviation strategies by prominent organizations such as WRI, UNEP, UNDP and the World Bank. Furthermore, CBNRM has served as a sustainable means of natural resource use and conflict management. In relation to this, Roe et al. (2009) indicated that the CBNRM enhances participation of disadvantaged groups in development and serves as a conduit to global goals on development like the MDGs, CBD, UNCCD and the UNFCCC. Similarly, the CBNRM strategy serves as a platform to test prototype projects like the REDD projects.

In the view of Pimbert et al. (2000) and Pardeshi (1996), common property institutions, which are the bedrock of CBNRM, have in many instances provided effective models for the sustainable use and management of many natural resources in many countries, especially over the past three decades. This type of natural resource management has been particularly commendable since it provides a platform for the proper definition and security regarding customary rights to natural resource use and control to local user groups



(including many indigenous peoples); hence, proving to be an effective way of protecting natural resources and secured living conditions for local peoples (Honneland, 1999; Sunderlin & Gorospe, 1997). Shyamsundar et al. (2005) indicated that the CBNRM approach creates economic incentives for local communities to engage in the conservation of natural resources and involve the participation of local communities in decision-making. Shyamsundar et al. (2005) further argued that CBNRM is guided by the following features: devolved decision-making authority at the community level; representative decision making; practically small communities; accountable leadership from both local and external stakeholders; positive cost-benefit returns; equitable distribution of benefits accrued to the resource system; balance between social benefits and natural resources conservation; planned capacity building of local actors; coordinated planning on natural resource management; as well as facilitation by a 'honest broker' who serves as intermediary between the government and local users of the resource.

Regardless of the forward looking of CBNRM approaches, Roe et al. (2009) indicated that the approach is still riddled with certain fundamental challenges. There are only a few cases where communities have obtained formal authority over lands and the natural resources within their reach; there still exists a strong centralized control over natural resources in many CBNRM models although there is the pervasive change in the rhetoric over land and resource management; conflicts still persists among the various actors be it local users and powerful actors (state agencies and private investors); the conflicting relationship between ecological goals (conservation) and social goals (livelihood dependence and poverty alleviation) continue to challenge the strategy; there is inadequate capacity-building that is required to ensure broader participation and accountability of local leaders to their community; and the presence of inequitable distribution of benefits based on power differentials has been the bane of the approach to resolving conflicts of



resource use and has seen the increase incidences of human-wildlife conflict as a result of the continuous use of the CBNRM approaches in forest management.

2.3.8 History of Collaborative Natural Resource Management in Ghana

The Local Government Act (1993) provides a framework for decentralisation but many district authorities do not have the funding and logistical support to take on responsibility for land management (Kasanga & Kotey, 2001). As with many countries in West Africa, Ghana has a pluralistic land tenure system, with local customary systems operating in conjunction with national statutory systems (Roe et al., 2009). In 2005, the state owned 22% of the land area in Ghana, with over 70% (mainly rural areas) under allodia (traditional) management (Alhassan & Manu, 2005). As with general land tenure in Ghana, there is a history of government control and regulation of the forest sector, including in the collection and distribution of timber revenues (Ayine, 2008). However, reforms introduced with the 1994 Forest and Wildlife Management Policy reviewed in 2000 provide for collaborative management agreements between timber companies and communities with mandatory Social Responsibility Agreements introduced by the Government in 1997, which entitle communities within and around timber concessions to 5% of the value of the stumpage fee, and other forms of compensation from timber companies (Ayine, 2008; Amanor, 2002).

An important experiment in devolved authority over resources is the CREMA concept in Ghana was established under the Collaborative Wildlife Management Policy of 2000 (FC, 2004). The Wildlife Division, with UNDP GEF funding has established a CREMA initiative, which gives communities authority to control access and harvesting within community forest areas (Roe et al., 2009). These areas are established through agreements between communities and the Wildlife Division of the Forestry Commission with the aim



to assist communities to manage natural resources in their own forests. Participating communities are given full authority to control access and harvesting of resources within their management area. Each CREMA has an Executive formed from Community Resource Management Committees, which are made of individual farmers or land holders. The CREMA process has been supported by UNDP Global Environment Fund (GEF), European Commission, Dutch Government, CARE International and other organisations (FC, 2004). The project has surveyed and demarcated over 200,000 hectares of traditional community forest (UNDP, 2008). Six CREMAs have been fully initiated in western Ghana, three within the adjacent communities of Mole National Park and several others are under development countrywide.

According to Murphree (2008), the CREMAs strategies have delivered some success for conservation of natural resources, which have manifested in reduction in illegal activities, with hopes for future returns by local communities. Murphree (2008) further revealed that even in the early days of the strategy, there have been positive indications of social capital motivated by CREMA members' perception that the institutions initiating the CREMA are working for their common good. The organisational structure of CREMAs is clear, but

different actors perceive them in different ways, e.g. as being primarily about land use, governance, securing traditional authority, securing protected areas and others (Murphree, 2008). In addition, a wide range of drivers act to influence the outcomes of CREMAs, not all of which are captured within the structure of the CREMA model. For example, whilst CREMAs have tenure over natural resources, they do not have tenure over land itself, and the land tenure system continues to have a major influence on resource use. Land tenure largely remains with local authorities, and is a major driver of land use, as those granted tenure of an area must actively use it or they risk losing it (Murphree, 2008).



CREMAs have been met with considerable enthusiasm at the community level, although there have also been challenges and delays, most of which are institutional, centre on poor communication, lack of technical capacity and lack of clarity of goals. The CREMA model is uniquely Ghanaian, but has some similarities to CBNRM approaches used in southern Africa (e.g. Namibia), which have been underpinned by a high level of political, institutional and donor support. However, there are concerns that if similar support is not given to the CREMA programme, it may not enjoy the same level of success in the long term (Roe et al., 2009).

2.4 Conceptual Framework for Multi-stakeholders Collaboration and Natural Resource Management

The figure below (2.1) presents a graphical snapshot of the conceptual framework, which represents the interaction among resource system, resource units, management system, stakeholders or actors to produce certain outcomes, which can be positive or negative based on the nature of interaction among the concepts. Resource units and system were defined by Ostrom (2009) as the actual units of the resource system. These include the quantity and quality of resource units, their economic value, level of mobility and their replacement rate, which serve as incentive for resource users in the interaction system.

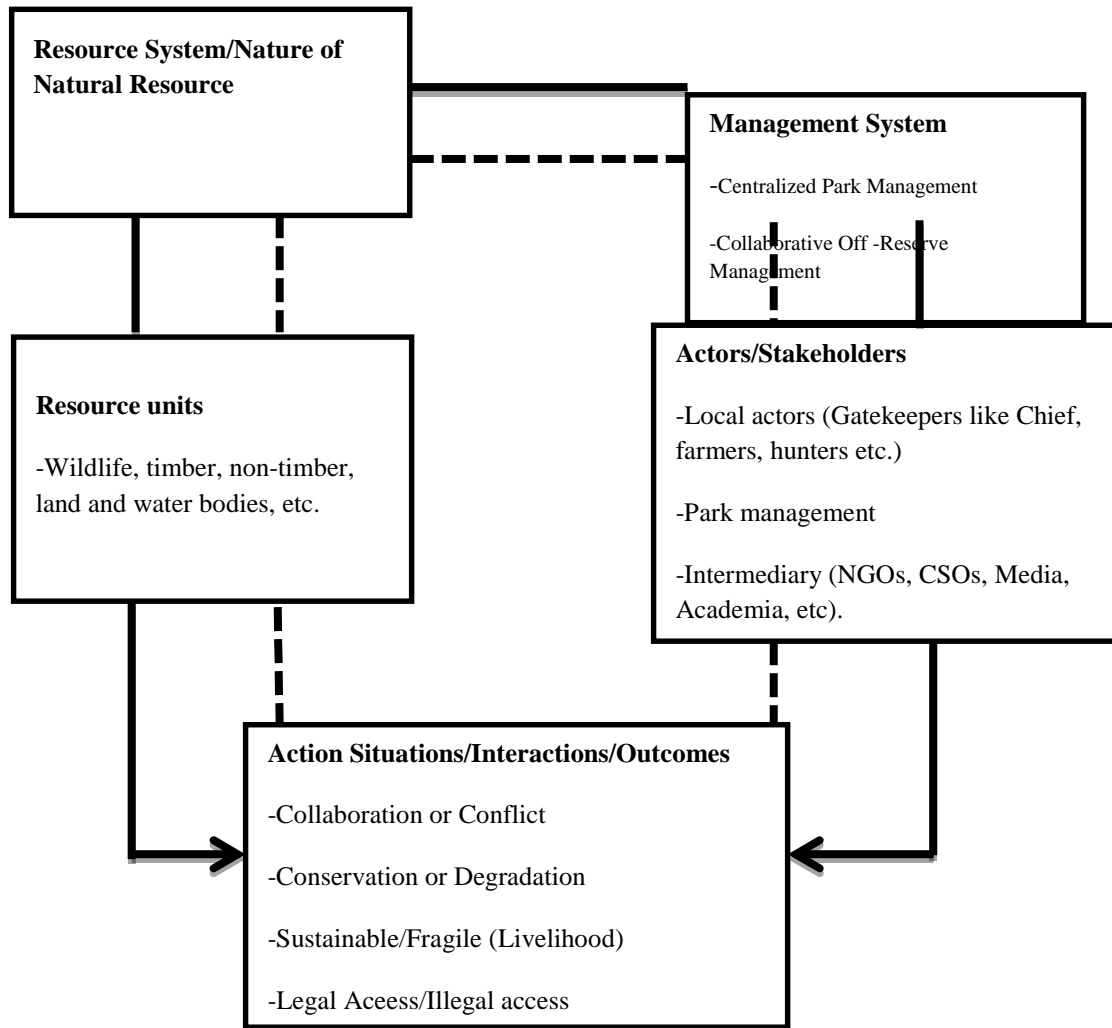
Cole et al. (2014) indicated that the management systems are sets of attributes that jointly shape interrelated processes of interaction in the resource system among the various actors, which result in observed outcomes. Cox (2010) defined a management system in the natural resource context as a set of institutional arrangements (such as rules, policies, and governance activities) that are used by one or more actor groups to interact with and govern an environmental resource. Actors in this context are individuals, organizations or nations, which have developed a set of institutional arrangements in order to interact with a natural resource to produce a set of outcomes.



Ostrom (2011) indicated that the complexity within social systems stems from the diversity of uses, users and agencies involved in management, with differences in power and resources influencing decision-making and sustainability. In the opinion of Oberlack et al. (2015), the SES analyses the manner in which the attributes of the resource systems, resource units, management systems, actors, and the wider context of a SES shape focal action situations to yield a set of outcomes. In a similar vein, Ostrom (2011) espoused that action situations in a NR system is characterised by the relevant positions, actors, their action spaces, information, possible outcomes, the actors' control over outcomes, and costs and benefits associated with outcomes that serve as incentives for actors in particular actions. Gibson et al. (2005) and Ostrom (2005) indicated that incentives consist of both the external stimuli and the internal reasons that actors have to choose, particularly in light of their information processing capacities, values, preferences, and decision making.

In summary, the various stakeholders who depend on a natural resource act in a certain manner, which is influenced by the nature of management systems that characterize the natural resource system. These actions include harvesting of natural resources for subsistence, commercial or conservation purposes. In the short and long run, the various actions of the actors on a natural resource motivated by the management system can lead to conflict or collaboration, degradation or conservation and sustainability or fragility of actors, resource systems and livelihoods, respectively. The outcomes accrued to the interplay of the resource systems, resource units, actors and management systems feedback to determine their sustainability or otherwise.





Key: → Direct relationship

-- Feed back



Figure 2.1: Conceptual Framework for Natural Resource Use Conflict and Multi-stakeholders Collaboration

Source: Adapted from Social-Ecological-Systems (Ostrom, 2009)

2.5 Conclusion

The dynamics of resource use conflicts and multi-stakeholder resource management situate the theoretical underpinning in different ways. The EST diagnoses the causal scenarios of resource use conflicts. This offers the study the theoretical insights into understanding the conditions linking access and ownership of NR to conflicts in the

context of the study area. The basic assumptions of the theory, as espoused by Homer-Dixon (1994), include disequilibrium in renewable resource supply and demand, population growth, and resource degradation causing simple scarcity. By extension, it directs further understanding into the various areas that need understanding in resolving the inherent dynamics of resource use conflicts especially the power dynamics that contribute to resource capture or centralization and the aggressions that result thereof. On the other hand, the CPR theory offers insight into the underlying conditions and preconditions that result in positive collective action or otherwise. The theory best situates the multi-stakeholder collaboration dynamics as it provides a lead into the various cross sections of case studies that substantiate the theory from its early contributors like Ostrom (1990). In that regard, the CPR theory has been discussed to fit the collective action concepts that characterize the study beyond diagnosis of the resource use conflict dynamics. The Access theory also analysis the mechanisms of access from the perspectives of right-based access to NRs through legal and illegal means to derive benefits NR offer (Ribot and Peluso, 2003). The Access theory further assesses the means through which access is gained, controlled and maintained over time through social relations and other forms of power interactions between actors on a natural resource system (Ribot and Peluso, 2003).

Furthermore, there is general harmony in literature among scholars, policy makers and development agencies that natural resources support livelihoods, especially among the rural poor whose basic means of survival rely on the immediate resources nature provides. However, the dependence on natural resources and the subsistence nature of exploitation, especially by local actors in the phase of population growth and the fixed stock (low replacement rate) compromise the stock of the natural resource and ecosystem services that accrue to human lives and ecological systems.



The benefits that natural resources produce serve as incentives for powerful agencies like the Government to monopolise the access and control of natural resources for conservation and economic (tourism and direct extraction of timber and non-timber products) reasons. Moreover, the differing users and interests on natural resources amidst growing degradation of natural resources serve as incentives for competition over access, control and ownership of resources for the benefits they accrue. As a result, the environmental scarcity theory as spearheaded by Homer-Dixon (1994) contextualize how resource scarcity generated by environmental degradation, population growth and resource capture yield conflicts among users and interests groups of a resource system.

In the face of the expanding uses and users' conflict, non-governmental organisations and other agencies have invested interests in the management of natural resources to enhance a balance in the goals of all stakeholders in the natural resource system. This has informed scholarship and empirical works from Common Pool Resource Theory scholars like Cox (2010), Shyamsundar et al.(2005), Agrawal (2001), Edwards and Stein (1999), Ostrom (1990), Wade (1988), Oslon (1965) and many more who provide insights into the evolving collaborative natural resource management systems that engage the various stakeholders in

a nested platform to manage natural resources towards conservation and livelihood outcomes in order to prevent the degradation and conflicts of resource use and access that bereft NR management. The approach of collaborative natural resource management counters Hardin's (1968) proposition on the tragedy that awaits natural resources due to the free riding characteristics of human beings.

Collaborative natural resources strategies were expanded with their advantages and critiques whilst the SES conceptualized by Ostrom (2009) was adapted to enhance the conceptual review of natural resource systems, governance systems, the various actors and



the outcomes that accrue from their interactions, which include conflicts or collaborative management, degradation or conservation, and sustainable or fragile livelihood outcomes.



CHAPTER THREE

METHODOLOGY

3.1 Introduction

This section of the study covered the research methodology. The issues considered were study area; study design; study approach; study population; sampling and sample size determination; data, sources and research instruments; data processing; and analysis and ethical issues.

3.2 Study Area

3.2.1 Description of the study area

Mole Park, Larabanga is located in the West Gonja Municipal Assembly in the Savannah Region of Ghana. The Municipality lies on longitude $1^{\circ} 51'$ and $2^{\circ} 58'$ West and Latitude $8^{\circ} 32'$ and $10^{\circ} 21'$ North. The Municipality shares boundaries with Central Gonja District to the South, Bole and Sawla-Tuna-Kalba Districts to the West, Wa East District to the North West and North Gonja District to the North East. Larabanga has the larger population in the Municipality of over 4,000 people after the Municipal capital, Damango. Temperature of the

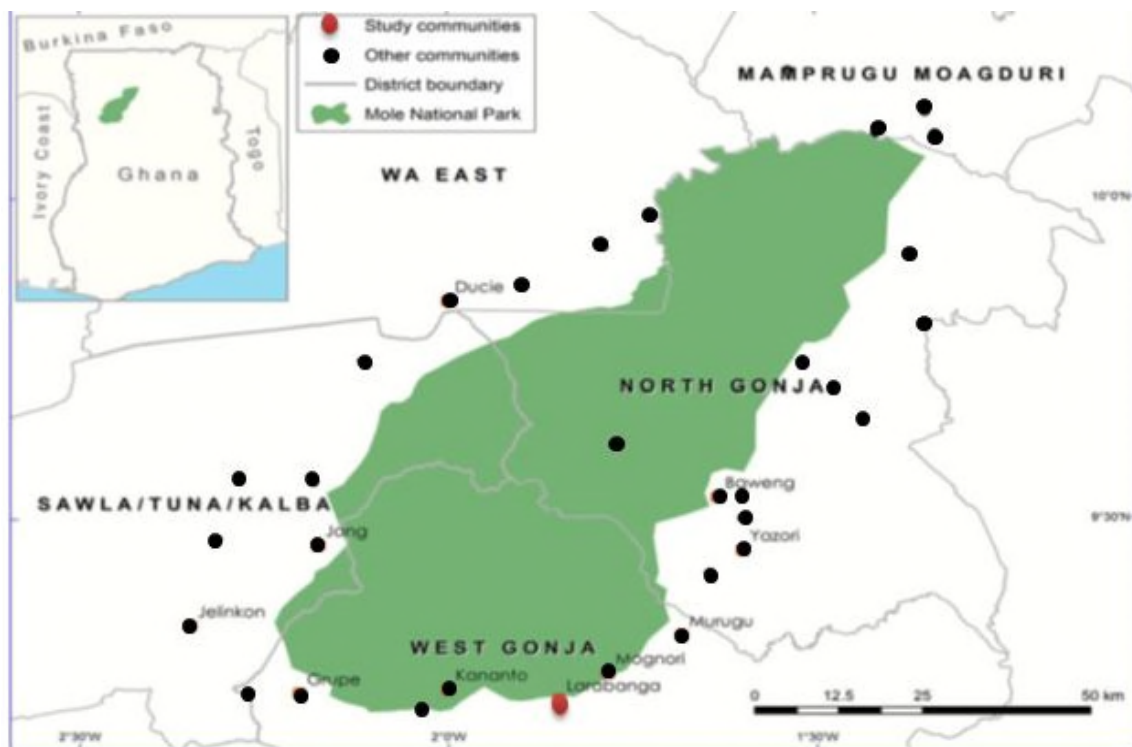
Municipality is generally high with the maximum occurring in the dry season between March and April and are lowest between December and January. The mean monthly temperature is 27°C . The dry season is characterized by the Harmattan wind, which is dry, dusty and cold in the morning and very hot at noon. As a result, evapotranspiration is very high causing soil moisture deficiency. The natural vegetation is Guinea Savanna. The vegetative cover of the Municipality is dictated by the soil types and human activities, such as shifting cultivation, slash and burn method of land preparation. The major tree species are sheanut, dawadawa, baobab, acacia, neem and few ebony. Farming is the mainstay of the people covering about 60% of the total labour force. It is rain-fed and done once in a year.



Major crops cultivated are cassava, yam, legumes (beans, groundnuts, neri, cowpea and soyabeans) and cereals (millet, sorghum, maize and rice). The erratic rainfall pattern makes farming risky with low yields. Alternative activities during the dry season include collection of sheanuts, wild honey harvest, agro processing, fuel wood harvest and so on. Commercial farming is non-existent in this important socio-economic and biodiversity rich landscape. The Mole Park is located about 23km North-west of Damango. It remains the largest protected area in the country and one of the best managed game and wildlife parks in Africa, south of the Sahara Desert. The Park covers an estimated area of about 4577sq km and a major tourist attraction with significant conservation value at sub-regional and international levels. The Mole National Park attracts both foreign and local tourists and offers direct employment and indirect employment through services delivery and facilities to some people in the Municipality. Larabanga is the largest community among the fringed communities that were annexed to create the Mole National Park. The community is often referred as the gateway to the Mole Park since it is the route to the main entrance of the Park. This is coupled with Larabanga's closer proximity to the Park, which makes it vulnerable to crop and livestock raiding by wildlife such as elephants, patas and baboon monkeys, and hyenas as well as the temptation of poaching in the Park. About thirty-three communities were relocated to make way for the creation of the park.

The Park also contains a variety of flora and fauna of both economic and medicinal value to the fringed communities. Below is a map showing Mole Park, Larabanga, the other fringed communities of the Mole Park and the Municipal boundary.





Map 3.1: Mole Park indicating Larabanga and the other Fringed Communities

Source: Adapted from Soliku and Schraml (2018)

3.2.2 Justification for choosing the study area


Mole Park has been purposefully selected for the purpose of the study due to the recorded incidence of natural resource use conflicts between the fringed communities and the Park staff after the Park's establishment (FC, 2016; 2000). The high incidence of poverty and dependence on NRs for local survival coupled with the annexation of the fringed communities land and other natural resources to form the Park leave are behind the recurrent NR use conflicts. Hence, Larabanga community has been selected as a case for the purpose of the study since it serves as the gateway to the Park, which is Ghana's premier Natural Park and UNESCO's largest natural reserve. Particular interest was vested in Larabanga due to the constant records of conflict between local resource users like hunters and farmers, and the Park Management over poaching of games, collection of fruits such as shea fruits and dawadawa, fishing and farming activities, which have a bearing on the community's



livelihood. Since there is a history of the livelihood of the people being attached to the natural resources in the Park, a series of conflicts have been recounted between Mole Park and the fringed communities, especially Larabanga, which happens to have the highest incidence of poaching cases (West Gonja Municipal Profile, 2018). Furthermore, due to the limited time for the study, proximity for data collection, and highest resource use conflict incidence, Larabanga was purposively selected as a means to assess the dynamics that motivate the perennial nature of NR use conflict between Mole Park Management and the fringed communities and as well examine the dynamics of multi-stakeholder collaboration for NR management in the Mole Park.

3.3 Study Design

The case study research design was adopted for this study. Particularly, the exploratory case study design was adhered to. The case study is of particular important in this study because it grants researchers an in-depth analysis into the particular happenings of an issue, especially when the emphasis is on a current phenomenon and happenings within a real-life situation (Yin, 2009; Zainal, 2007; Hartley, 2004; Stake, 1995).

 Stoecker (1991) describes the case study as a comprehensive research strategy, which entails many data collection and analyses tools. It also grants a focus into community related problems (Johnson, 2006). The case study is particularly useful for studies on community related problems like the dynamics of resource use conflicts since the case study design relies on many histories, but adds two sources of evidence not usually included in the historian's repertoire: direct observation and systematic interviewing (Yin 2009). As such, direct observation and systematic interviewing offer the researcher a first-hand opportunity to examine the underlying circumstances that have resulted in problematic trends in a population; as in the incidence of resource use conflict in Mole Park, Larabanga. The case study's ability to deal with a full variety of evidence through interviews and observations

beyond what might be available in the conventional historical study makes the case study design appropriate for understanding happenings on a phenomenon over time (Yin, 2009). In that regard, the design is suitable to be used in understanding the contemporary issues surrounding natural resource use and management conflict within the context of Mole Park and Larabanga.

However, the case study has been criticized by many authors due to the fact that the approach can provide little basis for scientific generalization (Kennedy, 1976). It also lacks the rigor strength of scientific research since most investigators have the likelihood to be sloppy and allow equivocal evidence or biased views to influence the direction of the findings and conclusions (Yin, 2011). As a result, the researcher has to exercise extreme care in designing and doing case studies in order to exonerate the traditional criticisms of the design and as well ensure quality assurance through validity and reliability for generalization using a triangulation of methods (Yin, 2011).

3.4 Study Approach

The qualitative approach to research was adopted for the study. Qualitative research is a form of systematic empirical inquiry into meaning (Shank, 2002). Denzin and Lincoln (2000) describe the approach as a process of interpretation and naturalistic enquiry. Snadberg (2005) found that the qualitative approach to research had grown wildly due to the despondency with the process of generating knowledge within the positivistic research strategy. Being the opposite of positivist philosophy, which strives on objectivity and predictability of human behaviour, interpretivism philosophy views qualitative research as a way of giving in-depth meanings and descriptions to a situation in the social world and it is mostly subjective (Denzin & Lincoln, 2003). That is, interpretivism seeks to replace positivism with inquiry stances that capture multiple voices and perspectives from participants and researcher's view of reality



(Edwards & Skinners, 2009; Denzin & Lincoln, 2003; 2000; Neuman, 1991), than mere numbers and objectivity (Kroeze, 2012; Marcon & Gopal, 2005; Corbetta, 2003).

According to Flick (2014), Creswell (2009) and Lincoln and Guba (1985), qualitative research is a process of exploring social or natural human problems. Furthermore, qualitative researches expand understanding on social phenomenon from the perspective of the actors involved, rather than explaining it from the outsiders' point of view (Ospina, 2004). Hence, this approach to the study offered the local resource users like hunters, farmers and herbalist as well as other key informants like the Chief, Assemblyman and the Mole Park Manager the opportunity to provide their individual perspectives and experiences on the resource use conflict and management dynamics in Mole Park. As such, qualitative studies expand understanding on the complex nature of phenomena that are difficult to approach or to capture quantitatively just as in the case of resource users perspectives on the motivation behind natural resource use conflicts that mere figures cannot provide. Furthermore, Corbin and Strauss (2008) and Strauss and Corbin (1990) indicated that qualitative research depicts any type of research that produces findings not arrived at by statistical procedures or other means of quantification. The qualitative research approach is often preferred since it produces the thick description of participants' feelings, opinions, and experiences, and interprets the meanings of their actions (Denzin, 1989); is flexible (Maxwell, 2012); makes use of many participatory data collection tools (Cohen et al., 2011); and grant deeper insight into social problems or issues (Chalhoub-Deville & Deville, 2008). As such, the qualitative research approach is suitable for the study since it provides an opportunity for sourcing resource stakeholders' feelings, opinions and experiences in natural resource use conflicts within the Mole Park enclave.

However, due to the subjective and detailed nature of the approach to research, a smaller sample size can be captured and, as a result, it can eliminate sensitive contexts (Silverman,



2010), suffer credibility and is often disregarded by stakeholders (Sallee & Flood, 2012; Berg, 2009) and has lesser capacity for generalization (Harry & Lipsky, 2014; Flick, 2011; Thompson, 2011). Regardless, the use of the qualitative approach to undertake the study on resource use conflict and management dynamics offered the researcher the capacity to benefit from focus groups and key informants who have greater in-depth knowledge on the subject matter than the larger population. As such, the incidence of eluding sensitive contexts and credibility were lessened. The principle of triangulation as a form of validity and credibility check can resolve the inherent challenges in adhering to the qualitative approach to research (Yin, 2009). Hence, the use of the focus group discussion, observation and in-depth interviews for the major and varied resource stakeholders in the Mole Park and Larabanga enhanced the validity and credibility issues that are associated with the qualitative approach to research.

3.5 Study Population

According to Salkind (2010), the research population connotes the entire collection of entities one seeks to understand to make inferences. The study population captured natural resource users in Larabanga and the Management of the Mole Park. The study targeted resource users groups who have in-depth knowledge on resource use conflict between Mole Park and Larabanga. The unit of analysis for the study included stakeholders such as the Mole Park Manager, hunter groups, farmer groups, a herbalist with at least ten years of herbal medication in Larabanga, the Chief and the Assemblyman of Larabanga. A respondent from the Forestry Commission in West Gonja Municipal Assembly, and a Community Liaison Officer from A Rocha Ghana, which is engaged in resource management between Mole Park and the fringed communities, were also interviewed.



3.6 Sampling Process and Sample Size Determination

The issue of sample size determination has become topical in qualitative research, with scholars debating whether the number of participants sampled in a given study should be decided upon a priori, and if so, the number of participants indicated (Sim et al., 2018). Sampling in qualitative research has to be rigorously addressed to serve as a basis for the understanding of validity of qualitative research (Curtis et al., 2000), and as well avoid the tendency of the researcher influencing the state of saturation (Charmaz, 2014; 2006; Dey, 1999). Fugard and Potts (2015) have proposed statistical calculation for sample size determination in qualitative research, which met counter opinions from authors like Braun and Clarke (2016) and Byrne (2015).

The opposition was based on the fact that prior determination of sample size in qualitative studies may only aid the researcher to plan financially or meet the criteria of funders but such will be incompatible with the conceptual and methodological notions underpinning qualitative research (Saunders et al., 2017). Amidst these discussions, Fusch and Ness (2015) indicated that saturation is an important element in the discourse of qualitative research that indicates that the sample size should always be determined by the principle of saturation, which matures sample size based on systematic repetition of information from different respondents with no significant evolving issues. That is, data saturation is the point where the researcher is not gaining new insights from interviews being run on the developed themes (Saunders et al., 2017; Charmaz, 2014; Merriam, 2009; Morse, 2007). Although the rule of thumbs has been proposed by different authors (Corbin & Strauss, 2015; Ritchie et al., 2014; Creswell, 2013; Adler & Adler, 2012; Smith et al., 2009; Onwuegbuzie & Leech, 2007; Lincoln & Guba, 1985) based on the type of research, characteristics of respondents and level of study, Sim et al. (2017) argued that the decision over what constitutes an adequate sample size to meet research objectives is a continuous process of interpretation by the researcher.



In this regard, the research used the principle of saturation and completeness to the set objectives to determine the appropriate sample size. Key informants like the Chief of Larabanga, the Assemblyman, a respondent from FC in West Gonja Municipal Assembly, a Community Liaison Officer in A Rocha Ghana (an NGO engaged in resource use management in the Municipality), a herbalist and the Mole Park Manager were purposively selected to give in-depth information to the researcher on the subject matter of resource use and management dynamics between the Mole Park and the fringed communities with a focus on Larabanga. Existing farmers and hunters groups in Larabanga were purposively selected to conduct FGDs to source their group experiences and knowledge on the subject matter of resource use conflict and management dynamics between resource users in Larabanga and the Mole Park. In total, six (6) Key Informants and three (3) Focus Groups with twelve (12) members each were interviewed before data was saturated. The target for each FGD was between six (6) and twelve (12) participants. Hence, the researcher invited twelve (12) farmers and hunters each through their group leaders, in order to meet at least six (6) respondents for each FGD to avoid non-participation bias.

3.7 Sampling Techniques

The non-probability sampling technique to selecting samples for a qualitative study was used.

Non-probability sampling techniques use non-randomized methods to draw the samples based on judgment (Al-hassan, 2015). With this technique, it is not everyone that has an equal chance of being selected (van-Manen, 2014). Purposive sampling technique was used to derive respondents from the study population. According to Al-hassan (2015), purposive sampling is a sampling technique that qualitative researchers employ to recruit participants who have in-depth information about the phenomenon under study. Marshall and Rossman (2011) indicated that the technique allowsthe researcher to select the most productive and knowledgeable sample(s) to respond to the research question. Hence, the purposive sampling

approach was used to derive individuals or key informants as well as resource user groups with knowledge on the subject matter of the dynamics of natural resource use conflict and management to respond to the questions raised in the study.

Furthermore, qualitative researchers recognize that some informants are 'richer' than others and that these people are more likely to provide insight and understanding for the researcher (Marshall, 1996). Purposive sampling grants the researcher the opportunity to derive information-rich cases for in-depth study (Patton, 2015; van-Manen, 2014; Yin, 2011; Merriam, 2009). In that regard, the people sampled through purposive sampling included the Chief of Larabanga, Assemblyman of Larabanga, the Field Supervisor of FC to Larabanga, a Community Liaison Officer of A Rocha Ghana and the Park Manager of the Mole National Park due to their inherent rich knowledge on the subject matter of resource use conflicts in the fringed communities at Mole National Park. A herbalist who has serviced as a herbalist in Larabanga for at least ten years was likewise purposively selected to serve as a key informant to source his knowledge on resource use conflicts from his perspectives and experiences over the years. As well, existing farmers (women and men farmer groups) and hunters group in Larabanga were contacted to form a focus group to aid a FGD on the dynamics of NR use conflict and multi-stakeholder collaboration in the management of the NR in the Mole Park.



3.8 Data Collection Methods and Research Instruments

3.8.1 In-depth interviews (IDIs)

In-depth Interviews (IDIs) were conducted to derive information. Boyce and Neale (2006) described the in-depth interview as a qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, programme, or situation. It offers researchers a complete picture of what happened in an issue (Boyce & Neale, 2006). The primary advantage of the

in-depth interview is that it provides much more detailed information about a subject under discussion. Moreover, an in-depth interview provides a more relaxed atmosphere in which key informants and focus groups could feel more comfortable having a conversation about the dynamics of natural resource use conflicts and multi-stakeholder collaborations at Mole National Park (Boyce & Neale, 2006). The IDI was used concurrently with the Key Informant sessions to capture responses from key informants on their thoughts on the themes under the study. Kumar (1987) describes key informant interview as a process of interviewing a selected group of individuals who are likely to provide needed information, ideas, and insights on a particular subject. Thus, a Key Informant Interview is an in-depth interview focusing on a list of issues regarding a topic with which interviewees have first-hand knowledge to obtain a qualitative description of perceptions or experiences (Oishi, 2003; Marshall, 1996). Key Informants like the Chief of Larabanga, the Park Manager at the Mole Park, the Assemblyman, Herbalist in Larabanga, the Field Supervisor of Forestry Commission to Larabanga and a Community Liaison Officer of A Rocha Ghana were selected to provide in-depth information on the dynamics of natural resource use conflicts and multi-stakeholders collaboration in the Mole Park and Larabanga.



The in-depth interview (IDI) guide was used to gather data from Key Informants in Mole Park and Larabanga. The IDI guide is a qualitative research instrument that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, programme, or situation (Boyce & Neale, 2006). The IDI guide was structured into sections, namely A, B, C, D, and E. Section A captured the characteristics of key informants and local resource user groups; section B analysed the nature of natural resources and their contributions to community livelihood; section C ascertained the various stakeholders and their stakes in natural resource management based conflicts; section D evaluated the factors that account for natural resource management based

conflicts the study area; whilst section E examined how multi-stakeholder collaboration enhance efficient and sustainable NRM systems.

3.8.2 Observation

Observation as a method of data collection was also used to complete the study. Observation is the systematic description of the events, behaviours, and artefacts of a social setting (Marshall & Rossman, 2011). Observation as a data collection method serves as a guide to interact with the target population to guide subsequent interview sessions in the continuum of the study (Schensul & LeCompte, 1999). Non-participant observation was used to triangulate stakeholders' perception of the nature of resource degradation of the off reserve and the Park as well as the daily livelihood activities in Larabanga and the farming activities closer to the 'imaginary buffer' of the Park that is susceptible to raiding by wildlife. That is, observation was used to triangulate data taken earlier through key informant interviews from the Park Management and other community informants. The focus of the observation was on resource degradation of the off-reserve and how resource scarcity presents that Park as an immediate relief to local resource dependents and the resultant access related conflicts with the Park

Guards. The non-participant observation was also used to observe some unfenced prohibited access zones between the Park and Larabanga. Observation was also a yardstick to improve the credibility and validity of the qualitative approach to this study as suggested by Yin (2009). An observation checklist was used to gather first-hand information on the resource degradation and incidence of crop raiding through non-participant observation.

3.8.3 Focus group discussions (FDGs)

Focus group discussions (FGDs) were used to obtain primary data from the respondents. FGDs involve having a group of between six (6) and twelve (12) people to focus and emphasise on the discussion of a particular research issue (Al-hassan, 2015). The method was

used to generate primary data from the hunter groups and farmer groups who are directly related to the natural resource use conflicts within the Mole enclave. Three (3) FGDs were organized in the study for farmers and hunters in groups within Larabanga. One FGD each was organized for women and men farmer groups. The separate FGDs for women and men farmer groups were necessary due to the already existing gender-based farmer groups in Larabanga. One Focus Group was organized for the hunters group in Larabanga. A FGD guide was used to obtain primary data from the FGDs with farmers and hunters in Larabanga.

3.9 Data and Sources

Data were retrieved from both primary and secondary sources. The primary sources of data included the information derived from the field through non-participant observation, the in-depth KII sessions with the purposively sampled key informants as well as the FGDs with the farmers and hunters in Larabanga and the Mole Park. The secondary sources of information were derived from journals, archives, articles, books and other related published works related to the natural resource conflict and management as well as empirical works in Mole and the fringed communities on resource use conflict and management. The Municipal Planning Department provided the Municipal Profile from which the description of the study area was derived.



3.10 Data Analysis Techniques

Data gathered from the field were cleaned, edited and transcribed verbatim. Afterwards, they were organised into themes and categories for identification of patterns and similarities of responses from the respondents. Subsequently, the data were analysed manually to make meaningful discussions. The data were presented in narratives, diagrams, pictures, tables and maps according to the theme and categories developed. The discussion was done concurrently making inferences from literature related to the subject matter.

3.11 Ethical Issues

The study adhered to all ethical issues involved in conducting social science research, which include confidentiality, anonymity, respect for client welfare and privacy of respondents. Finally, the researcher obtained an ethical clearance from the University for Development Studies Ethical Review Board before conducting the field work.

3.12 Conclusion

The study used the above research strategy, which included a description of the study area, study design, study approach, study population, sampling and sample size determination, data and sources, research instruments, data processing and analysis and ethical consideration to arrive at conclusions.



CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter is structured as follows: it begun with the presentation and discussion of the dynamics of community-based resource user groups in Larabanga. The issues captured here include the nature, history of existence, survival strategies, operational arrangements, social capital, leadership, group dynamics, conflict and their resolution among local resource users in Larabanga. It was followed with a discussion on the first objective, which assessed and discussed the results on the nature of natural resources and their contributions to community livelihoods with emphasis on the stakeholders and their perceptions of the NRs; community livelihood strategies that depend on NRs; natural resources, livelihood activities and livelihood outcomes; and alternative livelihood strategies. The second objective focused on stakeholders and nature of interest in NR use conflicts. Issues discussed include stakeholders and nature of interest in natural resource management; and stakeholders' relationship and overlapping interest that results in natural resource use conflicts. The third objective examined the factors that account for natural resource management-based conflicts. This objective examined the causes of natural resource-based conflicts with particular emphasis on NR access, ownership and control; centralised NR management; and compensation, raiding, resource scarcity and NR management. The final objective analysed multi-stakeholder collaboration and sustainable NRM systems. It highlighted issues like stakeholders perception of sustainable natural resources management strategies; nature of collective management strategies in the management of the Mole Park; and multi-stakeholder collaboration and sustainable natural resource use management in the Mole Park.



4.2 Presentation of Results

4.2.1 Characteristics of Local Resource Groups

Nature and History of Local Resource Groups

In the FGDs with farmers and hunters in Larabanga, it was revealed that natural resources connote the basic means of survival for direct NR dependents like farmers and hunters in Larabanga. The farmers and hunters further affirmed that their general interest in natural resources are basically focused on the right to access common natural resources that affect their livelihood activities, which are predominantly subsistence farming and hunting due to the rural status of Larabanga. Furthermore, they indicated that their groups are basically informal groups that trace their history of existence in Larabanga on spontaneous grounds. Moreover, they disclosed that the essence to form the resource based groups in Larabanga are premised on the need to form bonds that could strengthen their social capital relationship as an agency for unforeseen circumstances that are associated with their livelihood activities, which are farming and hunting in Larabanga. Particularly, the farmers revealed that their group's history of existence is connected to a collective effort by some farmers to support a farmer who became a victim of crop raiding some time ago so it became a norm for all the farmers who responded to the plight of the farmer with labour and seedlings to restore his farm to see themselves as one. Consequently, they started supporting themselves as an existing farmer group.

Premised on their association and bond as a community, the farmers and hunters disclosed that they sometimes interrelate themselves to address issues that spontaneously arise in relation to their livelihoods and collective existence. For instance, the farmers revealed that they support members of other groups such as the hunter group in the event that one becomes a victim of shooting or any other disability acquired through hunting. Further discussions with the farmers brought to the fore that they do not encourage unnecessary rivalry with other



resource user groups or community groups in Larabanga or other fringed communities but rather view themselves as a community emanating from a unit, hence, being keepers of themselves against external actions that deprive them of their means of survival.



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Figure 4.1: FGD with Women Farmers

Source: Fieldwork, Larabanga, February, 2019

Further discussions with the hunters and farmers revealed that their groups are not formally registered. However, they disclosed that they have ascribed leadership authorities to some members who act on behalf of the group in circumstances that require representation from local resource users in Larabanga. Specifically, the farmers narrated instances of benefits that have accrued to their existence as a group. An example was linked to training opportunities that the West Gonja Assembly and other NGOs in the area like A Rocha Ghana and Catholic Relief Services have offered the fringed communities that included farmers and hunters in groups within Larabanga.

Operational arrangements and survival strategies of local resource groups

The farmer and hunter groups revealed in the FGDs that they operate within the needs that necessitated their existence. They further revealed that their operation as groups is basically tailored towards devising strategies that could improve their basic livelihood activities that are related to natural resources and centred on farming and hunting. They also indicated that their existence in group increases their opportunities to easily access the experience and welfare support within their group in critical times. Instances were connected to emergencies like crop raiding and seasonality such as lean periods where shortage of food puts some farming dependent households in need of sustenance. Particularly, the hunter group disclosed that the group has supported its members in critical situations such as injuries and other hazards encountered through hunting or other livelihood activities that their members engage in. It was brought to the fore by the hunters that when a hunter loses his life or gets injured through clashes with the Guards from the Mole Park or any other means, the family of such member is supported to secure treatment from herbal or orthodox health providers for their member. It was further disclosed by the hunters group that group hunting is one of the strategies adhered by its members in order to benefit from the fortress that the group forms against unforeseen but possible reactions from the Mole Park guards or some wildlife. The hunters further revealed that other benefits accrued to their existence in a group including the constant share of group hunting proceeds, which support the nutrition of their households, some extended family and friends of the hunters.

Furthermore, the farmer group revealed that it has a leader and financial secretary that mobilise *ad hoc* contributions in cash or in kind to solve spontaneous problems in their group or other associations where their contributions are required. The hunter group also revealed that their efforts in sharing hunting proceeds in group hunting transcends to mobilizing cash and kind to support the group members in emergencies and other situations that involve sustenance and welfare of its members.

In addition, the farmer and hunter groups disclosed that they have their internal conflict management approaches, which they adhere to to resolve conflicts that arise within their group or with other groups in Larabanga or neighbouring community groups whether NR based or otherwise. Particularly, the hunters disclosed that they submit themselves to their group sanctions when they are found guilty of the collective agreements the group makes. For example, the hunters revealed that a hunter who cheats the others in a group-hunting is sanctioned to pay back the cheated group members in kind or an assigned amount of compensation that is agreed and accepted by the offender. The hunters further disclosed that the sanctions meted to offenders in the group sustain the group's relationship to avoid retaliation and revenge that have the propensity to break their group ties.



Figure 4.2: FGD with Hunters

Source: Fieldwork, Larabanga, February, 2019.

4.2.2 Nature of Natural Resources and Their Contributions to Community Livelihoods

Stakeholders and their Perceptions of the NRs

The farmers and hunters in the respective FGDs revealed that natural resources are of higher essence to their survival because without them, livelihood activities are impossible. Their major means of sustenance relies on NR through farming and hunting with minimal alternative sources of income and sustenance outside natural resources. The results further show that they acquired the NR from their forefathers who depended on natural resources to survive. Specifically, the hunters outlined their socio-cultural perception of natural resources by disclosing that the interest they exert in NR for their survival is as important as the interest in protecting the sacred culture of hunting, which has been passed on from generations in Larabanga due to the fertile scope of wildlife in the Mole Park landscape that they hitherto survived upon.

The Chief and the Assemblyman of Larabanga in separate KIIs also indicated that the natural resources available within the Mole Park served as the main source of livelihood activities like farming and hunting, and back-stock of cultural heritage and cultural artefacts such as groves and stones that served as shrines for spiritual connection with the ancestral world. The

Chief further revealed that some wildlife by-products, like the Buffalo's skin, serves as a touch of authority in the Chief's palace. He shared his perspective of the nature of NR as follows;

“Natural resources are things that God created to assist human beings to survive on for food, medicine, shelter and worship. Every natural resource in the Mole from trees, animals, fruits to water bodies supports our lives in many ways. The Buffalo skin hanging here was gotten from the Park by some hunters before they restricted access there.” Chief, Larabanga, February, 2019.



In a KII with the Mole Park Manager, it was indicated that the natural resources that attracted the fringed communities, which included Larabanga, to the Mole Park were basically resources that the rural people depended on for food and shelter. He disclosed that;

“The stock of all NR in and outside the Park is not in abundance as the local resource users perceive. Resources outside the Park are near extinction. So, the local communities mirage the Park as an Island of natural resources which will not run into extinction as the natural resources in their local communities. However, there are long term benefits which include environmental sustenance that the long stay of the Park will generate for the fringed communities. Again, beyond shelter, food and other direct benefits that Larabanga derives from the Park, evolving business ventures like bee keeping and ecotourism in many of the fringed communities are connected to the NR in the Mole Park.” Park Manager, Mole Park, February, 2019.

On the physical perception of resources that are useful to Larabanga, the farmers, hunters, Chief and the Assemblyman of Larabanga through FGDs and KIIs identified land, sandy soil, water bodies and seafood, stones, mountains, trees, shea fruits (‘local cocoa’), cocoyam, yam, dawadawa, birds, wild crops, groves, wild fruits, animals, minerals, thatch, timber species, cassava, and other non-timber forest products (NTFPs).





Figure 4.3: NRs that attract some Larabanga residents to the Park

Source: Fieldwork, Mole, February, 2019.

The farmers and hunters in their respective FGDs perceived the content of the map (Fig 4.1) stepwise as a reflection of the natural resource boundaries in Larabanga and Mole Park. It captures the boundaries of Larabanga indicating its boundary with Mole Park and the physical nature of natural resources that pull direct NR dependents from Larabanga to the

Park. The concepts for the map were verified by the Chief and the Assemblyman of Larabanga and the Mole Park Manager through KIIs. The hunters and farmers indicated that (A) depicts the boundary between Larabanga and the Mole Park, which is unfenced but demarcated with a teak plantation. According to the hunters in a FGD, the temptation to access the Mole Park through other means than the main entrance for its resources is very high due to the unfenced nature of the Mole Park. The hunters and farmers further disclosed that the Park is made up of NR like wildlife, wild fruits, thatch, sand, timber species, non-

timber forest products, water bodies and others that the NR dependents in Larabanga were initially sourcing as livelihood until the place was gazetted in the 1970s.

The hunters and farmers in their FGDs revealed that (B) depicts the ‘imaginary buffer’, which is outside the Park boundaries. The Park Manager through a KII disclosed that the Park does not have a buffer so the area is imagined as a buffer. He narrated the below;

“The Park does not have a buffer. This makes it easier for wildlife to cross the Park boundary to raid crops and livestock of the adjacent communities whilst risking endangered species to poaching. As a result, 100 metres away from the Park boundary is assumed as a buffer, which we guide the communities against farming and other activities within the 100 metres zone”.

Park Manager, Mole Park, February, 2019.

Further discussions with the Park Manager on the ‘imaginary buffer’ revealed that the Park plans to engage the fringed communities, especially those who share boundaries with the Park like Larabanga, in collaborative resource management of the ‘imaginary buffer’. He expressed this below:

“.... such a place can be used as a CREMA in the future to improve the dictates of the Collaborative Wildlife Management Policy by the Forestry Commission. It will enhance the communities’ access to the same natural resources that pull them to the Park. However, it requires patience for the returns to yield”. Park Manager, Mole Park, February, 2019.

The farmers and the Assemblyman of the Larabanga through FGD and KII, respectively, indicated how the action of the Park management against the use of the ‘imaginary buffer’, which legally belongs to Larabanga for farming, is a precondition for conflict especially between the Park Management and the particular Community Gate that owes the parcel of land and other resources at that area. The farmers and the Assemblyman of the Larabanga further revealed that the ‘imaginary buffer’ has already generated a lot of conflicts and is



building up tensions since farmers who cultivate there have been physically prevented several times whilst others lose their farm inputs in the process.

Furthermore, (C) shows the Larabanga community and its resources. The community's natural resources are near extinction as revealed by the farmers, hunters and the Mole Park Manager. It was revealed through observation that the concentration of trees and other forest resources of the area towards the Park kept thickening whilst approaching the main entrance of the Park from Larabanga. On the other hand, moving away from the Park towards Larabanga, the concentration of the vegetation kept diminishing with buildings and deforestation. The Mole Park Manager disclosed the below in relation to the physical nature of Larabanga community and its resources;

“There are some people in Larabanga that are engaged in unsustainable extraction of the vegetation in the community and its environs. They do this by harvesting trees like timber whether they are near water bodies or not. Meanwhile, natural resources are the mainstay of the adjacent communities to the Mole Park which includes Larabanga. As the natural resources are dwindling steadily off the reserve, Larabanga and the other fringed communities view the Park as the immediate alternative to finding means of survival. The more the resources outside the Park reduce with minimal alternative livelihood opportunities for the local resource users, the higher the chances of conflicts sparking as they find means of survival through poaching from the Park.” Park Manager, Mole Park, February, 2019.

Lastly, D is the South East of the Larabanga community. It was revealed by the Field Supervisor of Forestry Commission to Larabanga that the area is managed as a reserve by the Forestry Commission. This area is inaccessible for farming activities although picking of shea fruits, dawadawa and others (NTFPs) are allowed.



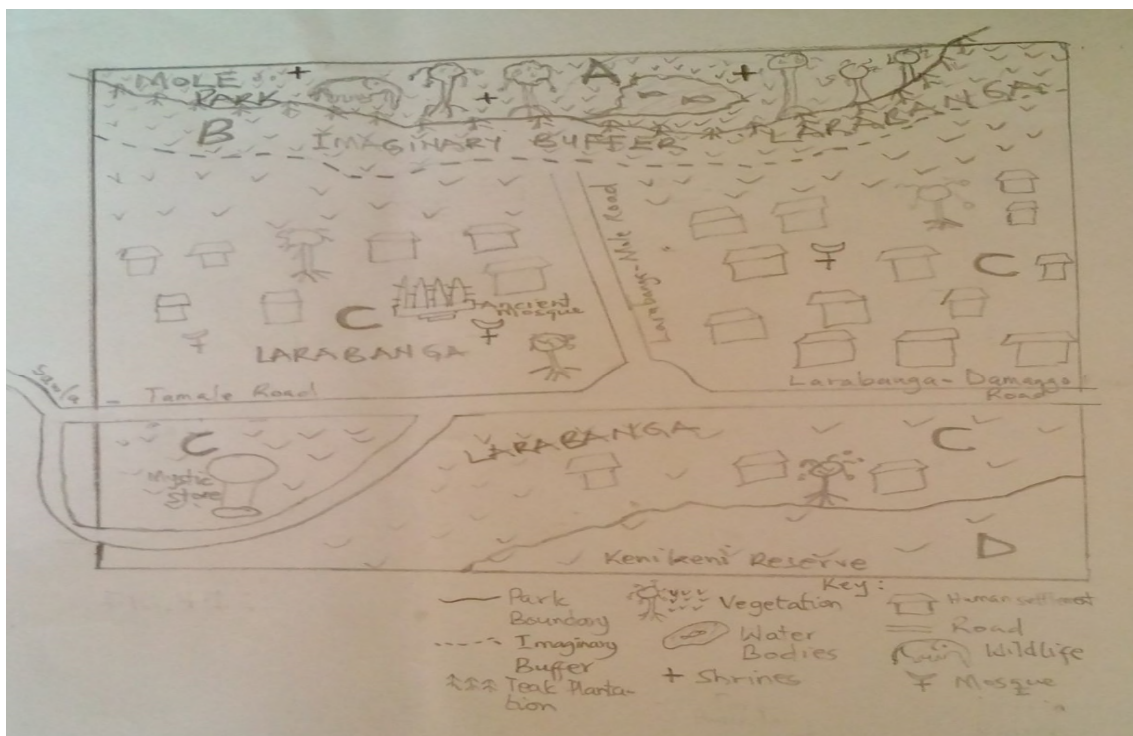


Figure 4.4: Participatory Resource Map of Larabanga and Mole Boundary

Source: Fieldwork (February, 2019).

Community Livelihood Strategies that Depend on Natural Resources

The farmers, hunters, the herbalist and the Chief of Larabanga as well as the Mole Park Manager through FGDs and KIIs revealed that natural resources served as the main source of livelihood for the local communities within the Mole Park enclave. Particularly, the farmers and hunters disclosed that the predominant source of daily life is connected to natural resources. Aside from farming and hunting, which form the main livelihood strategies related to natural resources, the hunters and farmers indicated that a lot of the community shelter and physical infrastructure including some modern structures (cemented buildings) had elements of wood and thatch that were acquired from the Mole Park until the legal restriction on exploitation of the Park resources was put in place.

Further discussions on the community livelihood strategies that rely on NR with farmers and hunters revealed that other minor livelihood strategies like herbal medication, which is



the primary source of rural health strategy, depended on natural resources for several species of herbs, leaves, stem and roots to treat many ailments including bone injuries, cold, fever, infertility, antenatal support and stomach upset. Particularly, a herbalist revealed the stepwise narrative in relation to NR and herbal medication in a KII;

“The leaves, stems, roots and seeds from many trees and plants in the Park are used to prepare concoctions to heal many common diseases like fever, asthma, stomach upset, cold, bone fracture, fertility challenges, ease labour pains and so many I cannot finish listing.” Herbalist, Larabanga, February, 2019.

In addition, the farmers revealed that industrial and commercial activities such as sheabutter production and sales of the surplus of harvested products generated through farming form a significant part of livelihood strategies in the area. A KII with the Chief of Larabanga brought to the fore the livelihood strategies in Larabanga that depended on NR.

He narrated the below;

“We farm on the land, use the shea fruits to produce shea butter for household consumption and generate income; the water bodies give us water for domestic use and manufacturing of shea butter; the sand and stones are used for our building (where we sleep and keep our livestock); and the wild animals like the elephant attract tourists who patronize the hostels and other artefacts in Larabanga. Some of the tourists also visit the Mystic Stone and the Ancient Mosque.....There are many leaves, stems, roots and seeds from many trees and plants in the Park that many Herbalists in Larabanga use to support herbal medication. The animals, which include game and fishes in the water bodies, support home meals whilst the surplus are sold (few times) to generate income for household needs like soap, sugar and tea.” Chief, Larabanga, February, 2019.



Similarly, the Mole Park Manager in a KII revealed the narrative below in relation to the livelihoods of the former Mole residents including Larabanga that rely on NR;

“I can only imagine but I think the local people poach the natural resources in the Park for livelihood purposes.The off reserve area resources have been overexploited so the poachers from the community see the Park as an island of natural resources which must be exploited for livelihood. . They do that to survive. These were people who were once upon a time living within the Park so all they know is to take from the Park to eat. So, creation of alternative sustainable livelihoods strategies and sensitization will stop their illegal access to the Park for the natural resources that are to be conserved. To end with this, the contribution of the natural resources to the people depends on the category of poachers but often the former inhabitants of the Park poach for all means of their survival.” Mole Park Manager, Mole Park, February, 2019.

The perspectives of the Park Manager on the major poachers of the Mole Park being former inhabitants of the Mole Park for livelihood reasons harmonises the position of Caselli (2014) who argued that when indigenes usufruct rights on NR are truncated, it opens up room for conflicts against the new holders of the rights, often the state or private individuals since daily living opportunities are compromised alongside the rights.

Furthermore, the Park Manager revealed that the illegal access of former residents of the Park, which includes Larabanga, exposes the delicate nature of NR to exploitation in that regard;

“....The second category is the ignorant poachers. They believe the resources in the Park are in abundance and cannot go into extinction so they can use bush burning and all the negative strategies to flush out just one animal to harvest for the fun of hunting or survival. This group does not know the exactitude of the consequences of their actions and inactions. They do not know that some of the animals they harvest



into extinction contribute to the soil fertility of their off reserve farms. This is the category of poachers that will cut timber and trees around river bodies which supply their communities with water; they will cut trees that are harbouring bees hives and nectar which help bee keepers to make honey: they cut the trees and the nectars are gone so the quality and quantity of their harvest reduce without knowing their actions caused these rippling effects. Meanwhile, they sell the woods they cut for peanuts whilst destroying their sustainable livelihoods.” Mole Park Manager, Mole Park, February, 2019.

Natural Resources, Livelihood Activities and Livelihood Outcomes

The farmers, hunter, the Chief and the Assemblyman of Larabanga as well as the Mole Park Manager, a Community Liaison Officer of A Rocha Ghana and the Field Supervisor of FC to Larabanga through FGDs and KIIs, respectively, disclosed that natural resources are directly essential to the daily living of local resource users and contribute immensely to community wellbeing in various ways. The farmers and hunters revealed that NRs contribute to their livelihood outcomes in several ways including education of their children, health welfare of their households, household nutrition, shelter provision and social welfare contributions generated from surplus harvest beyond subsistence and the returns from guiding connected to NR in the Larabanga and Mole Park. The farmers and hunters further revealed that hunting and trading of game and agricultural products formed part of the mainstay of livelihood activities they engage to sustain their lives and their families. Particularly, the farmers disclosed that natural resources like arable land supports farming, which is Larabanga’s primary livelihood activity.



Figure 4.5: A Display of Farm Outputs Displayed for Sale in Larabanga

Source: Fieldwork, Larabanga, February, 2019.

The Mole Park Manager and the Field Supervisor of FC to Larabanga in separate KIIs disclosed that natural resources attributed to the daily survival of resource users in Larabanga in several ways, which include education, health, cultural and social wellbeing of the local resource users in direct and indirect ways. The Mole Park Manager narrated the below in relation to the contributions of NRs to the livelihoods of resource users in Larabanga;

“...Some poach from the Park to eat and for family consumption to survive. The thatch and other materials support the physical infrastructure in Larabanga and the other fringed communities. The leaves and roots of some trees and plants offer them health support. So, there are so many benefits the communities including Larabanga derive from NRs they poach from the Park.” Park Manager, Mole Park, February, 2019.



The Field Supervisor of FC to Larabanga had the below to say about the contributions of NRs to the livelihoods of resource users in Larabanga;

“The community is predominantly a farming community and farming in such a village totally depends on a natural resource like fertile land. So, it is natural resources that support their farming. The returns from farming are used to support most activities of the farmers’ households including education of their children and health needs. Let me add that hunting also depends on the natural resources. When you hear of Mole, what comes to your mind is a large animal population and species. In such an environment, many people will naturally become hunters as means of survival whether inherited from ancestors or as an adaptation strategy for survival. The hunters in Larabanga also depend on the natural resources as a means of providing for their family nutrition and welfare through sales and direct consumption of hunted game. Again, the community members and their animals in Larabanga survive on the water bodies around the Mole landscape. For example, there is a constant availability of water (stream) throughout the year within the Mole Park whilst the ones available in Larabanga can sometimes dry up along the year. The abundance of sand within the Park is also used as building materials in Larabanga. There are many uses of these natural resources. They support a lot of people here.”

Field Supervisor, FC, Larabanga, February, 2019.



Furthermore, the livelihood activities that depend on natural resources do not serve as ends unto themselves per the hunters and farmers views in the FGDs. Hence, the farmers and hunters considered the livelihood activities as primary or direct contributions of NR to community livelihoods activities. However, they indicated that the primary activities act as means to attain livelihood outcomes, often considered as secondary contributions from NRs;

which include the social, economic and cultural wellbeing and benefits of the farmers, hunters and their dependents in Larabanga and elsewhere. The farmers and hunters further disclosed that some of the livelihood outcomes generated from the livelihood activities include education, health, self-satisfaction, remittances, household nutrition, shelter, and communal infrastructure. As such, they referred natural resources as the lifeline of their households in Larabanga due to the rippling effects they generate from farming and hunting. Moreover, Figure 4.6 represents a Participatory Map the researcher constructed from the responses of farmers, hunters, the Chief and Assemblyman of Larabanga as well as the Field Supervisor of FC to Larabanga to depict the relationship between natural resources and their contributions to livelihoods in Larabanga.

The elements in (X) depict the natural resources within the vicinity. The immediate or primary livelihood activities directly connected to the natural resources are represented by (Y). The farmers and hunters as well as the Assemblyman and the Chief of Larabanga through their respective FGDs and KIIs connected farming, hunting, herbal medication, tourism and sales of farm products to the primary livelihood activities derived from natural resources. Farming, hunting, sale of farm products, herbal medication and tourism were considered by the farmers and hunters as primary livelihood activities because direct NR dependents in Larabanga like farmers and hunters do not necessarily derive direct utility from the livelihood activities. However, the livelihood activities serve as the basis for the sustenance of households through the rent and deliverables they produce.

In that regard, the farmers and the hunters revealed that the livelihood outcomes or secondary contributions of NR are the direct benefits or deliverables farmers and hunters attain as a result of livelihood activities initiated with available natural resources in the community and the Mole Park where they hitherto depended for sustenance. From the diagram, (Z) connotes the secondary contributions, which include household poverty reduction, education support,



household nutrition, household income, communal and family contributions, quality health, food security and cultural sustenance.

The farmers and hunters disclosed that synthesizing X, Y and Z establishes a reciprocal relationship, which informs the conflicting or cordial relationship among them and other stakeholders of natural resources including the Park staff. They further disclosed that the various natural resources accessible by them inform the livelihood options or activities available to them and their households. In reciprocity, the farmers indicated that the returns from the livelihood activities determine the extent of natural resource sustainability since sustainable yield to support household sustenance and sales to purchase basic household needs like soap and tea reduce the excessive use of organic fertilizer in anticipation of a bumper harvest. The farmers further indicated that a bumper harvest determines the quality of supplementary investment in land towards the next farming season. The farmers and hunters also connected a similar exchange to the relationship between the livelihood activities (primary contributions) and livelihood outcomes (secondary contributions). That is, they revealed that the features of livelihood activities determine the quality or otherwise of their livelihood outcomes. For example, the farmers indicated that appropriate returns from their farming activities define the quality of their household welfare and nutrition. Moreover, the farmers added that improved household income defines the quality of investment in farm inputs. Below is the diagram depicting the relationship between NR, livelihood activities and livelihood outcomes in Larabanga, according to the perspectives of farmers and hunters through their respective Focus Group Discussions.



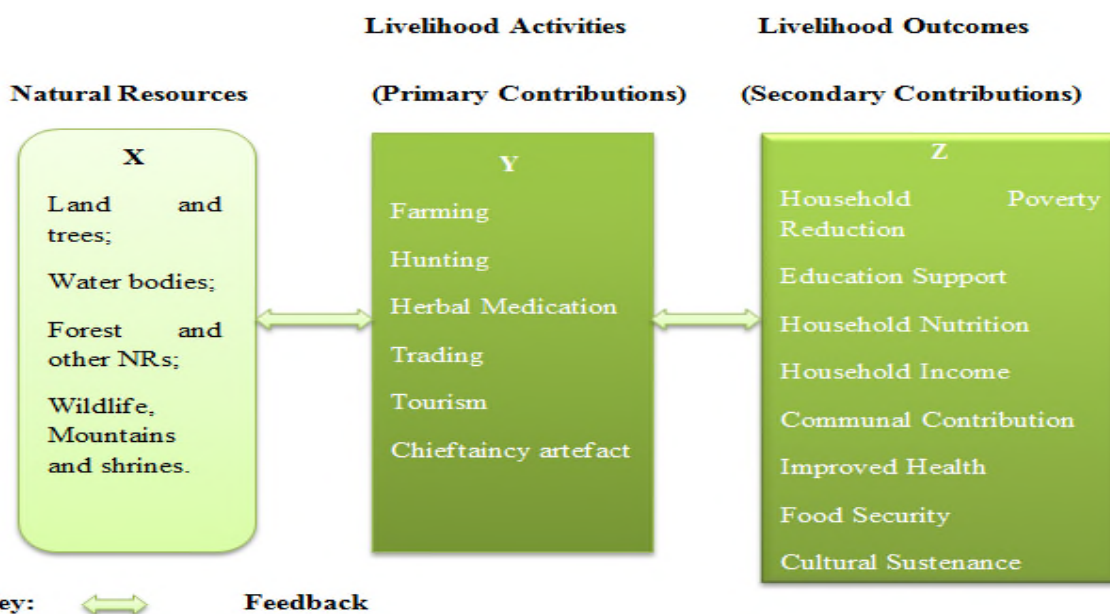


Figure 4.6: Relationship between NR and Livelihoods of Larabanga Resource Users

Source: Fieldwork (2019).

Alternative Livelihood Strategies

The farmers in a FGD disclosed that some of them have complementary livelihood strategies, which could cushion them during shocks like ailment, crop raiding by wildlife and unfavourable climatic conditions like change in rainfall patterns. The hunters revealed that



they adopt alternative livelihood strategies to survive since hunting is not sustainable in the area. However, the farmers and hunters revealed that their abilities to afford alternative livelihood strategies depend basically on the financial capacity of the particular farmer or hunter through remittance, gifts, loans or sales accrued from natural resource goods like shea fruits or the returns from sales of surplus farm products. Some of the alternative livelihood strategies the farmers and hunters identified included tourism in the community (tour guiding of the Mystic Stone and the Ancient Mosque), bee keeping and honey manufacturing, real estate (hostels and guest houses), mechanic and motor repairs, driving, carpentry, tailoring,

barbering, petty trading (charcoal and provision sales), shea butter production and sales, and hair dressing.

The farmers and hunters disclosed that they often rely on subsistence agriculture and unsustainable hunting so they do not generate enough funds to assist the set-up of alternative livelihood strategies to balance their dependence on natural resources within the Mole landscape. Hence, they expressed their reliance on the social capital in their groups and other relatives within Larabanga and elsewhere to supplement dependence on NRs or diversify their livelihood strategies. Consequently, the farmers and the hunters pointed out that NRs are the most reliable source of livelihood opportunities to them and their households.



Figure 4.7: Random Alternative Livelihood Strategies

Source: Fieldwork, Larabanga, February, 2019.

In the face of the limited ability for alternative livelihood strategies, dwindling natural resources base, restrictions of access to hunters and other direct NRs dependents to the Mole Park and the consequential shocks on farmers, hunters and other direct NRs dependents in Larabanga, the Mole Park Manager, a Community Liaison Officer of A Rocha Ghana and the Field Supervisor of FC to Larabanga disclosed that deliberate sustained efforts and initiatives like ecotourism, bee keeping and honey manufacturing, and shea butter production with group financial assistance have been encouraged in Larabanga and other fringed communities to expand alternative livelihood strategies for local resource users and revert over dependence on the fragile NRs base, which have often generated conflicts. Below captures some of the responses from the Mole Park Manager, a Community Liaison Officer of A Rocha Ghana and the Field Supervisor of FC to Larabanga on the alternative livelihood strategies and NR use conflicts in Larabanga.

The Field Supervisor of the FC to Larabanga shared thoughts on the alternative livelihood strategies in the community that could diversify local resource users' livelihood opportunities. He indicated that;



“Tourism in the community (tour guiding) is an alternative livelihood strategy. It is not easy seeing elephants, buffalos and other animals. Since these animals are in Mole, people visit the Park in order to see them. That is, it is those natural resources that bring them here. So, there are many young guys in this community who assist the tourists; both locals and international to stroll around. Some visit the Mystic Stones and the Ancient Mosque in Larabanga. The local tour guides generate livelihood from this work. It is an evolving area that the youth is diverting its energy than agriculture which is mostly perceived as the occupation of adults and old people in the community. Others also engage in mechanic and motor repairs, driving, carpentry, tailoring, barbering, petty trading (charcoal and provision sales), shea butter

production and sales, hair dressing and so on.” Field Supervisor, FC, Larabanga, February, 2019.

The Park Manager in a KII session revealed the below;

“There are a lot of livelihood activities that the fringed communities can engage to support themselves. Some engage in tourism, beekeeping and weaving. The Mystic Stone and the Ancient Mosque in Larabanga for example are good sources of income for the young people in Larabanga. Others are also keeping bees to make honey. There are carpenters and hairdressers with many provision shops in Larabanga that serve the staff of the Park and even tourists that reside in the Larabanga to tour the Park and other areas. So, there are many other activities people in Larabanga can rely. Regardless, some of the alternative life sustaining activities like weaving requires some training and capital support. The Park and some NGOs around sometimes collaborate to provide technical support to some of the communities in efforts towards diverting the over reliance on NRs in the Park.” The Park Manager, Mole Park, February, 2019.

A Community Liaison Officer of A Rocha Ghana revealed the narrative below in response to the alternative livelihood strategies that hunters and farmers can adopt to diversify their reliance on NR;

“There are so many options available to the fringed communities. We have engaged Larabanga many times to train the farmers and hunters in bee keeping, devising ecotourism strategies like in the Mognori-Murugu CREMA. We have sensitized some of them on ways to survive without NRs. Some are also doing their own businesses like trading, food joints and mechanics. However, the problem is the ability to sustain which ever livelihood alternatives to NRs dependence since some of the community members in Larabanga are repeating the same businesses.....We are still in talks with Mole Park to design sustainable livelihood



strategies for the fringed communities in order to check the incidence of the resource use conflicts.”Community Liaison Officer, A Rocha Ghana, Damango, February, 2019.

4.2.3 Stakeholders and their Stakes in Natural Resource Based Conflicts

Stakeholders and Nature of Interest in Natural Resource Use Conflicts

The hunters and farmers disclosed through FGDs that the stakeholders of the NRs that border Larabanga and Mole Park consist of Spiritual Authorities (God/Allah and ancestors), the Traditional and Modern Authority (Chief, elders, Community Gates and Assemblyman), Local Resource Users (farmers and hunters as well as other individuals in Larabanga who collect non-timber forest products like the shea fruits from the Mole Park), the State (the Mole Park Management and the Forestry Commission), Civil Society (NGOs) and others (tourists). The farmers and hunters further revealed that their major interest in NRs in the Park captures their ability to access NRs for daily sustenance through direct utilization of farm products, collected non-timber forest products and hunted game as well as the generation of income from the farm output and the game to finance other means of living, which include shelter, health, education of young dependents, soap, tea and social contributions. The farmers and hunters revealed through their respective FGDs that their interest in the NR in Mole Park is borne out of their right and existence in Larabanga guaranteed through allodia or usufruct rights for control and survival.

Revelations from the Chief of Larabanga in a KII depict that the Traditional Authority in Larabanga, which is led by him, forms a significant part of the NR stakeholders with allodia and custodian vested interests. The Chief of Larabanga in the KII disclosed the below narrative on the stake of the TA in NR;

“The Chiefs in all the former communities that were residing in the Mole Park served as the custodian of all NRs in the Park. We did that on behalf of the Yagbonwura who is the



overlord of the NR in the Gonjaland as stewards to Allah/God and our ancestors especially the first settler of Larabanga who resided around the current location of the Mystic Stone, south-west of Larabanga. The interest of the Skin and the Gate heads of Larabanga lie in our ability to secure and protect natural resources which we inherited from our forefathers for the present community survival and for future generation. So, our inability to protect the inherited natural resources for the current community including indigenes and migrants as well as the future exposes our weaknesses and lack of stewardship to Allah/God, our ancestors, the people in Larabanga and those to inherit us.” Chief, Larabanga, February, 2019.

The Park Manager in a KII revealed the interest of the Mole Park Management and tourists in the NRs in the Park and the fringed communities in the narrative stepwise;

“The major interest of the Park Management is ensuring that the conditions in the gazette which established the Park are enforced. It is basically towards conserving the Park to protect endangered species from extinction. Ecotourism and other conservation benefits like the ecosystem servicing are medium and long term benefits that accrue to the fringed communities and the state. Connected to ecotourism is the interest of tourists who visit the Park from local and international sources. The major interest of these tourists rests in the ability to satisfy their pleasure with a huge stock of endangered wildlife species that indirectly trickle down to affect Larabanga positively in many ways which include lodging in the hostels there, purchase of some food stock, artefacts and other services like transport and touring of the Mystic Stone and the Ancient Mosque.” Park Manager, Mole Park, February, 2019.



In the midpoint of the Mole Park Management and the community-based stakeholders like hunters, farmers, herbalist, the Chief and the Assemblyman is the civil society whose interest is to negotiate the local resource user communities and the Park Management to balance livelihood and conservation goals. A Community Liaison Officer in A Rocha Ghana shared the narrative below to suffice their interest in NRs as a stakeholder;

“Our first and foremost interest is towards sustaining God’s creation. This is done through education, sensitization and provision of technical, financial and advocacy assistance to the local communities around Mole Park who had been depending on the Park before their access were truncated. Sometimes, we provide training and livelihood support programmes to the fringed to divert direct overdependence on natural resources in order to diversify their livelihood opportunities and reduce the incidence of natural resource conflicts between the Park and the communities.” Community Liaison Officer, A Rocha Ghana, Damango, February, 2019.

Stakeholder Relationship and Overlapping Interest

The Chief, the Assemblyman, hunters and farmers in Larabanga as well as the Mole Park Manager, the Field Supervisor of FC to Larabanga and a Community Liaison Officer in A Rocha Ghana admitted the worrying resource use conflicts between the Mole Park Management and the fringed communities, especially Larabanga. Particularly, the hunters in their FGD placed emphasis on the bad blood between the Park Management, especially the Park Guards, and hunters who tread beyond Larabanga and other fringed communities’ boundary to hunt wildlife in the Park. The hunters further indicated that they are mostly

waiting confrontations between them and the officials of Mole Park, especially the Park Guards. They further revealed in the FGD that just being a hunter within the Mole environs becomes a recipe for confrontations with the Park Guards who are the operational enforcers of the restrictions on access to the Park. Moreover, the hunters disclosed that there are so many records depicting the conflicting relationship between them and the Park.

A Community Liaison Officer at A Rocha Ghana affirmed the recurrent conflict between Mole Park and Larabanga. She revealed that, although there are resource-based conflicts between the Park and the fringed communities including Larabanga, they have drastically reduced from how it was in the late 1990s and the early 2000s. In her opinion;

“The local resource users in the fringed communities and the Park have had series of clashes. It is almost recurring everyday but what come out are the serious ones that involve open confrontation or shootings especially with the hunter-Park Guard relationship. However, I must admit the shooting, killing and poaching cases have reduced from how they existed before the early 2000s. I believe people are getting the concept of the natural resource governance now.”

Community Liaison Officer, A Rocha Ghana, Damango, February, 2019.

Likewise, the Chief of Larabanga indicated that the conflicts between Larabanga and Mole have been in existence since the Park came into being in the 1970s when the enforcement of the conditions in the gazette that established the Park started curtailing the interests of the community members in NRs that have been the mainstay of the community survival. He disclosed as follows;

“It all depends on the parties of the issue. Between the hunters and the forest guards, it can end with a loss of life. I must admit that some of the hunters know the dangers in poaching the Park and fear those dangers so they avoid getting themselves in such trouble. I have spoken with them to avoid troubles with the Park since it can be life threatening. However, some decide to test the waters because they believe a successful hunt can be lucrative than being a coward. Most end up being arrested or being shot when they decide to run or shot at the Park Guard. I have had several complaints from the Park about the attitude of hunters in Larabanga and the hunters have also complained about the aggression the Park Guards meet them with even if they are not in the Park. These back and forth have been witnessed since the Park was gazetted.” Chief, Larabanga, February, 2019.

The Park Manager had this to say about the conflicting interests of resource users in Larabanga in the Mole Park;



“Definitely, the truncation of their right to access will generate conflict with the Park Management and the wildlife in one way or the other.” Park Manager, Mole Park, February, 2019.

Furthermore, the hunters and farmers in their respective FGDs disclosed that the nature of overlapping interests between them and the Park Management could assume any form from disagreement expressed in verbal exchanges to physical clashes that involve the use of sophisticated devices like guns, especially when it is between hunters and the Park Guards. The Field Supervisor of the FC to Larabanga revealed that the precarious nature of resource use conflicts in the Mole landscape is often mentioned as between hunters and the Mole Park Management, especially the Park Guards.

In a KII, the Field Supervisor of the FC to Larabanga disclosed his opinion on the nature of overlapping NR interest between the Park and Larabanga in the below narrative.

“The conflict exists but hunters and Park Guards have been affected most when it comes to loss of lives. There have been many instances where hunters have been shot for encroaching beyond the Larabanga boundary. Farmers have had their farms destroyed by wildlife without any pay back. Others too have had their farming activities halted by the Park because of the location. Some residents in Larabanga have also retaliated this by attacking and killing animals like elephants that miss their routes into the community. These relationships have changed into different forms and manifest in various rebuttals.” Field Supervisor, FC, Larabanga, February, 2019.

The Park Manager revealed that the nature of conflicting interests between the Park and the hunters from Larabanga sometimes lead to either a loss of life of the poaching hunter or the Park Guard securing the state’s interest as stipulated in the Legislative Instrument that established the Park. He shared his opinion in the below narrative;



“The records are there. Many instances of the clashes have been recorded. Larabanga community dominates the number of occurrences. This could be as a result of their population because it remains the biggest fringed community in terms of population. Sometimes, we lose a staff or some get injured in guarding the Park against poachers. In some instances, some of the community members also get injured or die. These are cases we do not want to be witnessing here.” Park Manager, Mole Park, February, 2019.

A Community Liaison Officer of A Rocha Ghana disclosed in a KII the narration stepwise on the conflicting relationship between the interests of the Mole Park and the fringed communities, especially Larabanga;

“The nature of resource use conflicts between the resource users in Larabanga and the Park can turn very delicate at times. Interestingly, the conflict between the Park and the resource users in Larabanga as well as the other fringed communities could sprout at any moment when they are not even expected. The effects of the resource use conflicts especially the Hunter-Park Guard relationships affect both the Park and the community. Another trend of the resource related conflict in the fringed communities and the Park is how the wildlife-community conflicts keep affecting endangered species population as a result of the community retaliating crop raiding which is not compensated by the Park. Since we came here in the early 2000s, we have witnessed at least three elephants been shot to death in Larabanga alone. However, the incidences of physical clashes between the communities and the Park Guards that result to deaths and severe injuries through shooting and other forms of weapons have been minimized as against how they existed before the year 2000.”

A Community Liaison Officer, A Rocha Ghana, Damango, February, 2019.

In a similar vein, the Assemblyman of Larabanga in a KII session shared how the Park Management mostly coerces resource users and other resource stakeholders in Larabanga to accept decisions about NR management that affect their livelihoods and entitlement within the vicinity. He revealed this narrative;



“There have been many instances I had to go to the Park to release confiscated farming and hunting tools. There are so many times. Although we are in the second month of the year, I remember I have been to the Park more than twice on natural resource related conflicts. As I told you earlier, I am waiting for the Yagbonwura to invite us for discussion on the portion of the community’s farming land that the Park has constantly prevented us from using but are suggesting we use it for CREMA”. Assemblyman, Larabanga, February, 2019.

4.2.4 The Factors that Account for Natural Resource-based Conflicts

Access, Ownership and Control

The farmers and hunters in their respective FGDs revealed that access to natural resources is a major source of contention between the local resource dependents like them and the Mole Park Management. Particularly, unlike farmers, the hunters disclosed in their FGD that they do not necessarily see ownership of NR as a major source of contention between them and the Park since they do not need to own a forest before hunting. However, they indicated that their interest in NR is just access to hunt. The hunters, farmers, Chief, Assemblyman, the Mole Park Manager, a Community Liaison Officer of A Rocha Ghana and the Field Supervisor of the FC to Larabanga in FGDs and KIIs disclosed their perspectives on the challenges of access and ownership of natural resources in two different angles.

The hunters and farmers in their respective FGDs disclosed that the first challenge of NR access and ownership is embedded in ‘imaginary ownership of NR without access’ for use by the former residents of the Park in Larabanga whose livelihoods were sourced from the NR in the Park. The farmers and hunters further revealed that the imaginary ownership of NR without access captures areas that were formerly opened to the fringed communities of the Park but prohibited through the Legislative Instrument (LI 710), which clearly prohibits access of the Mole Park for exploitation of any resource within the boundaries of the Park. In an FGD with farmers in Larabanga, they revealed that they still presume the part of the Park



they were dwelling and farming still belongs to them, hence, the imaginary feeling of ownership of the resources in the Park as before the area was gazette. The farmers and hunters further disclosed that they assume the resources in the Park as immediate and convenient source of livelihood for them and their families' survival especially as the offreserve NR are near extinction.

A KII discussion with the Chief of Larabanga brought out the below narrative in response to the challenges of access and ownership of natural resources in their former habitat;

"You cannot enter the forest to farm or hunt or do anything to the natural resources in the Mole Park. You have to do everything on permission if it has to do with Mole Park. Before we were denied from accessing the Park, the hunters in Larabanga and the other closer communities like Mognori and Murugu sometimes come together to hunt in the Park and share the proceeds with the Chiefs and other leaders in the communities. Even when they wanted to start the Park, they still allowed us to hunt and share the proceeds until after sometime when they totally prevented us. Now, even in the event that a community member gets missing, you have to seek the consent of the Park Management before you are assigned a delegation from the Park to join you in your search within the Park. That was not how it started. In the beginning, we were the owners and we could have access to everything in the forest including the herbs, fruits, fishes, water, crops and animals. There are still some shrines and remains of our forefathers, which are within the Park that cannot be accessed. One consideration the community has is entering the Park through the gate. If a community member wishes to watch the animals, they are not charged any entrance fees like visitors."

Chief, Larabanga, February, 2019.

In a KII with a herbalist in Larabanga, he narrated the below in relation to the access and ownership related conflicts of the NR in the Mole Park;



“Sometimes, you need an ordinary herb for the treatment of a disease but you cannot access the reserve. If it becomes urgent, you have to poach the Park because you cannot just go to the Park Management to inform them that you want a mere branch, leaves or root of a tree or plant to heal a disease which may require swiftness.” Herbalist, Larabanga, February, 2019.

The Park Manager in a KII disclosed that the conditions of the gazette that established the Park limit access to NR exploitation for all persons including the fringed communities which depended on the Park, hence, the major source of NR use conflict between the Park Management and the fringed communities. The Park Manager in the KII revealed the following;

“The Park was established by a Legislative Instrument, LI 710. Institutions that are established by legislative instruments have ‘dos’ and ‘don’ts’. The first ‘don’t’ here is prohibition to access of the Park through any other point except the gate. If you are found in the Park without passing through that gate, you have broken one of the rules. You can be arrested and prosecuted. Two, there is no exploitation whatsoever in the park. So anyone caught doing exploitation as in picking fruits, hunting animals, fishing, fetching thatch or any other resource has broken the rules and will face the sanctions. The Park is not fenced so from time to time, the animals also go out to walk through the farms and fields within the communities which destroy their farms and others. Like I said, once upon a time the Mole landscape or the bigger Mole picture was the habitation of the people before it became a National Park. They were fetching all the resources here including the thatch, rafters, fish, animals, shea fruits, dawadawa as well as farming here but they can no more access these resources because of the dictates of LI 710 and this has been resisted by the people in various ways including breaching the dictates of the Instrument. On ownership, the people still believe they own the place so they find access denial a breach of their freedom to exploit what belongs to them.” Park Manager, Mole Park, February, 2019.



In a similar line, a Community Liaison Officer in A Rocha Ghana expressed the below narrative in relation to the access and ownership related NR conflicts in Larabanga and the Mole Park:

“Some of the communities around the Mole Park were living within the Park. Some were relocated whilst others had their lands annexed. As a result, vast of their farmlands were annexed with limited space for farming whilst also losing their original environment (shrines, worship centres, tombs, medicinal trees etc) which was their major means of survival. So, I can say that the community has access to the natural resources outside the Mole Park but not within the Park. On ownership, the community lost their ownership and control of natural resources with the gazette of the Park around the 1970s. There were instances where some of the communities within the Park were forced out of their will to settle outside the boundaries of the Park. Those who accepted the Park existence without being forced out also started complaining that they were made to believe the Park will be beneficial but their accounts of the Park’s existence have been the denial of certain rights they exerted on the Park earlier with no direct benefits. These have been the basis of the conflict between the communities and the Mole Park Management. So, whichever situation leads to a particular conflict between the Park and Larabanga is rooted in the right of ownership the community thinks it was robbed off on their land.” Community Liaison Officer, A Rocha Ghana, Damango, February, 2019.



Secondly, the farmers in their FGDs revealed that the other side of the access and ownership related conflict captures ‘ownership with restricted access’. They disclosed in their FGD that this factor of NR related conflict is connected to the area within the jurisdiction of Larabanga community where the community has entitlement of ownership of the land and its natural resources but resource users in Larabanga have been curtailed from use for farming, habitation and other activities. The Assemblyman of Larabanga in a KII revealed that this is a major factor of access related conflict between the Park Management and farmers especially

farmers who support their lives from that parcel of Land. He expressed his opinion in that regard as below;

“As we are speaking now, I even have a problem with the Park Management. This is because the community is prevented from building, farming or doing any other activity around the curve towards the entrance of the park that falls outside the boundary of the Park. We have sent it to the Yagbonwura’s Palace and the case is still pending. How can the farmers there accept this situation whilst they are already displeased with the denial of the right to access the Mole Park for their livelihood activities? Although the Park has made a proposal to use that portion of the community as a CREMA but we cannot have trust in this system due to how our hopes in the Mole Park before its gazette were not realized.”
Assemblyman, Larabanga, February, 2019.

The Chief of Larabanga expressed the below in response to the portion of the Larabanga boundary that the Park Management restricts use;

“There is a vast land under government control. We are not the only community suffering from the denial of access to the Mole Park. All the other communities are having the similar issues with access to the Park. However, there is a particular portion of the community land which is still prohibited to farming. I remember some time ago, some farmers from Larabanga decided to farm on that parcel of land. Their crops were destroyed. We know the boundary of the Mole Park because a teak plantation has been used to divide the boundary between Larabanga and the Park. This is an area of concern to Larabanga so I have asked the Assemblyman to follow up at the Mole Park.” Chief, Larabanga, February, 2019.

The Park Manager revealed the below narration in relation to the portion of Larabanga boundary that access to the NRs especially land for farming and other activities are discouraged by the Park;



“The nature of the close proximity of that portion of Larabanga boundary to the Park makes activities like farming at the place susceptible to raiding by the wildlife from the Park. As a strategy by the Park to avoid losses of cultivated crops and livestock in the community to raiding, the Park does not permit the use of a particular interval between the Park and Larabanga boundary by the community residents. The Park has consulted Larabanga leaders to support the Park to initiate a CREMA at that place to serve as a buffer for the Park whilst the community enjoys the benefits of the CREMA. We are yet to get their support in the CREMA proposal.” Park Manager, Mole Park, February, 2019.

Centralised Resource Management

The hunter, farmers, the Assemblyman and the Chief of Larabanga as well as the Mole Park Manager, the Field Supervisor of FC to Larabanga and a Community Liaison Officer in A Rocha Ghana in their respective FGDs and KIIs revealed that the centralized management of NR and the enforcement of the Legislative Instrument that establishes the Park is one of the core causes of conflicts emanating from natural resource use in the area.

Further interrogation with hunters and farmers in Larabanga revealed that the Government (Mole Park Management) has assumed total authority and control of the natural resources they could earlier access with some level of autonomy for their survival. The Field Supervisor of FC to Larabanga expressed the below in relation to the centralized NRM;

“The community has lost a lot of land to the government in the name of the Park which is being protested by the community leaders and the resource users in Larabanga.” Field Supervisor of FC to Larabanga, Damango, February, 2019.

The Chief of Larabanga in a KII revealed the narrative stepwise with respect to the centralized NRM as a factor of NR use conflict;

“Before the Park was gazetted, there were few cases of farming land disputes that occurred among the community members which were mostly resolved by the traditional leaders, Imams or Gates Head based on the magnitude of the dispute. However, the form of agitation on NR use, access and ownership that could result to firing of guns and loss of lives as being witnessed around the Park after the gazette was not witnessed in the previous years.” Chief, Larabanga, February, 2019.

Furthermore, the Park Manager revealed the narrative stepwise to suffice the centralized NRM as a factor to the resource use conflict;

“The top-down nature of the Park Management has been a major source of conflict between the Park and the communities around the Park. Except some form of deliberately led collaborative strategy to balance the Park and the communities’ interest, I must admit that the surest way to ensure sound environmental conservation is the centralized management of the NR because there is no assurance of resource sustainability if you look at the manner in which the off-reserve NRs are near extinction.” Park Manager, Mole Park, February, 2019.



Figure 4.8: Central/ Mole National Park

Source: Fieldwork, Mole Park, February, 2019.

Compensation, Raiding, Resource Scarcity and NRM

The other factors of NR use conflict disclosed by the farmers and the hunters in their respective FGDs covered issues around lack of compensation for raiding and resource scarcity caused by the depletion of resources NR outside the Park. The Park Manager disclosed the narrative below in connection to the depletion of NR off-reserve and the pressure to exploit the NR within the Park;

“The constant depletion of resources outside the Park through unsustainable extraction by the communities for survival and the illegal commercial harvesting of Rosewood and other timber products make the communities view the Park as an Island of resources that need to be extracted”. Park Manager, Mole Park, February, 2019.

Particularly, the farmers revealed that the lack of compensation from the Park Management for crop and livestock raiding by wildlife has been another factor related to resource users' conflicts between farmers in Larabanga and the Management of the Mole Park. The farmers further disclosed that elephants and desert monkeys, for instance, can ransack many acres of cultivated yam tubers and groundnuts in just a night due to the unfenced nature of the Park. It was further revealed by the farmers that the act of crop raiding by the wildlife put the already susceptible lives of the farmers and their households into desperate conditions for survival.

Further discussions with the farmers brought to the fore that, except the farmers who have adequate support from their social groups, other family and community members from Larabanga and elsewhere, survival of a raided farmer's family becomes difficult throughout the year, which motivate frustration against endangered wildlife like the elephant. To compensate the loss through crop raiding and other losses to the community livelihoods because of the Park existence, the farmers disclosed that some elephants that trespass the Park boundary to Larabanga on some occasions have been fired at to avenge the loss of raiding and a means to secure their investment in their farm from another raiding incidence.



Again, the farmers and hunters indicated that the incidence of firing at the wildlife like elephants that trespass into Larabanga would not have occurred if there were arrangements to compensate farmers and households who farm within the Larabanga but have lost their annual source of sustenance through crop raiding by animals that do not benefit their livelihoods directly.



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Figure 4.9: Unrestricted Journey of Elephants in the Mole Park

Source: Fieldwork, Mole National Park, February, 2019.

Furthermore, the farmers and hunters revealed that managerial inefficiencies that manifested in limited direct benefits like social amenities from the Park proceeds; poor communication network between the Park, the resource users and the community leadership; lack of trust in the Park Management; the absence of coordination and cordial relationship between the Park and the former dependents of the Park on the management of the natural resources in the Park and off-reserve; the history of violence like the incidence of shooting between the Park Guards and hunters from the Larabanga and their neighbouring communities; and the

inadequate knowledge and underutilization of the existing collaborative conflict resolution unit like the PAMAU by the aggrieved resource users in Larabanga and the Park to resolve grievances emanating from resource use. The Chief of Larabanga in a KII revealed his perspective on the reaction by some resource dependents in Larabanga in response to the lack of compensation for crop raiding by the wildlife from the Park;

“.... if farmers and livestock owners are not compensated for crop and livestock raiding by the wildlife, they will always hold grudges with the Park Management and avenge it by firing animals that find their way into the Larabanga’s boundary. It is not as if I or any elder will encourage killing of animals like elephants but sometimes, we only wake up to hear an elephant is shot because they were approaching the community.” Chief, Larabanga, February, 2019.

The Park Manager shared the below in relation to compensation and NR use conflict;

“The human-wildlife conflict is where the animals enter the community to destroy their farm produce. To make this situation of conflict worse, there is a policy of the Government of Ghana which does not allow Government to take responsibility for wildlife destruction of properties that include cultivated crops. That is, Ghana government does not pay compensation for the actions of wildlife that affects human beings. So, if you have an acre of rice, yam or whatever which is destroyed by wildlife, the Government has issued a disclaimer for responsibility. It is the responsibility of people to protect their properties. The Government has taken such position on compensation because individuals must act in such ways that protect themselves and their properties. For instance, the communities are aware of the existence of wildlife like monkeys and elephants in the Park that their communities share boundaries with. The monkeys eat crops five metres away from the Park so as the elephants. As such, it is the responsibility of the people to cultivate metres away beyond the possible reach of the animals from the Park to avoid that situation of losing their crops.” Park Manager, Mole Park, February, 2019.



In a KII with the Assemblyman of Larabanga, issues that centred on trust and the history behind the annex of the Park were raised as factors that degenerated resource use conflicts between the Park and Larabanga. He narrated the below;

“The Park Management has discussed the idea to start a CREMA here but we are not ready for the CREMA because the Park has not been truthful to us. They initially used the same means to acquire a vast portion of our land and that of our neighbours to form the Park. If the Park has been transparent in its activities, we could believe their intentions with the CREMA.” Assemblyman, Larabanga, February, 2019.

The Mole Park Manager in a KII shared similar reflections as in the narrative stepwise on the history behind the absence of trust between the Park and the fringed communities including Larabanga;

“The people lack trust in the Park Management. The biggest challenge in this whole Park-Communities conflict is the history behind the Park. The advantages of the coming Park were hammered with a little emphasis on the challenges to the people who relied on the Park. So, the coming of the Park has been far below their expectation coupled with the denial of access to the NR on the Park. This has led to antagonism of the Park Management by the former dependents of the NR in the Park.” Park Manager, Mole Park, February, 2019.

4.2.5 Multi-stakeholder Collaboration and Sustainable Natural Resource Management

Stakeholders Perspectives of Sustainable Natural Resources Management Strategies

The farmers and hunters in their FGDs disclosed that the areas that were critical in surging multi-stakeholder collaboration platforms for Natural Resource Management included a fair share of income generated in the Park through investment in sponsorship packages for children in the fringed communities like Larabanga; creation of a welfare fund for the fringed communities; all-inclusive design and implementation of sustainable alternative livelihood



support strategies to substitute dependence on NR; improved managerial strategies that encompass effective communication; trust building among the resource stakeholders; neutral external facilitation of the deteriorated trust building processes between the Larabanga and the current Park Management; expansion of the local content in the Park Management through training and employment of the fringed communities youth; empowerment of the fringed communities through education on the benefits of the long term sustenance of the Park; introduction of community specific compensation strategies for farmers whose crops are raided; and building trust in the CREMA concept.

The Park Manager in KII revealed the narrative below on his perspective of sustainable NRM strategies towards averting resource use conflicts and degradation of the Park stock of NR;

“The Park has come to stay. The people must also exist. What is clear is that, the Park and the communities have to find ways of coexisting. There must be positive engagement strategies for the two parties to exist peacefully.” Park Manager, Mole Park, February, 2019.

Furthermore, the Field Supervisor of FC to Larabanga shared the narrative below in a KII on

his perspective on the sustainable management of the Mole Park;

“Although there is not much involvement of the community in the Park management, the authorities sometimes involve the community through education. They come here to educate the community on the benefits the community stands to gain if the forest is reserved over a long period of time. They also educate the community on how to avoid bush burning and other activities that are not good for the reserve. This is done in open forum. Last year, they collaborated with the Forestry, Agriculture Department of the Municipal Assembly and a Non- Governmental Organisation (NGO) to educate the community on how to manage the land outside the Park to improve yields. Again, the Yazuri gate is mostly engaged by the Mole management as community informants to police those who poach the Park from Larabanga.



This is because the Yazuri Gate has for a long time decided not to enter the forest from unapproved routes and has strictly warned its members from doing that. So, that Yazuri Gate in Larabanga can be used in encouraging other facets of the community to collaboratively manage the Park.” Field Supervisor of FC to Larabanga, Damango, February, 2019.

In a KII with the Assemblyman of Larabanga, the issues in the below narrative disclosed his perspective on the sustainable management of the Park.

“.....I think when community committees are created to join the Mole in managing the Park in terms of decision making and other activities; it will help the community members to understand the issues regarding future benefits well. I also believe the education and sensitization of the community about the importance of the park will help make the community understand what they stand to lose and gain with the Park existence. Compensation for farmers should also be given a serious attention since it is a major problem in this community. If our youth is also employed to work at the park, it will help some of these misunderstandings to stop. For example, if a hunter’s son is employed, he will not go there to hunt again because they know the existence of the park is benefiting them and it is because of the animals so they will not hunt them.” Assemblyman, Larabanga, February, 2019.



In addition, a Community Liaison Officer of A Rocha Ghana expressed the below perspectives on the strategies to sustainable management of the NR in Mole Park devoid of conflicts and degradation;

“Lack of knowledge about the real benefits and effects of having a Park around a community is the major cause. The people did not understand that the nature of benefits they stand to gain from the park is not direct and often long term to be realized. They also did not understand the exact side effects they had to contend with the parks existence. In all, I can link all these things to their livelihoods. If they have sustainable livelihood options, I do not

think we would have wasted time discussing resource use conflicts here.” Community Liaison Officer, A Rocha Ghana, Damango, February, 2019.

Multi-Stakeholder Collaboration and Sustainable Natural Resource Use Management in the Mole Park

The hunters and farmers in Larabanga through their respective FGDs revealed in that a form of collective partnership that involves all the major stakeholders of NR which include the fringed communities and their leaders, the current structure of the Mole Park Management as well as civil society organisations is critical to sustainably manage the natural resources in the Mole Park. Furthermore, the farmers and the hunters in their respective FGDs disclosed that they do not have any knowledge on an existing collaborative NR management or collaborative NR use conflict management strategy between the Mole Park and Larabanga. The Assemblyman of Larabanga in a KII on the nature of existing collaborative NR management scheme between Larabanga and the Park disclosed the below;

“There is nothing formal or informal arrangement as the CREMA being practiced in Mognori-Murungu. I have been in this position for almost eight years but there has not been any situation where we have been engaged by the management of Mole on how to sustainably manage the Park for collective benefits.” Assemblyman, Larabanga, February, 2019.

The Mole Park Manager indicated that although collaboration is the path to the natural resource management, the fringed communities including Larabanga lack the patience for the returns of the co-management initiatives. He revealed the narrative stepwise,

“The CREMA is demand-driven from the communities so the Park has not been fully implemented it across the fringed communities except the communities that have agreed to the implementation of the CREMA. In all, only three communities in all the fringed communities have an existing CREMA out of the five that started. The minimal use of the CREMA by the communities is



because of the lack of trust in the Park Management by the communities. In principle, the CREMA has a lot of benefits but it requires a lot of patience and expertise to effectively operate. The concept will serve as a buffer for the park whilst giving the community external investment, premium price for products like shea fruits and dawadawa as well as providing sustainable livelihood activities like bee keeping and ecotourism for the local communities". Park Manager, Mole Park, February, 2019.

The farmers and hunters in Larabanga through the respective FGDs revealed that the inefficiencies in the centralized nature of natural resource management are the cause of the conflicting relationship between the Park and the direct NR dependents in Larabanga. The Assemblyman of Larabanga shared the narrative below in relation to multi-stakeholders' collaboration and sustainable NRM of the Mole Park;

".....when the community leaders and the resource user groups are engaged, no matter how uneducated we may be, we can be able to bring some ideas that can help prevent the conflicts between the Park workers and Larabanga. If the Mole Management could achieve any good results with force, I believe people will not still be going to the Park for its resources." Assemblyman, Larabanga, February, 2019.

The Mole Park Manager also disclosed the response stepwise on multi-stakeholders' collaboration and sustainable NRM of the Mole Park;

"The PAMAU for instance has been a platform for stakeholders' engagement. Any stakeholder can initiate the engagement for us to jaw-jaw about the best strategies for the Park and the communities to benefit well from each other in sustainable ways." Park Manager, Mole Park, February, 2019.



The Field Supervisor of FC to Larabanga set forth the narrative below on the prospects multi-stakeholders' pose in averting the conflicting situations between Mole and the other fringed communities, especially Larabanga;

“If the Management of the Park is in good communication with the community, providing the community with some direct benefits and respecting the fringed communities as former residents of the Park with history and existence attached to the Park, I believe some of the unnecessary banter and shootings would not have ever happened or they would have been reduced.” Field Supervisor, Larabanga, February, 2019.

In addition, the perspectives of the Mole Park Manager, the Community Liaison Officer of A Rocha Ghana, the Field Supervisor of FC to Larabanga, the Chief and Assemblyman of Larabanga as well as the hunters, farmers and other gatherers of NR from Larabanga indicated that the concepts that are needed to guide a the multi-stakeholder resource management strategy between Mole Management and the resource users in Larabanga have to capture the resource system, which includes the resource units from where the two opposing goals (conservation and livelihood) of the major resource stakeholders are derived.

By extension, they indicated that an interface of communication, trust building, local and external knowledge exchange as well as balanced power negotiation is critical for harmonizing the competition and conflicting nature of the major resource stakeholders in Mole Park to real collective action (Ostrom, 2009; Cox et al., 2010). The concepts captured through the KIIs and FGDs with the Mole Park Manager, the Community Liaison Officer of A Rocha Ghana, the Field Supervisor of FC to Larabanga, the Chief and Assemblyman of Larabanga as well as the hunters and farmers were used to construct the multi-stakeholders' platform below (Figure 4.10).



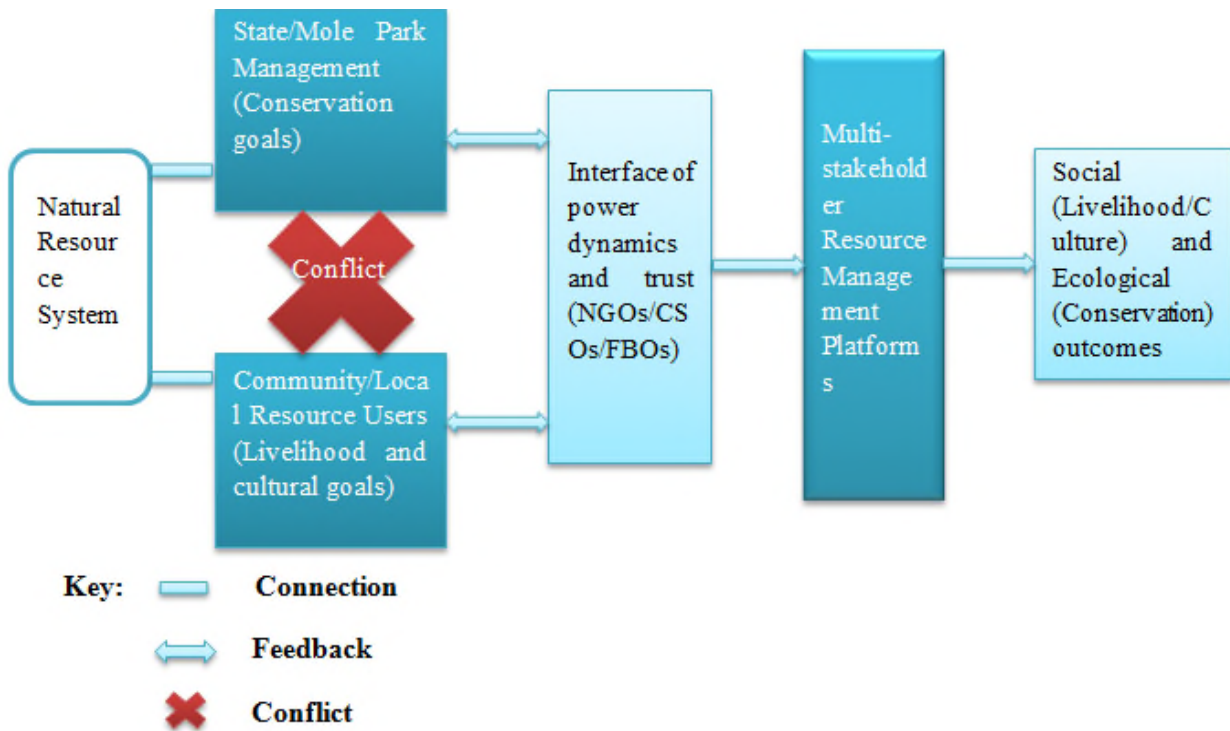


Figure 4.10: Multi-Stakeholder Platform

Source: Researcher’s Construct.

4.3 Discussion of Results

The revelations on the nature and history of local resource user groups like farmer and hunter groups in Larabanga indicate that they sprout on a demand driven basis and are bonded by social capital and collective interests towards livelihood enhancement. In addition, the existence of a cordial relationship among demand driven community groups based on common interest in natural resources support the argument of Roe et al. (2009), which indicates that cordial relationship among demand driven resource user groups offer an incentive to initiate and sustain long term collective natural resource management actions for collective benefits. A reflection from the position of CPR scholars like Folke et al. (2005), Ostrom and Poteete (2004), Ostrom (2002) and Blomquist (1992) on social capital juxtaposes that the existence of social capital among resource dependent groups serve as an important precondition for tailoring collective actions that render sustainable



natural resource management outcomes. In addition, the leadership scenario among the local resource users is in agreement with Folke et al. (2005) who argued that the recognition of leadership among resource user groups serves as a good medium towards forging sustainable actions as it assures trust building, conflict resolution and mobilization of strong support to transcend conflicting relationship between the multiple resource stakeholders. The results on the local resource user groups operation and survival strategies in Larabanga indicate that without negotiations for collective resource management, the group hunting strategy poses a risk to the sustainable use of natural resources, which will eventually transcend the resource base to the 'tragedy of the common' as argued by Hardin (1968). In addition, the existence of cost sharing character among the farmers and hunters in contributing to the loss of their group members as well as paying back defaulted sharing of group hunting proceeds support the views of CPR scholars like Cox et al. (2010), Ostrom (2007; 1990), Ostrom and Poteete (2004) and Agrawal (2001) on the cost sharing nature of CPR members and collective sustainable NR management. However, Roe et al. (2009), Ostrom and Poteete (2004), Turner (2004) and Ostrom (1990) have argued that abalance of the cost-benefit in a CPR is important in assessing the motivation of local resource users in accepting the opportunity cost of collective resource management, which include the selling of hunting prestige and gathering rights for some time as local contributions in sharing the cost of collective NRM in a CPR situation like Mole Park. On the nature of internal conflict resolution raised in the FGD with hunters, Ostrom (1990) proposed in the sixth Design Principle (fast and fair conflict resolution, DP6) that effective and swift conflict resolution among local resource users present a better pre-condition that characterizes a group that can manage a common resource sustainably.

The Chief of Larabanga's considerations of NR for worship and the use of dried wildlife skin to depict traditional authority consolidate Roe et al. (2009) and Benda-Beckmann's

(1981) reflections of NR being constructed in the face of spiritual, intrinsic values, traditional norms, and (or) religious beliefs. The findings on stakeholders and their perceptions of NRs indicate that natural resources, especially renewable NRs like trees, timber and non-timber forest products, land and wildlife are important to the livelihoods of local resource users and their households in Larabanga. This revelation is in consonance with many researchers (Robinson, 2016; Nunan, 2016; UNEP, 2012; Maranga et al., 2010; Roe et al., 2009; World Bank, 2006; Appiah, 2002; Sjöholm & Luono, 2002; Shackleton & Campbell, 2001; Brander & Taylor, 1998; Homer-Dixon & Blitt, 1998) who argue that renewable NR is important to the livelihoods of local resource dependents like farmers, hunters and other gatherers of thatch, fruits and other non-timber forest products for survival. Furthermore, the Park Manager's revelation on the economic sustenance and environmental benefits of NRs such as honey making business and ecosystem servicing supports the perspectives of researchers (Robinson, 2016; Roe et al., 2009; Thompson et al., 2009; World Bank, 2006; WRI, 2005; Starkey, 2004; Sunderlin & Gorospe, 1997) who perceive NRs as important to the economic sustenance and environmental repairs of adjoining communities to a forest. In support of the findings of Robinson (2016), Ibarra et al. (2011) and Roe et al. (2009) on the importance of NRs elsewhere, the farmers and hunters indicated that NRs support their nutrition and shelter. Also, the herbalist of Larabanga's revelation on the reliance on NRs like herbs and roots for medicinal purposes agrees with Andel et al. (2012) and FAO (2005) position on the positive relationship between NR and rural health and recreation. However, the unregulated harvesting of herbs, stems and roots by herbalists and other users of herbs for medicinal purposes in the Mole Park possesses a threat to the ecological sustenance and conservation of endangered plant species, which will eventually lead to the assumptions of Hardin (1968) on the tragedy of the resource base. Furthermore, the revelations from the Chief of Larabanga on the



community livelihood strategies that rely on NR support the conclusions of studies conducted by FC (2016), Nunan (2015), Ayivor et al. (2013), Appiah (2002), Sjöholm and Luono (2002) and Shackleton and Campbell (2001), which connected NR to livelihood strategies in Larabanga and most rural communities in Ghana and elsewhere. The relationship between NR, livelihood activities and livelihood outcomes conform to the findings of Robinson (2016), Oduro-Ofori et al. (2015), Appiah (2002) and Cavendish (2000) on the dependent relationship between NR and livelihood outcomes in Ghana and elsewhere. In addition, the narratives of the Mole Park Manager, the Field Supervisor of the FC and the Community Liaison Officer of A Rocha Ghana on the alternative livelihood strategies in Larabanga support the position of Robinson (2016) and Roe et al. (2009) who have argued that the presence of deliberately structured alternative livelihood strategies for people who hitherto depended on natural resources from a Park serves as a social and economic incentive for protection of NR since the opportunity cost incurred through relegating life on NR is compensated by the benefits of the alternative livelihood strategies.



The revelations of the farmers and hunters through their respective FGDs on their interest in the NRs in the Mole Park, borne out of allodia or usufruct rights due to their ancestry in Larabanga support the findings of Amanor (2002) in a similar study on stakeholders' interest in protected areas elsewhere in Ghana. Furthermore, the revelation of the Larabanga Chief on the interest of the TA of Larabanga in NR situates findings of Shanunu (2012) on the relationship between NR and dynamics of traditional authority in the West Gonja District. Moreover, the perspective of the Chief on the connection of NR ownership and stewardship to Allah/God and their ancestors correspond with Kuba and Lentz (2006) insights on the spiritual claims and entitlements that relate local perception on NR and the dynamics of their management. Moreover, the narrative of the Chief on the

interest of the TA on NR offers insight into the dynamics of aggression, covert and overt antagonism by local stakeholders of NR, which sometimes result in conflicts and their perennial nature against efforts from the Mole Park Management that delimit access and ownership to NR by farmers, hunters and other dependents on NR for daily sustenance. With the history of the people once living and depending on resources in the area combined with the unfenced nature of the Park, fringed communities including Larabanga are attracted to poaching resources from the Park to support their livelihoods (community interest) as against the conditions of the gazette, LI 710 (Park interest) that established the Park. These revelations on the conflicting interests on the NR confirm similar findings of Abukari and Mwalyosi (2018), Soliku and Schraml (2018), FC (2016), Balangtaa (2015), Oduro-Ofori (2015), Bosu (2011) and A Rocha Ghana (2008) between the Mole Park and the fringed communities as well as elsewhere in Ghana and Africa. In addition, the interest of the TA in NR and the resultant resource use conflict confirms the position of Caselli et al. (2014), Alao (2011) and Eguavoen and Wolfram (2010) that link the transfer of authority on natural resources from traditional authorities to modern political authorities as a recipe for conflicts in many resource dependent communities because losing rights in NR like land and its resources means the TA failed in their roles as custodians and temporal stewards of NR to the past and present generations. Although Hardin (1968) has argued that tragedies only befall resources without state and private management, the recurring conflicts between Larabanga and the Park Management reflect social tragedies that have come along with centralized management of NR. The revelations on the NR use conflict between the Mole Park Management and former residents of the Park due to the rival interests between conservation and NR based livelihood activities consolidate the findings of Abukari and Mwalyosi (2018), UNEP (2012) and FAO (2010) on the relationship



between the denial of rural poor resource dependents' access to NR and the conflict with resource management authorities.

The dynamics of resource access, ownership and control in Mole and Larabanga as sources of resource use conflicts as disclosed in the KII with the Park Manager and the Community Liaison Officer of A Rocha Ghana are inherent in the inability of local resource users to access renewable natural resources like wildlife, fish, fruits, thatch, firewood and farming land to support their livelihood without which trigger unhealthy competition and agitation between the local resource users and the central resource management or enforcement authority. These findings confirm the findings of UNEP (2015), which revealed that the major underlying factor of NR use conflict is connected to access of NR for daily survival by people who deem NR as a lifeline. The findings also agree with the dynamics of the access theory which connect resource conflicts to the interplay among access gain, control and maintenance either through right based mechanisms or illicit means (Ribot and Peluso, 2003). Furthermore, the revelation by the Chief of Larabanga and the Park Manager on the use of unapproved access routes by nearby communities to poach from the NRs in the Park suffice the argument of the illegal

access mechanism highlighted by Ribot and Peluso (2003) in the Access Theory. The unfenced nature of the Mole Park and the persistence of poaching from the nearby communities like Larabanga confirm the argument of Roe et al. (2009) on the incidence of access related conflicts on NR in unfenced parks elsewhere. Again, the circumstance of the Park's interest to create a buffer within the already aligned NR stock of Larabanga reflects the resource capture trend by powerful authorities like the state, which causes resource scarcity and the conflicts therefrom. Therefore, it confirms the theoretical assumptions of the Environmental Scarcity Theory by Homer-Dixon (1994), which anticipate resource access related conflict as a consequence of resource scarcity created through resource



capture by authorities in whom the decision of resource management lies. In addition, the perspectives of hunters and farmers on the challenges in supporting their livelihoods and that of their households and dependents as a result of the denial of access and ownership to NR in the Park, which they formerly depended, situate the findings of Robinson (2014) who argued that most NR dependent households continue to face transition and long term challenges when conservation goals truncate access to NR that supported their survival. The relationship between renewable NRs and local livelihoods supports the position of Ntuli and Muchapondwa (2018) and Alao (2011) on the reciprocal relationship between renewable NR access, poverty eradication and conflict reduction. Moreover, the revelation of the Park Manager on the centralized NRM being the surest means of conserving NR due to the depleted NR off the reserve surfaces the argument of Hardin (1968) on the means to reverse tragedy of the commons through excludability of access to NR by the state or private institutions. The revelations by the farmers, hunters, the Chief of Larabanga and the Field Supervisor of FC to Larabanga indicate that the centralized management of the NR in the Mole Park has been identified as one of the core causes of resource use conflicts, confirming the vast body of literature in natural resource use conflicts (Robinson, 2016; UNEP, 2015; Bonye, 2011; Eguavoen & Laube, 2010; Roe et al., 2009; Nkonya et al., 2008; Ostrom, 1990). They consolidate Saunders (2011) and Roe et al. (2009) who have argued that devolving the power dynamics of centralized NRM are significant in negotiating the inherent conflicts associated with resource use and ownership. Furthermore, the findings on the lack of compensation for crop and livestock raiding support the position of Roe et al. (2009), Shyamsundar et al. (2005), Klooster (2000) and Lahm (1996) who have argued that the essence of compensation strategies by resource management institutions to former local right holders to NR decrease the



opportunity costs of conservation (livelihood vulnerability, crop and livestock raiding), which result in conflicts.

The watchdog role of the Yazuri Gate to the Park against poachers from Larabanga mirrors the character of resource users in the Southern California cases that featured in the seminal work of Ostrom (1990) and the CAMPFIRE scenario in Zimbabwe (Roe et al., 2009). Although the Assemblyman and Chief of the Larabanga are aware of the PAMAU strategy of the Collaborative Wildlife Management Policy (CWMP) by the Forestry Commission, the local resource users like farmers and hunters displayed minimal knowledge of the strategy as a means to resolve conflicts pertaining to resource use. For instance, farmers whose crops have been raided by wildlife without receiving compensation from the Park Management did not refer the PAMAU as an alternative strategy to address their preferred avenging actions on charismatic wildlife like elephants to appease their loss, thereby posing a threat to conservation and a cordial relationship between the Park and community. This supports the findings of Lahm (1996) and Roe et al. (2009) on vengeance for crop raiding against charismatic wildlife like elephants by aggrieved indigenous persons elsewhere in Africa. Furthermore, the lack of trust between the Park Management and Larabanga community, especially on the ownership and management dynamics of the CREMA, as the Assemblyman of Larabanga disclosed in a KII, reflect Somanathan et al. (2009) position on the inefficiencies in the social (local livelihood) and ecological (conservation) sequence as products of management's ineffective actions and inactions, which result in the absence of trust for collective management. By extension, they give insight into the interplay of socio-ecological systems, which sustain effective NR management (Cox, 2010; Ostrom, 2009). Moreover, the limited knowledge of local resource stakeholders in Larabanga on the CWMP like the PAMAU represents the information and communication gap between management of the



Mole Park and the local resource users. This agrees with Ostrom (2011) and FAO (2010) argument that there is no quick-fix panacea to effective management of natural resources for all contexts throughout the world except the use of effective communication and power sharing between resource stakeholders. Furthermore, the narrative of the Park Manager and the NR dependents as well as the Community Liaison Officer of A Rocha Ghana and the Assemblyman of Larabanga on the incidence of mistrust rooted in the history behind the annexation of the communities to form the Park support the arguments of Dietz et al. (2003) who perceived the replacement of traditional rights on common natural resources by new actors without proper participation of its original owners can breed mistrust, aggression and conflicts. They likewise agree with the view of Nunan (2015) and Ostrom (2011), who indicated that trust is very essential in collaborative natural resource management although it takes time and deliberate efforts; and with Santha and Ratheeskumar (2006) who argued that poor participation of local communities in the management of natural resources, especially forests that are connected to local livelihoods, has been among the main causes of the ineffectiveness of the present day resource management institutions.



CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

This chapter of the study is focused on the summary of the study and major findings, conclusions and recommendations, policy and practice.

5.2 Summary of Findings

The study was aimed at examining natural resource use conflicts and the dynamics of multi-stakeholders' collaborations in the management of natural resource management based conflicts. Hence, the specific objectives/research questions were: What is the nature of natural resources and their contributions to community livelihoods? Who are the stakeholders and their stakes in natural resource management-based conflicts? Which factors account for natural resource management-based conflicts? And how can multi-stakeholder collaboration enhance efficient and sustainable natural resource management systems? The study progressed with the development of a conceptual framework on socio-ecological systems (SES) by Ostrom (2009). Drawing from literature and theory, the conceptual framework

established that collective resource management actions that capture the needs and interests of all stakeholders in a single platform serve as a conduit to negotiating trust, building communication and harnessing multiple knowledge systems to govern a resource system without compromising livelihood and ecological goals. The study subsequently adopted the qualitative approach for sampling, data collection and analyses. Syntheses of the findings from empirical analyses are summarized in the ensuing section.

5.3 Summary of Major Results

Larabanga, the hotspot of resource use conflict among the fringe communities of Mole National Park, has local resource user groups such as hunters and farmers whose major

source of livelihood was connected to the Park before the gazette that established the Park against exploitation of the NR in the Park. These resource users have connected themselves in groups revolving around shared social capital mainly connected to their livelihoods and survival.

In relation to objective one, which sought to assess the nature of natural resources and their contributions to community livelihoods, renewable natural resources were essential to the livelihood, prestige and cultural sustenance of local resources users like farmers and hunters as well as the traditional authority in Larabanga. This is because renewable NRs were connected to the local livelihood sustenance, cultural sustainability and source of authority for local resource users and their traditional authorities. Some of the useful NRs, their immediate livelihood activities and outcomes to the resource users were depicted in Figure 4.6. Alternative livelihood strategies that were available to Larabanga were also assessed to give a picture on the nature of dependence on NR by the Larabanga inhabitants in a bid to establish the dynamics of resource use conflicts in the area. This was presented in pictures and narrations from the study.



Second, objective two focused on the different stakeholders and their stakes in natural resource management-based conflicts. The findings revealed that the natural resources in the Mole Park and its environs have many stakeholders. Prominent among them were local resource users like hunter, farmers and herbalists; local political authority that captures the traditional authority (Chief and Gate Heads) and the modern political head of the Larabanga (Assembly man); the state resource management bodies like the Mole Park Management and the Forestry Commission; Civil Society Organisations like A Rocha Ghana; as well as tourists and other national and international agencies. It was discovered that the relationship between the major resource stakeholders ranged from weak to conflicting positions. The conflicting relationship was prominently between the Park Management especially the Park

Guards and hunters from the fringed communities including Larabanga. The stakes of the major stakeholders were embedded in livelihood (social) and ecological goals for the local stakeholders and Park Management, respectively. The differences between the goals of the local stakeholders and the Park Management have resulted in opposing positions, which have resulted in many conflicting scenarios leading to resource degradation, death of Park guards and hunters, injuries and breach of trust between the Park and Larabanga resource stakeholders.

Third, objective three focused on the factors that account for Natural Resource based conflicts. The study revealed that underlying factors such as access, ownership and control of NR, centralized resource management strategy and other factors like absence of compensation for crop raiding, lack of trust among the state holders, communication gaps and limited community engagement in NR management as the epitome of resource use conflicts in the area. It was discovered that the conflicting positions that the local resource users and Park Management take are often motivated by some set of entrenched conservation goals manifested in the enforcement of the gazette that established the Park and the fragile livelihood goals that each stakeholder must achieve.

Finally, objective four concentrated on analyzing how multi-stakeholder collaboration can enhance sustainable natural resource management systems. The results in this section show that major stakeholders of NR in Mole Park indicated that resource use conflicts in the Mole Park area are as a result of the centralized NRM strategy that inactivates access of NR by local resource users who hitherto sourced their livelihoods from the Park. Hence, they disclosed that some sort of genuine collaboration that captures the major stakeholders of NRs in the Mole Park is very critical in resolving the underlying challenges that are associated with resource use in the area. In this regard, a multi-stakeholder platform, Figure 4.10 was conceptualized to capture a multi-stakeholder strategy that is essential for the resource



management engagement between the major resource use conflict stakeholders (Park Management and the local resource communities who survived on the Park), negotiated by an interface of trust building, communication promotion and harnessing of competing goals towards achieving the social and ecological goals of the major resource stakeholders.

5.4 Conclusions

The study concludes that the nature and history of local resource user groups like farmer and hunter groups in Larabanga sprout on a demand driven basis and are bonded by social capital and collective interests towards livelihood enhancement with effective leadership and internal conflict resolution strategies that prevent vengeance and break in group ties. The characteristics of the local resource groups and their social capital bonds suffice the argument raised by Ostrom (1990) on the characteristics of common resource user groups in the CPR theory. By extension, the characters can be harnessed to initiate collective NR management actions.

Furthermore, the nature of natural resources that contribute to the livelihoods of resource users in Larabanga are renewable NRs like trees, water bodies, timber and non-timber forest

products, land and wildlifedue to the economic, social, cultural and environmental benefits they derive in addition to basic sustenance from direct dependence on NR and indirect contributions of NR to child education support, household poverty reduction, household nutrition, household income, communal contribution, improved health, food security and cultural sustenance. It is also concluded that the dynamics of group hunting as a form of security for hunters and extraction of root and stems for herbal medication possess threat on the ecological sustenance of the NR in the Mole Park. There are many livelihood alternative strategy options that include bee keeping for honey, weaving, hairdressing and local ecotourism that require external financial and technical investment to diversify NR



dependence. The findings in this section of the study supports the preconditions of resource use conflicts outlined by UNEP (2015).

Moreover, the stakeholders of the NR that concern Larabanga and Mole Park consist of Spiritual Authorities (God/Allah and ancestors), the Traditional and Modern Authority (Chief, elders, Community Gates and Assemblyman), Local Resource Users groups (farmers and hunters as well as other individuals in Larabanga who source renewable NR from the Mole Park for their sustenance), the State (the Mole Park Management and the Forestry Commission), Civil Society (NGOs) and others (tourists). The interests of the major stakeholders are towards ecological and social sustenance. The interests of local resource users in the Mole Park are borne out of allodial or usufructuary rights due to their ancestry and livelihood dependence on the Mole Park. The Park interest is also connected to the ecological sustenance of the Park through the enforcement of actions that deny access and exploitation of the Park. These two interests have presented conflicting relationship between the local resource users, especially in Larabanga and the Park Staff, more particularly Park guards. The numerous and complex stakeholders' that are connected to the natural resources in the Mole Park also reflects the argument of Nunan (2016); UNEP (2015); Ochola et al. (2010); Roe et al. (2009) that natural resources have many stakeholders with varied interests.

The diverse interests of the stakeholders to appropriate the utility from the NRs in the Park also reflect the excludability principle of the CPR theory (Ostrom, 1990).

The factors that account for NR use conflicts were related to access, ownership and control of natural resources, which the local resources users believe they should be able to exploit for their survival. Again, the centralized management and control of the natural resources without the participation of the local resource users like farmers and hunters who hitherto depended on the NR in the Park was another source of conflict between the Park and the resource users. The other factors of the conflicts were connected to lack of compensation for



raiding by wildlife, lack of trust and poor communication between the Park and the resource users in Larabanga. The access-based conflicts that are associated to the factors that lead to resource conflicts between the Park and the fringed communities reflect the Access theory (Ribot and Peluso, 2003). The dynamics of poaching and the related conflicts also infer the illegal access issues associated to the Access Theory. The managerial and communication lapses reflect Ostrom (2009) argument on management-based NR conflicts.

Finally, although there is a top-bottom collaborative wildlife policy that has been in existence for two decades, resource use conflicts still exist and can spark overnight between the resource users who depended on the Park and the Park Guards. Hence, a multi-stakeholder platform that harmonises the interests and stakes of the multiple stakeholders is crucial towards the sustainable management of NRs to avert the divergent goals that result in NRM conflicts. The conclusion here indicates that collaborative NRM is key to reducing conflicts associated to NRs use, access, control and management as in the views of Roe et al. (2009). The findings here are essential to the management of NRs in protected areas with similar resource-based conflicts in Africa. Specifically, in the contributing to the management and sustenance of the Uganda Wildlife Authority's (UWA), co-management fisheries on Lake George and Kyoga, the Buhoma Community Rest Camp in Bwindi National Park, Tanzania National Parks (TANAPA) and Kenya Wildlife Service (KWS), and the Zimbabwe's Communal Areas Management Programme for Indigenous Resources (CAMPFIRE).

5.5 Recommendation

This section of the chapter captures the recommendations for policy makers who are duty bearers to lead and initiate policies that govern natural resources, their access and usage, ownership and control.



5.5.1 Policy Recommendations

Based on the conclusions, it is essential for policy makers like the Ministry of Lands and Natural Resource and the Forestry Commission as well as other State NR stakeholders to design and finance alternative livelihood strategies as a long-term exit strategy from high local resource users' dependence on renewable NR for survival.

It is also important for the Ministry of Lands and Natural Resource, the Forestry Commission as well as other State NR stakeholders to consider adopting a bottom-up approach in reviewing and negotiating new principles of access, ownership and control to guard the Collaborative Wildlife Management Policy (2000; 2004) in order to cater for the participation lapses in the policy and harmonise the interests that have been resulting in resource use conflicts between the major resource use conflict stakeholders.

Furthermore, there is the need for a short-term review of the State's position on Compensation Policies guarding crop and livestock raiding by charismatic wildlife like elephants in fringed communities. The success of Compensation Packages and Strategy in Kenya and Namibia, although experiencing a few challenges as accounted for by Roe et al.

(2009), offer a conduit in reviewing the State's position on compensation for raiding by wildlife, especially from a Park. This will reduce the antagonism of local farmers to avenge their loss by firing at the endangered species.

Moreover, a micro level collaborative management approach is preferred to the wholesale approach (Collaborative Wildlife Policy, 2000; 2004) to NRM in order to enhance sustainable socio-ecological goals. This captures locality and community specific resource management negotiations and planning other than cross cutting and wholesale collaborative NRM policies, which are essential in capturing the locality cultural and social dynamics that are supportive or unfertile for ecosystem management. This will improve familiarity with



NRM policies and bridge the obvious communication gap that endangers trust in the case of Larabanga and the Mole Park. Thus, community-based poaching enforcement initiatives should be deliberately designed to decentralize the Park guarding.

Finally, it is essential for global policies directions to mainstream and focus on collaborative management of NRs especially in areas where NRM have resulted in inherent and open conflicts among the stakeholders of that resource system. Mainstreaming collaborative management of NRs will enhance the attainment of global goals like the SDGs especially Goal 15 which focuses on Life on Earth. This is more essential in fragile livelihood areas in part of Central, East and West Africa where livelihoods depend on access-based conflict-ridden natural resources. By extension, attainment of the collective global goals will be assured.

5.6 Limitations and Direction for Future Research

The study did not cover the power dynamics or nature of the resource use conflicts among the major stakeholders in Mole Park and its fringed communities. Hence, future studies can focus on the politics of power and resource use conflicts between the Mole Park and the fringed

communities in order to have an in-depth assessment of the power dynamics that are associated with resource use conflicts. As well, in-depth future studies can focus on the human-wildlife conflict and compensation strategies for raiding by wildlife so as to foster understanding of the dynamics and trends of the perennial NR conflicts between Mole Park and the fringed communities. Also, there is the need for research investment that details the reasons behind the three (3) out of thirty-three (33) fringed communities that are subscribed to the CREMA, over two decades of the existence of the Collaborative Wildlife Management Policy. Finally, the study did not focus on the inventory, trend and seasons of resource use conflict. Hence, a research investment in the inventory, trend and seasons of resource use



conflict peak is essential for understanding the underlying environmental and climatic circumstances that motivate resource use conflicts among the major resource stakeholders.



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APPENDICES

APPENDIX A

SUMMARY OF RESEARCH METHODOLOGY

Specific research question	Data required	Data collection Method	Data collection tools	Presentation and Discussion
Main question: What are the dynamics of Natural Resource Use conflicts and multi-stakeholders' collaborations in the management of Mole National Park?				
What is the nature of natural resources and their contributions to community livelihoods?	Types of natural resources available and how they are linked to community livelihoods in the locality.	In-depth interviews Key informant interviews Observation Focus group discussions	In-depth interview guide Key informant interview guide Focus Group Discussion Guide Observation check list	Maps Pictures Narratives
Who are the stakeholders and their stakes in Natural Resource management based conflicts?	Profile of the multiple stakeholders in identified natural resource and their interest.	In-depth interviews Key informant interviews Focus group discussions	In-depth interview guide Key informant interview guide Focus Group Discussion Guide	Narratives

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<p>Which factors account for Natural Resource Management based conflicts?</p>	<p>Root and immediate causes of natural resource conflicts.</p>	<p>In-depth interviews Key informant interviews Focus group discussions</p>	<p>In-depth interview guide Key informant interview guide Focus Group Discussion Guide</p>	<p>Narrative Pictures</p>
<p>How can multi-stakeholder collaboration enhance efficient and sustainable Natural Resource Management systems?</p>	<p>Local approaches to sustainable resource use management. Efficiency of existing collective NRM</p>	<p>In-depth interviews Key informant interviews Focus group discussions.</p>	<p>In-depth interview guide Key informant interview guide</p>	<p>Narratives</p>



APPENDIX B

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**NATURE OF NATURAL RESOURCES AND TRIANGULATION OF
DEGRADATION**

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OBSERVATION CHECKLIST



DYNAMICS OF NATURAL RESOURCE USE CONFLICTS AND MULTI-STAKEHOLDER COLLABORATION IN GHANA: THE CASE OF THE MOLE NATIONAL PARK, LARABANGA.

BY: VIVIAN NSIAH

Nature of Resource	Location	Remarks
Economic trees		
Medicinal trees		
Water bodies		
Farmlands		
Others		

DATE: 10th February,

2019



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FOCUS GROUP DISCUSSION GUIDE

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DYNAMICS OF NATURAL RESOURCE USE CONFLICTS AND MULTI-STAKEHOLDER COLLABORATION IN GHANA: THE CASE OF THE MOLE NATIONAL PARK, LARABANGA.

BY: VIVIAN NSIAH

Date of interview.....

Introduction

Dear participants, the following are questions to guide an interview to explore the **dynamics of natural resource use conflicts and multi-stakeholder collaboration in Ghana: the case of the Mole National Park, Larabanga**. The information you will provide will be solely used for academic purpose. Your identity will be treated anonymously with confidentiality. Your views are very important to this study and they will be appreciated.

SECTION A: BACKGROUND CHARACTERISTICS OF GROUP

Please, could you tell me more about this group?

Probe: History of existence, survival strategies, operation arrangements, social capital, leadership, group dynamics, issues of conflict and their resolution, group's challenges, relationship with other groups in this community, etc.

SECTION B: NATURE OF NATURAL RESOURCES AND THEIR CONTRIBUTIONS TO COMMUNITY LIVELIHOODS

Please, could you identify some of the natural resources available and useful to you within this community?

Probe: Could you tell me the livelihood strategies that depend on these natural resources? How do these natural resources contribute to your livelihood? What alternative livelihood strategies are available to you aside the ones identified above? Please, could you narrate the general challenges associated with access and ownership to the natural resources identified? How do the challenges identified affect your livelihood?



SECTION C: STAKEHOLDERS AND THEIR STAKES IN NATURAL RESOURCE USE AND MANAGEMENT BASED CONFLICTS

Please, who are the other users or interest groups on the resources identified supra?

Probe: What are the interests of the identified groups? Have there been instances of overlapping interests? If yes, between who and what has been the nature? Is there any particular experience of the overlapping incidence you can share? Could you direct me to the parties involved if it is not a personal?

SECTION D: FACTORS THAT ACCOUNT FOR NATURAL RESOURCE USE AND MANAGEMENT CONFLICTS

Please, could you account the factors that result to resource use and management conflict between you and the Park staff? Are they related to access, ownership and control of the resources? Could you mention some other factors that lead to resource conflicts in the community?

Probe: Could you explain why those factors lead to the conflicts? Could you share a specific

narrative of a resource related conflict in the past? Can you assist me outline the immediate and root causes of the story shared? Do you think the resource related conflicts you have identified are as a result of resource management deficits? Are there other factors you think could also lead to these conflicts?

SECTION E: WAYS BY WHICH MULTI-STAKEHOLDER COLLABORATION CAN ENHANCE EFFICIENT AND SUSTAINABLE NATURAL RESOURCE MANAGEMENT SYSTEMS.

Please, could you identify some of the ways in which the various stakeholders identified manage natural resources well for lasting benefits?



Probe: Will collaboration of the stakeholders in the management processes be a good strategy? What collaboration resource management arrangements exist in the community on the park use? How have they been done? How effective have they been? Why do you think multi stakeholders collaboration could be used to manage sustainable access to natural resources in the park?

Please, how could the collaboration be done?

Probe: Should it be an internal, external or both? Could you discuss your preferred option? Are there any final words you would wish to share on the issues of natural resource access, ownership and management?



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IN-DEPTH INTERVIEW (IDI) GUIDE FOR KIIs

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DYNAMICS OF NATURAL RESOURCE USE CONFLICTS AND MULTI-STAKEHOLDER COLLABORATION IN GHANA: THE CASE OF THE MOLE NATIONAL PARK, LARABANGA.



BY: VIVIAN NSIAH

Date of interview.....

Introduction

Dear participant, the following are questions to guide an interview to explore the **dynamics of natural resource use conflicts and multi-stakeholder collaboration in Ghana: the case of the Mole National Park, Larabanga**. The information you will provide will be solely used for academic purpose. Your identity will be treated anonymously with confidentiality. Your views are very important to this study and they will be appreciated.

SECTION A: BACKGROUND CHARACTERISTICS OF RESPONDENTS

Please, could you tell me yourself?

Probe: role in NRM, number of years of living and working in Larabanga, etc.

SECTION B: NATURE OF NATURAL RESOURCES AND THEIR CONTRIBUTIONS TO COMMUNITY LIVELIHOODS

Please, could you identify some of the natural resources available, their location and usefulness to resource dependents in Larabanga?

Probe: Could you tell me the livelihood strategies that depend on these natural resources?

How do these natural resources contribute to community livelihood? Are there alternative livelihood strategies available to the community aside the ones identified above? Please, could you narrate the general challenges associated with access, ownership and management of the natural resources identified?

SECTION C: IDENTIFICATION OF STAKEHOLDERS AND THEIR STAKES IN NATURAL RESOURCE MANAGEMENT BASED CONFLICTS

Please, who are the users or interest groups on the resources identified supra?

Probe: What are the interests of the identified groups? Have there been instances of overlapping interests? If yes, between who and what has been the nature? Is there any particular experience you can share?


SECTION D: FACTORS THAT ACCOUNT FOR NATURAL RESOURCE MANAGEMENT BASED CONFLICTS THE STUDY AREA

Please, could you mention some of the factors that lead to resource access, ownership and management conflicts in the community?

Probe: Could you explain why those factors lead to the conflicts? Are there other factors you believe could also lead to these conflicts?

SECTION E: WAYS BY WHICH MULTI-STAKEHOLDER COLLABORATION CAN ENHANCE EFFICIENT AND SUSTAINABLE NATURAL RESOURCE MANAGEMENT SYSTEMS.

Please, what has been the role of your office in the management of natural resource use challenges in the community?

 **Probe:** Have they yielded many results? What have the challenges in managing the interaction with the reserve and this community? Could you identify some of the ways for efficient and sustainable collaboration? Could you explain how those ways can be applied practically? Are there any final words the group would wish to share on the issues of natural resource access, ownership and management?

APPENDIX C



Researcher, Assistants, Farmers and Hunters in FGD sessions at Larabanga

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Researcher, Assistant and Key Informants during KIIs in Larabanga and Mole Park



Random Pictures from Observation of former habitats in the Mole Park



Random Landmarks at Damango, Larabanga and Mole Park