

**ASSESSING NATURAL RESOURCE USE CONFLICTS IN THE
KOGYAE STRICT NATURE RESERVE, GHANA**

By

EFFAH, Gilbert

(HON. BSc. DEVELOPMENT PLANNING)

**A Thesis submitted to the School of Graduate Studies, Kwame Nkrumah
University of Science and Technology, in partail fulfillment of the
requirements for the award**

of

Master of Science in Development Planning and Management

College of Architecture and Planning

Department of Planning

October, 2014

DECLARATION

I hereby declare that this thesis is a result of my own work towards the MSc. Development Planning and Management, and that to the best of my knowledge, it contains neither material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

GILBERT EFFAH
(PG7193612)

Signature

Date

Certified by

DR. ERIC ODURO-OFORI

(Supervisor)

Signature

Date

Certified by

DR. DANIEL K. B. INKOOM

(Head of Department)

Signature

Date

DEDICATION

To God be the glory for the strength provided, the grace bestowed and mercies abundant.

It is also dedicated to my wonderful parents Mr. and Mrs. Amoateng without whose encouragement and support I would not have come this far.

KNUST



ACKNOWLEDGEMENT

For his patience, constructive criticisms and guidance that provided me a sense of direction throughout the process of conducting this research, I wish to express my sincerest gratitude to Dr. Eric Oduro-Ofori. I could not have asked for a better supervisor.

I would like to appreciate the wise counsel and the immense support provided to me by Mr. Osei Owusu-Ansah which led me into pursuing this course. And thanks to His entire family, Mrs. Comfort Darbo, Mr. Benedict Osei Kofi, Mrs. Lydia Owusu Danso, Mrs. Henrietta Afful, Emmanulla Osei Owusu-Ansah and Janet Acheampongmaa for their unfailing love and kindness. I am most indebted to my friend, Mr. Osei Owusu-Ansah Jnr. who also believed in me and gave me a chance to become his brother and offered the privilege to become part of his family when no one else would. Kwasi, God my Father richly bless you.

Special thanks to Mr. Jones Osei-Mensah, Assistant District Manager and Mr. Isaac Sarpong, an Official of Wildlife Division, Sekyere Central District. George Alhassan Assembly member of Birem, James Adu, Unit Committee chairman of Dome, John Lambo Deputy Director, Department of Agriculture Development Unit, and Nana Kwakye Boateng, Elder, Kwaman Traditional Authority, for their timely release of information to support this work.

And to my friends Bright Addo, Emmanuel Osei-Mensah, Eric Adabor, Einstein Kwasi Asante, Seth Opoku-Mensah and to my colleague Spring students. The help they gave me is immeasurable and very much appreciated. To George Ansong and the entire Prayer Tower Group, Christ Congregation for the encouragement, spiritual support and guidance. I am most grateful.

ABSTRACT

Natural resources are of great importance to millions of people in Ghana, especially those whose livelihoods largely depend on them. However the Kogyae Strict Nature Reserve (KSNR) in Ghana has been the scene of conflicts since its establishment in 1971. Conflicts in the KSNR have taken place at a variety of levels especially among the community members and between the community members and the wildlife Division. The conflict is mainly violent in nature with varying dimensions such as destruction of farms, destruction of Wildlife Division camps, excessive logging; arrests of poachers and eviction of the host communities in the KSNR.

This study therefore assesses the type, origin, nature, level and the effect of the conflicts on development. It also seeks to examine constraints confronting effective conflict management in KSNR, with the view to recommending policy interventions that will help curtail the conflicts in Ghana. Data for the study were derived from direct interviews with the stakeholders and on-site observation. The results revealed that a structural conflict was the major type of conflict characterizing the conflicts in the KSNR. This conflict mainly originated from weak enforcement of resource laws, absence of conflict management mechanism, land litigation and demographic changes. These together with inadequate source of livelihood and imposition of policy without effective participation of stakeholders have fuelled illegal activities, mainly hunting and encroachment, resulting in uncontrolled conflicts in the KSNR. Efforts to address these conflicts have always been done on ad hoc basis. This was mainly due to the lack of legislative instrument to ensure that a well structured conflict management mechanism was in place to address these conflicts.

The study recommends that the Ministry of Lands and Natural Resources ensures the establishment of legislative instrument to ensure establishment of a well structured conflict mechanisms to address conflicts in natural resource areas. In the meantime, regular conservation education programmes should be embarked on in the fringe communities for the people to appreciate the need for natural resource sustainability.

TABLE OF CONTENTS

CONTENT	PAGE
DECLARATION.....	i
DEDICATION.....	ii
ACKNOWLEDGEMENT.....	iii
ABSTRACT	iv
TABLE OF CONTENTS	v
LIST OF TABLES	ix
LIST OF FIGURES	x
LIST OF PLATES	xi
LIST OF ACRONYMS	xii
CHAPTER ONE	1
GENERAL INTRODUCTION.....	1
1.1 Background of the study	1
1.2 Problem Statement	3
1.3 Research Objectives.....	5
1.4 Research Questions.....	5
1.5 Scope of the Research.....	6
1.5.1 Geographic scope.....	6
1.5.2 Contextual scope.....	6
1.5 Significance of the Research.....	6
1.6 Structure of the Research Report	7
CHAPTER TWO	8
NATURAL RESOURCE USE CONFLCIT.....	8
2.1 Introduction.....	8
2.2 Natural Resource Uses.....	8
2.3 Stakeholders in Natural Resources Uses.....	10
2.4 Conflict in Natural Resources Uses	12

2.4.1 Types of Conflict	14
2.4.2 Levels of Conflict	15
2.4.3 Nature of Conflict	16
2.4.4 Causes of Conflicts in Nature Reserves	17
2.4.5 Theoretical Underpinnings Natural Resource Conflict and Conflict Management	19
2.4.6 Effects of Natural Resource use Conflict.....	20
2.5 Conflict Management in Nature Reserves	21
2.5.1 Conflict Management Process	22
2.5.2 Conflict Management Methods.....	24
2.5.3 Conflict Management Strategies	24
2.5.4 Conflict Management Approaches	25
2.6 Conceptual Framework and Summary of Lessons Learnt from Literature	27
2.7 Chapter Summary	29
CHAPTER THREE	30
PROFILE OF KSNR AND RESEARCH METHODOLOGY	30
3.1 Introduction.....	30
3.2 Background of KSNR	30
3.3 Location and Size of the KSNR.....	30
3.4 Socio-Economic setting of the Communities	34
3.4.1 Population Distribution.....	34
3.4.2 Economic setting.....	35
3.4.3 Administration	35
3.4.4 Land Tenure and Rights.....	35
3.5 Research methodology.....	36
3.5.1 Research Approach	36
3.5.2 Research Process.....	36
3.5.3 Data Requirements and Sources	37

3.5.4 Sampling	38
3.5.5 Field Research.....	38
3.5.6 Data Analysis	39
3.5.7 Establishing Rigour.....	40
3.5.8 Ethical Consideration.....	40
3.6 Chapter Summary	41
CHAPTER FOUR.....	42
DATA ANALYSIS AND PRESENTATION.....	42
4.1 Introduction.....	42
4.2 Demographic and Socio-Economic Characteristics of Households	42
4.2.1 Age-Sex characteristics of the Households.....	42
4.2.2 Household Size	43
4.2.3 Educational levels	44
4.2.4 Source of Livelihood Activities	45
4.3. Stakeholders in the Kogyae Strict Nature Reserve	47
4.4 Origin, Types, Levels and Nature of Conflicts	50
4.4.1 Types of Conflicts in the KSNR	50
4.4.2 Origin of conflict in the KSNR	51
4.4.1.1 Conflicting items in the KSNR	54
4.4.2 Levels of the Conflicts in the KSNR	56
4.4.3 Nature of the Conflicts in the KSNR	57
4.5 Effects of the Conflicts on Development.....	59
4.6 Effectiveness of Conflict Management.....	62
4.6.1 Conflict Management Process	64
4.6.2 Conflict Management Methods.....	65
4.6.3 Conflict Management Strategies.....	65
4.6.4 Conflict Management Approaches	66

4.6.5 Key Conflict Management Constraints in the KSNR	67
4.7 Chapter Summary	68
CHAPTER FIVE	70
SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION	70
5.1 Introduction.....	70
5.2 Summary of findings.....	70
5.2.1 Type, Origin, level and nature of conflict in the KSNR	70
5.2.2 Effects of conflict on development	71
5.2.3 Effectiveness of Conflict Management Mechanism	72
5.3 Policy Recommendations.....	73
5.4 Conclusion	75
REFERENCES.....	77
APPENDICES	86
Appendix 1: Data Base from Households in the Host Communities.....	86
Appendix 2: Photographs of Illegal Activities in the KSNR	88
Appendix 3: Survey Instruments.....	91

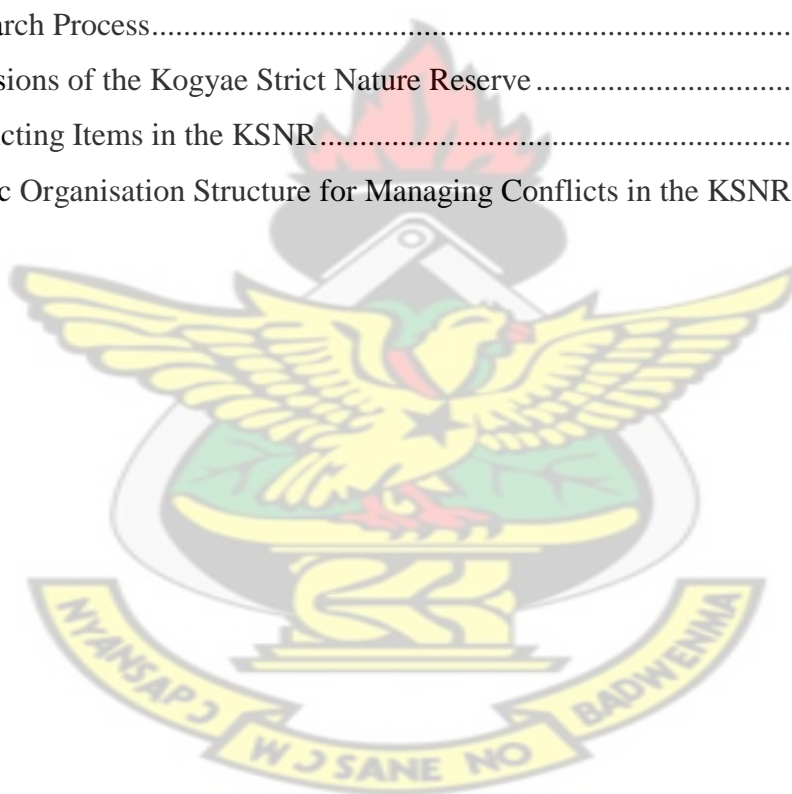
LIST OF TABLES

TABLE	PAGE
2.1: Some Trends in the Depletion of Natural Resources in the World	10
3.1: Land-uses of the KSNR.....	33
3.1: Research Objectives and Variables, Data Requirements, Observation Units and Survey Instruments.....	39
4.1: Age and Sex Structure of the Households.....	43
4.2: Household size for the communities in the KSNR.....	44
4.3: Educational Status of the local people in the KSNR	44
4.4: Livelihood Activities in the KSNR	45
4.5: Income level of Households in the Host communities.....	46
4.6: Stakeholder Analysis Matrix of KSNR	48
4.7: Sources of conflict in the KSNR	51
4.8: Household size for the communities in the KSNR.....	54
4.9: Nature of Conflicts in the KSNR	58



LIST OF FIGURES

FIGURE	PAGE
2.1: Conflict on distinguishing Needs, Interests and Position	12
2.2: Stakeholders in Natural Resource Conflicts (By: Jan Birck).....	13
2.3: Conflict Management Process	23
2.4: Continuum of conflict management.....	24
2.5: Five conflict Management Strategies.....	25
2.6: Conceptual Framework	28
3.1: Sekyere Central District in the National and Regional Context	31
3.2: Kogyae Strict Nature Reserve in the Sekyere Central District	32
3.3: Land-uses of the KSNR	34
3.4: Research Process.....	37
4.2: Extensions of the Kogyae Strict Nature Reserve	53
4.3: Conflicting Items in the KSNR.....	55
4.4: Ad hoc Organisation Structure for Managing Conflicts in the KSNR	67



LIST OF PLATES

PLATE

PAGE

4.1:	Common condition of houses in the fringe communities at KSNR.....	60
------	---	----

KNUST



LIST OF ACRONYMS

AEMCM	Absence of Effective Mechanism for Conflict Management
AWDM	Assistant Wildlife District Manager
CCMC	Community Conflict Management Committee
DADU	Department of Agriculture and Development Unit
DC	Demographic Change
DISC	District Security Council
IPEPS	Imposition of Policy without Effective Participation of Stakeholders
ISL	Inadequate Source of Livelihood
KFR	Kujani Forest Reserve
KSNR	Kogyae Strict Nature Reserve
LL	Land Litigation
MLNR	Ministry of Land and Natural Resources
MOU	Memorandum of Understanding
NGO	Non-governmental Organisation
NTFP	Non-Traditional Forest Product
PA	Protected Area
PAMAD	Protected Area Management Advisory Board
RISC	Regional Security Council
SUZ	Special Use Zone
UKFSP	UK Foundation for the People's of the South Pacific
WD	Wildlife Division
WDM	Wildlife District Manager
WERL	Weak Enforcement of Resource Laws
WG	Wildlife Guards
WVI	World Vision International

CHAPTER ONE

GENERAL INTRODUCTION

1.1 Background of the study

People everywhere have competed for natural resources such as land, water, forest and rangelands they need or want to ensure or enhance their livelihoods (Anderson et al. 1996; Ayling and Kelly 1997). According to Hammill and Bescançon, (2010), natural resources represent different things to different groups. The conservationists, seek to effectively protect biodiversity; for private tourism companies, a basis for eco-tourism development; for pharmaceutical companies, a source of genetic information for drug development; and for surrounding local communities, natural resource conserved areas can signify restricted access to livelihood resources. Research shows that large proportion of the poorest rural households in Asia, Africa, and Latin America depends critically on common-pool resources or their food and livelihood (Buckles and Rusnak 2005, Sunderlin et al. 2005).

Increased competition for natural resources is occurring worldwide within the current trends of globalization, democratization, decentralization and urbanization. The demand for resources continues to grow, there is significant potential for conflicts over natural resources to intensify. Therefore, when these forces including social inequality, poverty, contested resource rights, corruption, ethnic tensions, and colonial legacies, as they do in many developing countries, mechanisms of resource control and power can become politicized and lead to resistance and conflict as Hammill and Bescançon, (2010) point out. The 2010 Conflict Barometer issued by Heidelberg Institute for International Conflict Research (2010) has identified natural resources as the second most frequent conflicting item in the 363 conflicts recorded in 2010 (80 cases representing 22 percent; after system/ideology with 117 cases). This phenomenon according to Chevalier and Buckles, (1995) has varying dimensions, level, and intensity. In a related work by Suliman, (1997) the political dimensions of the conflict may dominate where the state has a keen interest in a public good such as conservation or in maintaining the political alliances it needs to remain in power). The revelation indicates the seriousness of natural resources conflict phenomenon.

In Africa, the main causes of these conflicts over natural resources have been attributed to variety of factors such as scarcity of a natural resource; the extent to which the supply is shared by two or more groups; the relative power of those groups; the degree of dependence

on this particular resource, or the ease of access to alternative sources (Engel and Korf 2005). Recent research by Nang et al. (2011) indicated that poor stakeholder analysis in natural resource management issues regarding lack of clarity in roles, overlapping roles, misfit between formal roles and actual practice, lack of effective feedback mechanisms and inadequate coordination and participation are the major causes of conflicts over natural conserved areas. On the contrary, the negative connotation associated with conflicts in natural resources areas as been destructive has been contested. According to Engel and Korf (2005) natural resources conflicts can be useful in making needs and rights clear and helping to solve injustices or inequities in resource distribution. However, some conflicts have the potential for becoming obstacles to livelihoods and sustainable resource management if they are not addressed.

Ghana is in no exception to this conflict phenomenon as researches have shown that the high demand for natural resources commodities have resulted into conflicts among various stakeholders such as the local communities, Wildlife Department and others (Hagan, 1998; Levy, 2009; Ayivor et al, 2013). According to Atta-Asamoah, (2010) the nexus between natural resource and conflict is due to the focal role natural resources contribute to wealth creation in the society and by extension, the rise and fall of nations. The recent research carried out by Ayivor et al, (2013) also indicated that the range of these conflicts involve Wildlife Officials arresting local people intruding the natural resource conserved areas to collect non-timber forest products. Occurrences like fierce confrontation with poachers, arrests and evictions occasionally result in deaths.

Conflicts between managers of protected areas and local communities are common features of protected areas in Ghana (Ayivor et al, 2013:37). For example in 2006, a border dispute in Kyabobo National Park resulted in the tragic death of two Wildlife Officials (Nkwanta South District Assembly, 2006 cited in Ayivor et al, 2013) Another incident occurred in Bui National Park in 2007, when a poacher lost his life for resisting arrest and attacking a Wildlife Official (Ayivor, 2007 cited in Ayivor et al, 2013). This may contribute to Tamakloe, (2000) claims of how over 90 percent estimation of Ghana's high forest that has been logged since the late 1940s. The rate of deforestation is 5 percent in off-reserves and 2 percent in on reserves. The off-reserves have been seriously degraded and fragmented to less than 5 percent of the forested area 83,489km. However, recent work by Vondilia (2009) on "Do Ghanaian Farmers have preferences for the National Biodiversity Strategy?" asserted that despite the need to protect biodiversity, hence the legitimate reason for the establishment

of protected areas, there are also cogent arguments for permitting the consumptive use of these natural resources (Vondilia, 2009). Pragmatic measures to ensuring that there is harmony between biodiversity and human are necessary to achieve sustainable natural resources.

The Kogyae Strict Nature Reserve (KSNR) area like many other nature conserved areas in Ghana such as the Digya National Park, Kakum National Park has features that falls under Category IV in the categorization by the International Union for Conservation of Nature (IUCN) known as the Habitat Species Management Area. The IUCN defines these protected areas (natural resource conserved area) clearly as “a geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values” (Dudley, 2008:21). The objective is to ensure that biological resources are used in ways that do not diminish the variety of genes and species, or destroy inhabitants and ecosystems since loss of specie comes with the loss of potential economic benefit (Attuquayefio and Fobil, 2005). However, KNSR is also prone with incidence of conflicts according to KSNR Wildlife Division Commission of the Forestry Commission Report (2002). On the contrary, conflict experts also recognize the value of conflict as a catalyst for positive social change. Consequently, conflict should not be altogether eliminated through resolution but rather managed so that it does not lead to violence but can achieve change. Brown (1983:9, cited in Buckles and Rusnak, 2005) expand the discourse to assert that "conflict management can require intervention to reduce conflict if there is too much, or intervention to promote conflict if there is too little.

1.2 Problem Statement

The Kogyae Strict Nature Reserve (KSNR) is one the few nature reserves with great ecological potentials in Ghana (Wildlife Division of the Forestry Commission, 2002). According to the Ministry of Lands and Natural Resources (2012:4), A Strict Nature Reserve is generally, relative small areas containing fragile habitats, outstanding ecosystems or natural features in and/or Natural features in a relatively undisturbed state and which are prime representatives of the scientific study, monitoring, education or conservation of biological or cultural resources. Such areas are to be maintained in an evolutionary dynamic state and will require strict protection with minimal human disturbance, i.e. no management interventions will generally be permitted. Tourism, recreation and public access will be

generally proscribed except for educational, scientific and cultural reasons, when only non mechanized access will be allowed. However, the 2002 Report of the KSNR Wildlife Division indicates persistent conflicts mainly between the WD of the KSNR and fringe communities' members over the control, ownership and access to the resources in the KSNR.

Despite the tacit agreements entered into with the inhabitants of the reserve, the Wildlife Department has not succeeded in getting them to pull out. The Wildlife Division has held several consultations with the regional and district political authorities to assist in reclaiming the reserve but no solution has been achieved (Hagan, 1998; Wildlife Division of the Forestry Commission, 2002). Again, the intention to get the inhabitants out of the reserve was expressed in the form of quit orders with dates of ultimatum, for the farmers to leave the reserve or face forceful ejection. These quit orders were directed at the settler communities. However, having recognised by the fringe communities that the WD lacked the necessary resources to effect their forceful ejection generally treated the quit orders with contempt. Consequently, WD consistently destroyed farming activities of the members of the fringe communities in the KSNR. In retaliation, Asaasebonso, one of the fringe communities destroyed the camp of the WD in their community in order to prevent their activities. Another headman of one of the settler communities also took the WD to court seeking an injunction to restrain their eviction and for the court to grant them permanent residence status. This brings to the fore questions about the origin, type, level and nature of the conflicts; the effects of these conflicts on the society and the effectiveness of the conflict management measures to addressing these conflicts in order to ensure conservation and sustainability of the natural resources in the country.

The extant literature on conflict in nature conserved in Ghana is limited. More so, the available ones have narrowly focused on the causes of conflicts; its effect on livelihood and providing solutions to mitigate the conflicts in protected areas (Ayivor et al, 2013). To date, the effects of conflicts on other development issues like culture, political, institutional and the environmental dimensions remains under researched in Ghana. Questions about the origin level and nature of the conflicts and the key constraints to effective conflict management natural resources management have long been a subject of intense academic and policy discourse that has emanated in prominence since the late 1980s (Atta-Asamoah, 2010). This can affect a holistic diagnosis of the conflict situation in order to provide comprehensive interventions to address these conflicts in Ghana. This study is set out to address these

problems as it will provide insight for natural resource managers, policy makers and government officials to address conflicts in a more comprehensive way and contextually.

1.3 Research Objectives

On the basis of the background and statement of the problem, this study is set out to advance the knowledge on conflicts that arise from natural resources use in the in the Kogyae Strict Nature Reserve. Specifically, the research is meant to address these objectives:

1. Assess the type, origin, level and nature of conflicts. Conflicts over natural resources at the community level have many causes and occur in different forms and levels of severity (Schweithelm, et al 2006). In this study efforts have been made to identify the main sources and causes, the nature and levels of the conflicts that occur at protected areas in Ghana.
2. Establish the effects of the conflicts on livelihoods, environment and management of the KSNR. The study seeks to establish the effects that arise out of natural resource use conflict. This is examined from the stakeholders' perspective in the light of livelihood of the local people, the management of the natural resources and the environmental consequences.
3. Ascertain the effectiveness of conflict management mechanism addressing the conflicts in the nature reserves. The study will ascertain the effectiveness of the conflict management based on the processes, methods, strategies and approaches adapted to addressing the conflicts in the nature reserves. The study will also hinge the key conflict management constraints.
4. Suggest recommendations to improve natural resources conflict management practices. These recommendations are intended to strengthen natural resource policy formulation for effective conflict management and prevention.

1.4 Research Questions

Consequently, the following questions have arisen to be addressed by these research questions:

1. What are the type, origin, level and nature of conflicts in the use of natural resources?
2. What are the effects of the conflicts on the development of the communities and conserved area?

3. How effective is the conflict management systems in addressing the conflicts in the nature reserve?
4. What measures will improve natural resource use conflict management?

1.5 Scope of the Research

The scope of the research details out the coverage of the study in terms of concepts and physical area.

1.5.1 Geographic scope

The Kogyae Strict Nature Reserve is located in the Sekyere West Municipal Assembly. The Reserve lies 25km South-east of Ejura and 50km North-east of Mampong at the north-eastern part of the Ashanti Region. The 405km² KKS NR lies within longitudes 0.05° and 1.30°W and latitudes 6.55° and 7.30°N in the Afram Plains.

1.5.2 Contextual scope

Contextually, the study focused on the origin, level, nature and the effects of conflicts that characterize natural resources conservation in Ghana as far the Kogyae Strict Nature Reserve is concerned. The study also hinges on the concept of conflict management process and its effectiveness in addressing the conflicts. This assessment is intended to provide regionally relevant information while also identifying opportunities to address nature reserve conflicts.

1.5 Significance of the Research

The sustainable livelihood and survival interests of the communities are at risk. The biodiversity of the zone and the management objectives of the reserve are threat and due to increase in population of humans in the KSNR. Peace and co-operation between all stakeholders needed for the effective management of the reserve by the Wildlife Division is at stake. Bush fires associated with the normal slash and burn practices are a perennial menace.

The research is worth carrying out because Ghana is among the 204,188 countries who are signatories to the Convention on Biological Diversity (CBD) (World Bank, 2010) committed to expanding the world's protected areas network, aiming to develop and maintain a comprehensive, effectively managed and ecologically representative system of protected areas. The global community therefore looks forward to realise that Ghana implements sound

policies that are geared towards the interest and development of natural resources conserved areas.

This study finds place in the environmental and socio-economical needs of people by giving a situational assessment to inform the plausible ways of addressing them. This is necessary as a pre-condition to achieving the Millennium Development Goals in particular the MDG1 - Eradicate extreme poverty and hunger and MDG7 Ensure environmental sustainability which Ghana is a signatory to.

1.6 Structure of the Research Report

The research report is organised into five (5) chapters. Chapter one provides the background to the study. It highlighted the problem, the objectives, and the research questions. Chapter two discusses the theories on natural resources conservation, the utilization, the conflicts that are associated with resource usage and the management systems in place to address these conflicts. This is intended to provide a basis for the conceptual framework for the research.

Chapter three outlines the profile of the study area, as well as the methodology for the study, looking at the research design and techniques for selecting a sample size and the sampling methods. It also provides the criteria for the selection of variables for the study. It defines the tools and techniques for the collection of primary and secondary data, and how the data was analyzed as well as presented.

Chapter four discusses the causes, nature and levels of conflicts in the KSNR. It also focuses on the effects of the conflicts on the development of the communities and conserved area as well as the effectiveness of the conflict management process put in place to addressing the conflicts.

Chapter five summarizes the main findings of the study, bringing out lessons and the need for addressing natural resource use conflicts in society. Relevant recommendations will also be made towards achieving a sustainable conflict management and resolution so as to enhance sustainable natural resource use. This chapter will also seek to indicate possible areas for further study, towards achieving sustainable natural resource use globally.

CHAPTER TWO

NATURAL RESOURCE USE CONFLICT

2.1 Introduction

This chapter analyzes what proponents have studied or found concerning conflict in natural resource especially in the nature conserved areas and the management of the conflicts in the natural resource areas. Each of the variables included in the study is discussed with reference to the existing body of literature and with notation of their theoretical foundations. Lessons gathered from literature sources are presented in a conceptual framework with the essential variables.

2.2 Natural Resource Uses

The world is naturally endowed with natural resources although the extent of this varies from country to country. However, the concept of natural resource has become difficult to define precisely though most people and organisations have an intuitive idea of what natural resource is (Atta-Asamoah, 2013). The World Trade Organisation defined natural resources as the 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 (World Trade Report, 2010). Alao (2011) describes natural resources as all non-artificial products situated on or beneath the soil, which can be extracted, harvested or used, and whose extraction, harvest or usage generates income or serves other functional purpose in benefiting mankind.

Increasingly, the use of such natural resource is being recognized, both in terms of socio-economic benefits and in terms of their contribution to other aspects of human well-being, through direct and indirect use as well as non-use values. World Bank (2010) however, takes exception to the fact that some of these benefits cannot be measured in monetary terms, including the value of protection against natural hazards or the contribution to cultural identity.

According to The Millennium Ecosystem Assessment (MEA) (2005), nature reserves are of economic importance as they contribute to improving standards. In the case of Ghana, they provide livelihood support for communities surrounding the park, as well as community based tourism programmes. In 2010, the International Union for Conservation of Nature and

Natural Resources (ICUN) indicated that in Ghana the Bamboo Cathedral and Rapids in Ankasa; Waterfalls, Magnificent Caves in Bomfobiri, and Kakum have all been major sources of ecosystem services. The United Nations Environment Programme (UNEP) (2009) have established that these ecosystem services include “provision services” such as food, water, timber, and fibre; “regulating services” that affect climate, floods, disease, wastes, and water quality; “cultural services” that provide recreational, aesthetic, and spiritual benefits; and “supporting services” such as soil formation, photosynthesis, and nutrient cycling.

The pressure on natural resources is however mounting due to competing demands from different users. In the past, natural resource was mainly used for domestic and agricultural purposes. The domestic water demand is increasing due to changing lifestyles caused by socio economic development. The natural resource use for agriculture is expected to increase due to its intensification to keep pace with food demand of a growing population (Joy and Paranjape, 2009). New demands are emerging from sub-sectors such as hydropower and other industries. Power differences between groups can be enormous and the interests are a matter of survival (Buckles and Rusnak, 2005).

In Ghana, according to the Food and Agricultural Organization’s (FAO) Global Forest Assessment Report (2010), as at the end of 2010, 21.7 per cent or about 4,680,000 hectares of Ghana were forested (MDGs, Report, 2010:50). The depletion of biotic resources is mostly alarming; biodiversity and fertile soils are being rapidly used up. According to World Wildlife Foundation (WWF) (1998 cited in Muilerman and Blonk, 2001:2) the state of the world natural resources, based on measurements of the loss of forest area and freshwater and marine animal species, has declined by 30 percent in 25 years (see Table 2.1). Half the natural forest cover worldwide has already disappeared, 13 percent in the last 30 years. Europe only has 1 percent of its original forest cover left. And there is no sign of this attack on biodiversity deteriorating.

Table 2.1: Some Trends in the Depletion of Natural Resources in the World

	Decline	Extended trend
Health of the world ecosystem	-30% in the last 25 years	Continuing decline
<ul style="list-style-type: none"> • Area of natural forest • Freshwater ecosystem index • Marine ecosystem index 	-13% in the last 30 years -50% in the last 25 years -40% in the last 25 years	More rapid reduction
Fertile soils	-25% in the last 50 years	Same or greater reduction
<ul style="list-style-type: none"> • Africa • Asia • Latin America 	-30% -27% -18%	

Source: World Wildlife Foundation (WWF), (1998)

2.3 Stakeholders in Natural Resources Uses

From the above discussions, one can identify the several users (such as governments, business, industry, landowners, unions, rebel forces, international corporations, international organizations, and non-governmental organizations) with their corresponding varying interests either for extraction, management and trade of natural resources (Ramírez, 1999; The United States Institute of Peace, 2007). According to the World Wildlife Foundation (WWF) (2005), a stakeholder is any individual, group or institutions that have vested interested in the natural resources of the project area and/or who potentially will be affected by project activities and have something to gain or lose if conditions change or stay the same. The identification and selection of appropriate stakeholders is therefore a vital element of the collaborative process (Reed, 2000). Stakeholder identification and collaboration provide a comprehensive understanding of who the stakeholders are, their motives and main interest, their roles in the decision-making processes which are important issues to consider when addressing problems that affect a variety of interests.

According to Ayling and Kell, (1997) these many stakeholders interests and actions concerning natural resources can lead to both direct and indirect bearing on conflict dynamics and the potential for escalation or resolution. These users and managers may be at the national, sub-national and supra-national level, include different levels of government,

international organisations, national or multinational corporations, ethnic groups, communities, groups within communities and individuals (Ayling and Kell, 1997).

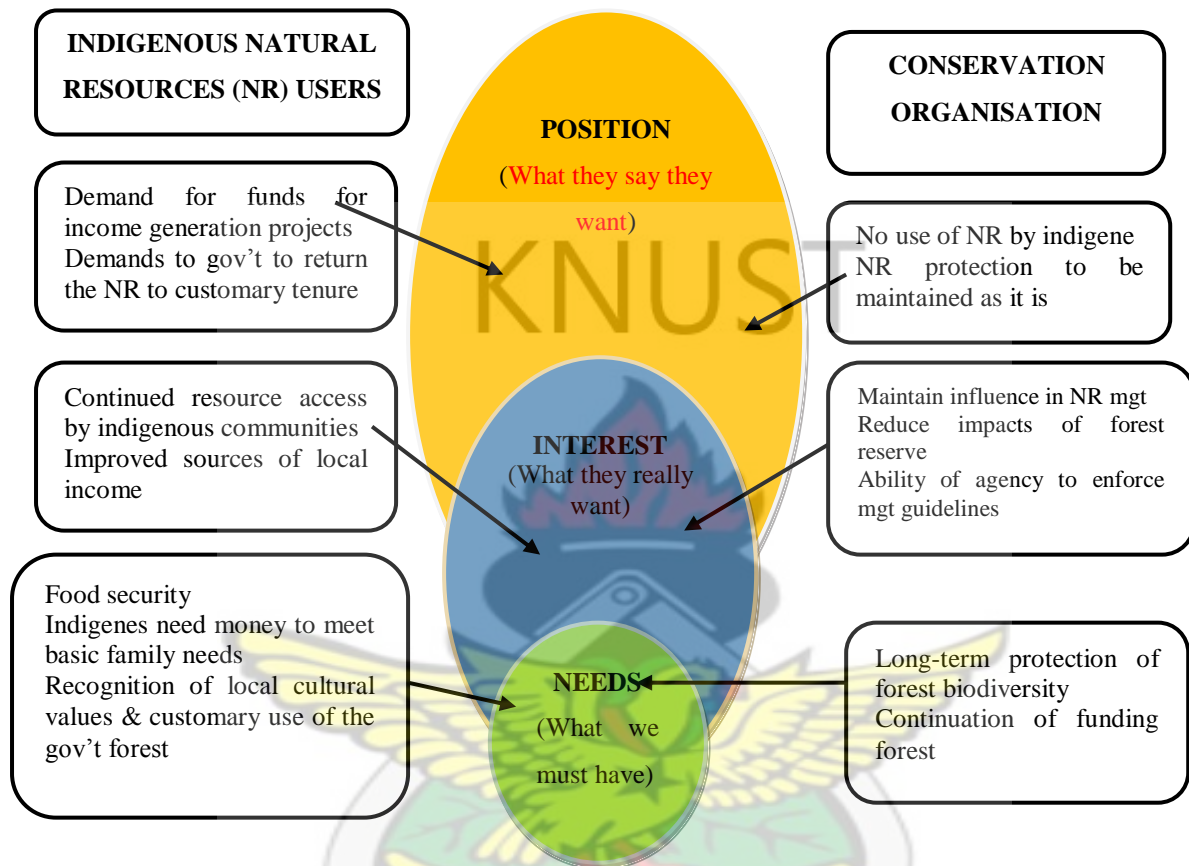
Among the lots of these stakeholders, the United States Institute of Peace, (2007) claims that local communities are the significant users of natural resources for their livelihoods. The direct use of forest ecosystem goods and services for household consumption, including food, fuel wood and medicinal plants are the immediate benefits to meet basic needs. They also generate income from the trade of many forest goods, especially non-timber forest products (Gupta, 2011). Government has also used natural resources to generate revenues through levies and taxes on resource industries, direct extraction or selling of extraction right. According to the United States Institute of Peace (2007), governments protect its interest of the substantial revenue it receives by avoiding power-sharing arrangements or promote democracy-building efforts because they have the means to buy off or intimidate their opponents. In other related research by the UNEP (2009), rebel groups use natural resources as a commodity to fund weapon purchases and mobilize fighters. They use violent means to capture resource-rich territories and forced labour to extract natural resources, rebel groups have set up lucrative businesses that profit from participation in the global market, one notable example being the drug trade.

International organisations such as the International Union for Conservation of Nature, United Nations, the World Bank Group, and the International Monetary Fund are identified as major stakeholders in natural resource utilisation. They track economic stability and health conditions and provide aid in terms of oversight and ecosystem management. Also local and international businesses and industries that participate in the selling and processing of resources play a role in determining the standards and regulations by which extraction and trade occur. Non-Government Organisations (NGOs) both domestic and international, play varied roles by publicizing conflicts as well as lobbying governments and other actors to improve human rights, transparency, and the fight against corruption.

Conservation organizations have cooperated with law enforcement authorities to police access to protected areas, and in some instances communities have been forcibly evicted from those areas. Forest law enforcement indicates that high profile crackdowns on illegal logging tend to be targeted against the rural poor rather than against the business people and officials who are often behind forest crime (Gupta, 2011). However, a research work by Roe et al, (2009) has indicated that conflict between local groups and other more powerful actors,

including both state agencies and private sector investors, remains widespread across the sub-continent and is often intensifying. Figure 2.1 is an illustration of how needs, interests and positions local community and conservation organisations conflicts among stakeholders.

Figure 2.1: Conflict on distinguishing Needs, Interests and Position



Source: Adopted and modified from Fisher, (2000)

2.4 Conflict in Natural Resources Uses

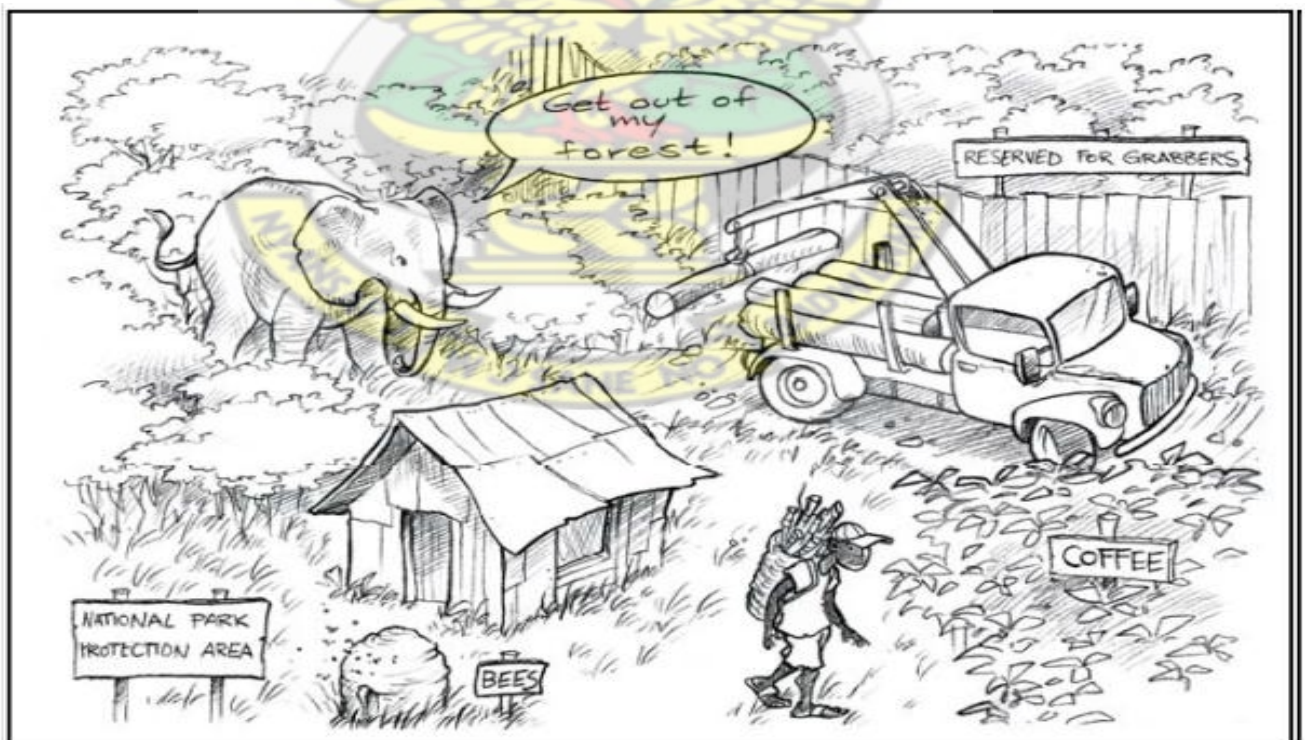
Conflict is endemic to all social life. It is an inevitable part of living because it is related to situations of scarce resources, division of functions, power relations and role-differentiation (Bercovitch, 1983:104). The concept has therefore acquired a multitude of meanings and connotations making it a semantic jungle. This physical sense of two or more bodies moving against each other has been retained by those who offer an empirical definition of conflict (Bercovitch et al. 2008: 4).

The Heidelberg Institute for International Conflict Research defines conflicts as the clashing of interests (positional differences) over national values of some duration and magnitude between at least two parties (organized groups, states, groups of states, organizations) that are determined to pursue their interests and achieve their goals (Conflict Barometer 2010:89).

These interests, according to Schmid, (1998) can differ over the access to and distribution of resources; the control of power and participation in political decision-making; the identity (cultural, social and political communities); the status, particularly those embodied in systems of government, religion, or ideology (cited in Engel and Korf, 2005).

For this purpose, it is imperative in this study to consider what other researchers perceive natural resource conflicts to be. The Food and Agriculture Organization of the United Nations (2000) describes Natural Resource Use Conflict as: “Disagreements and disputes over access to, and control and use of, natural resources. These conflicts often emerge because people have different uses for resources such as forests, water, pastures and land, or want to manage them in different ways”. Schweithelm et al. (2006) also defined natural resource conflict as situations where the allocation, management, or use of natural resources results in violence, human rights abuses, denial of access to natural resources to an extent that significantly diminishes human welfare. These definitions imply that disagreements arise when interests and needs are incompatible, or when the priorities of some user groups interfere with the interests of other users or better still are not considered in policies, programmes and projects. Figure 2.2 illustrates some stakeholders in natural resource use conflicts.

Figure 2.2: Stakeholders in Natural Resource Conflicts (By: Jan Birck)



Source: Wehrmann (2008)

Nonetheless, despite the negative connotation of conflict, others do not perceive conflict in itself as a perverse phenomenon. EU-UN (2012) asserts that non-violent conflict can be an indispensable constituent of social change and development, and is a necessary component of human interaction. Non-violent resolution of conflict is possible when individuals and groups have trust in their governing structures, society and institutions to manage incompatible interests. To affirm this stands, Onuoha (2008) adds that natural resources conflicts are logical developments of the absence of proper democratic, legal and administrative mechanisms which are the root cause of these conflicts.

In summary, the categorization and systematization of conflicts are extremely complex, five points may be essential for an approximate understanding of the conflict as a term:

1. conflict is a social fact different from its form;
2. for an overt and broad analysis of conflict, there is no limiting evaluation of conflict;
3. the reduction of conflicts' contextual characteristics is not necessary, since it undermines the complexity of its notion;
4. there is no way to overlap or interchange cause and effect by defining conflicts (Heinz-Jürgen et al., 2006 cited in Warner, 2000) and;
5. the negative consequence that arises from the conflicts should not be seen as a negative connotation but rather a force for positive social change, its presence being a visible demonstration of society adapting to a new political, economic or physical environment (Warner, 2000).

2.4.1 Types of Conflict

A typology approach attempts to classify conflicts into predictable groups or patterns. The core elements or idea supporting such classification is to begin to find out and to understand the root causes of a conflict in order to propose resolution strategies that will have a higher probability of success (Moore, 1996; EU-UN, 2012). This typology is guided by the core elements of conflict. In Moore's (2005:24-26) points of view, conflicts are categorised into five types:

1. **Data conflict:** This type of conflict arises when information is lacking, differently interpreted or withheld by one party from the other party.

2. **Interest conflict:** This occurs when there are actual or perceived scarce resources such as physical assets (money or other tangible things), procedural issues (how decisions should be made) or psychological issues (who is in the wrong emotionally).
3. **Value conflict:** This type erupts when people have different ways of life, deeply rooted goals or varying criteria on how to evaluate behaviours.
4. **Relationship conflict:** This type prospers in environments of strong emotions, stereotypes, poor communication and historic negative patterns.
5. **Structural conflict:** This arises from structural inequalities in control, ownership, power, authority or geographic separation.

A typology of conflict is useful when the issues in a conflict are centralized in one of the five categories. When issue focus occurs, different responses to conflicts are required. For example, if a conflict is primarily a data conflict, sharing information and being sure that each party is interpreting the facts the same way is useful. However, if the conflict primarily is about values, sharing factual data alone will be of little or no use.

2.4.2 Levels of Conflict

According to the FAO (2000), natural resource conflicts occur at various levels and involve a variety of actors. They range from conflicts among local men and women over the use of trees, to conflicts among neighbouring communities disputing control over woodland, to villages, community-based organizations, domestic and multinational businesses, governments, international development agencies and NGOs in conflict over the use and management of large forest tracts. Grindle and Wellard, (1997 cited in Warner, 2000) aid in classifying these levels into micro-micro conflict and micro-macro conflict.

The micro-micro conflict occurs at the intrapersonal, interpersonal, and intergroup, inter community levels, etc. Examples of such conflicts are:

- a. Conflicts over land and resource ownership, e.g. between private and communal land owners;
- b. Conflicts due to natural resource projects being captured by élites and/or those who happen to own resources of a higher quality;
- c. Conflicts over the unfair distribution of work and profits;
- d. Conflict between land-owners and resource users;
- e. Conflict between indigenous groups, and more recent settlers;

- f. Disputes generated by jealousy related to growing wealth disparities;
- g. Internal land ownership disputes ignited by the speculation activities of commercial companies;
- h. Resentment built up due to lack of representation on village committees.

While the micro-macro conflict occurs between the community level and external stakeholders such as state agencies, multinational organisations. Examples of such conflicts are:

- a. Contradictory natural resource needs and values, e.g. between wildlife habitat protection and local livelihood security;
- b. Cultural conflicts between community groups and outsiders;
- c. Disputes caused by political influence (national, provincial or local);
- d. Disputes arising from differences between the aspirations of community groups and expectations of NGOs or commercial companies;

2.4.3 Nature of Conflict

Regarding the nature, conflicts may be classified into violent and nonviolent conflict or into constructive and destructive conflicts (Collins, 2008). The destructive conflicts are characterized by verbal and nonverbal insults, ego attacks, inflexibility, a mindset of retaliation, and an exchange of negative emotion. These conflicts are also known as affective conflicts, or personalized conflicts, because they are personal in nature and characterized by negative emotions, tension, personality clashes, and defensiveness. In a particular case there can of course be a combination of acts of omission and acts of commission. A comprehensive definition of violence is offered by the team of the NGO Responding to Conflict (cited in Berghof Foundation 2012:117) as consisting of actions, words, attitudes, structures or systems that cause physical, psychological, social or environmental damage and or prevent people from reaching their full human potential. The outcomes of these conflicts are often a damaged relationship.

Traditional views of conflict blame troublemakers and authorities, and fail to acknowledge the role of conflict as an integral part of change that can create opportunities for increased trust, relational growth, and joint problem solving (Collins, 2008:5). The focus on preventing or managing conflict has given way to the notion that conflict can be constructive and there is an optimal level of conflict in an organization that is better than no conflict at all. According

to Collins, (2008:5) constructive conflicts are characterized by arguments about facts, information, ideas, or plans. The benefits of optimal levels of constructive conflict include better decisions and innovative approaches to solving problems.

Berghof Foundation (2012:117) described non-violence as both a philosophy, upholding the view that the use of force is both morally and politically illegitimate and counterproductive, and as a practice to achieve social change and express resistance to oppression. According to Sharp (n.d) one of the leading scholars in non-violent conflict action can take the form of protest, non cooperation, and intervention in which the actionists, without employing physical violence, refuse to do certain things which they are expected, or required, to do; or do certain things which they are not expected, or are forbidden, to do.

2.4.4 Causes of Conflicts in Nature Reserves

Despite natural resources potential of contributing to the socio-economic development of the lives of people who live closer to them, study by Starr (1969 cited in Wehrmman 2008) has shown that conflicts are likely to erupt when there are real or perceived restrictions by state or conservation agencies. Nang et al. (2011) attribute poor coordination and participation of local people in decision making as the major causes of conflicts over natural conserved areas.

High incidence of poverty especially in the rural areas is been identified as a major cause of conflicts. According to FAO, (2005:3) as impoverished people become desperate due to increased competition for scarce natural resources, social inequality and political marginalization, involvement in violent conflict becomes the only viable means through which they demonstrate their resents and the a means of livelihoods security for themselves and their families through conflict.

Again the FAO (2005), research findings revealed some structural factors such as contradictions in the customary law and state law as regulatory entities are major source of promoting conflicts. Land tenure systems; uneven control and distribution of wealth or power, discriminatory legal frameworks in society are perceived as unjust, ineffective or exclusionary hence a revolution to attain equity. For example, marginalized groups may compete for the chance to gain or secure rights, while privileged groups may feel the need to defend their existing rights.

Other researches carried out have also established that intense competitions for natural resources can be attributed to the demographic change (e.g. population growth, migration and urbanization); market pressures (e.g. increased commercialization, intensification and privatization of local and economies, growing integration of national and global economies, economic reforms (EU-UN, 2012; Engel and Korf, 2005; DFID, 2001). The results of these pressures on natural resources may lead to lack of prospect and opportunities for the future. In effect, young men and women resort to conflict groups as a way of protecting their livelihoods (Ohlsson 2003; Huggins et al. 2004).

Political and institutional factors have been identified as major causes of conflicts in natural resources areas. Krishnarayan (2005:12) indicates that policies, institutions and processes governing the access, use, ownership and management of natural resources can be critical drivers of conflict. FAO (2000:6-10) have established that poor enforcement of resource rights and laws; discriminatory policies, rights and laws that marginalize specific groups; unequal distribution of benefits and burdens from development projects; inadequate public participation and transparency in decision-making; lack of effective mechanisms for conflict management; elite power struggles and political exclusion and breakdown in social contract and corruption are major sources of conflicts. This is confirmed also by a research and observation by UNEP (2009) when it posited that the failure in governance (institutions, policies, laws) to resolve these tensions equitably has led to specific groups being disadvantaged, and ultimately to conflict.

Perverse incentives according to Ostrom, (1990 cited in Engel and Korf, 2005), is also identified as driver of conflicts in natural resources areas. People respond predictably when they are given economic encouragement to act. Some of these perverse incentives were identified as corruption, rent seeking and other sources of conflict (for example between rural communities and officials).

Conflict is also growing in areas where environmental changes due to climate changes have forced people to alter their livelihood strategies (e.g. floods, recurrent droughts, altered river flows, changes in wildlife migration) Gupta, (2011). This has resulted into environmental insecurity, unjust resource exploitation.

2.4.5 Theoretical Underpinnings Natural Resource Conflict and Conflict Management

The findings of the reviewed studies can best be explained by several theories of conflicts such as Vasquez's territoriality theory, biological and anthropological theories based on human nature, frustration- aggression theory, enemy system theory etc., however in this study the human needs theory, Malthusian theory are used due to their direct bearing on natural resources conflicts. Other theories that have also been propounded to managed conflicts is also considered for the purpose appreciating the effectiveness of conflict management in natural resource area.

Traditionally, Malthusian theory suggests that due to population growth, human consumption needs will eventually exceed the availability of natural resources (particularly food), causing a myriad of negative social outcomes like war, disease, and famine (Malthus, 1798). According to Malthus (1973) violence and war, will evolve when the equilibrium between food supply and size population is disrupted. The scarcity caused by increase population growth results in intense competition for the available natural resources which might results in conflicts. The traditional Malthusian perspective has been heavily criticized, however, for neglecting the role of technological innovation and other factors in increasing the carrying capacity of the world (Barnett, 1974). In the case of the KSNR, the absence of technology (community is KSNR are typical rural) may not increase the carrying capacity of the land. Therefore increasing population in the host communities of KSNR may potentially be a source of competition for the available limited farmlands their livelihoods.

Human Needs Theory (HNT) was developed in the 1970s and 1980s as a generic or holistic theory of human behaviour. This theory postulates that humans have basic needs that have to be met in order to maintain stable societies. These universal needs include security, identity, recognition, and development (Burton, 1993). The struggle to increasingly gain the control of their environment that is necessary to ensure the satisfaction of these needs cannot be curbed; it is primordial. Therefore when discriminatory policies people marginalised it may fume bitterness and social injustices are an explanation why social groups start using conflicts (FAO, 2005; Gurr 2001). Relative to the KSNR conflicts, the total farm lands on which the livelihoods of the host communities depend on has been reduced by 52.9 percent due to the extension of the KSNR boundaries. Coupled with the increase in the population of the host communities, this has affected household heads income level in meeting their basic needs such as housing, clothing, food etc.

Conflict management theories that will be considered are largely depended on its relation to managing natural resources conflicts. These include following:

The Human Needs Model propounded by John Burton (cited in Meha, 2004) as a management tool argues that when an individual or group is denied its fundamental need for identity, security, recognition or equal participation within the society, protracted conflict is inevitable. To resolve such conflict, it is essential that needs that are threatened be identified and subsequently restructuring of relationships or the social system take place in a way that needs of all individuals and groups are accommodated.

A related theory is the multi-track diplomacy theory developed by (USAID, 2010). This theory emphasizes the importance of a public peace process and deep diplomacy for peace negotiations. National-level leaders from civil society, business, religious, academic and other non-governmental sectors and grassroots-level leaders engaged in peace building can contribute constructive ideas to the formal peace process, and help consult the public on settlement options. People who are involved in the peace process will serve as a constituency for implementing the eventual peace agreement.

2.4.6 Effects of Natural Resource use Conflict

Conflict has multiple, long and short-term impacts on development, and on environmental and human well-being. The effects, even of internal conflicts, are felt at various spatial levels, within the immediate area of conflict, and often in neighbouring communities (PRAGYA 2012:12). Research indicates that conflict is estimated to result, on average, in production losses of 12 per cent and to undercut growth in the agricultural sector by 3 per cent per year worldwide (DfID, 2001). The decline in agricultural produce implies an increasing gap between food production and need. This aggravates poverty and hunger, and consequently promotes continued dependence on food aid (UNEP, 2006, p.393).

In a related study by Luckham et al, (2001:22), conflicts in natural resource areas are not only destruction but can also only affect the provision of essential welfare services that leads to a breakdown in communication and loss of market and other economic opportunities. DfID reports that in the 20 years from 1980 to 2000, Africa has lost over 50 per cent of its infrastructure as a result of conflict particularly in Republic of Congo, Liberia, etc. (DfID, 2001).

In addition to the destruction of welfare services, UNEP (2006:395) has also identified displacement of people as a major social and economic cost of serious conflict. According to Ayivor et al, (2013) the Wildlife Division in charge of the Digya nature reserve embarked on an eviction exercise with the backing of the military government that was in power without a corresponding resettlement measures. This has resulted in displaced people living at the river banks. The DFID reports on conflict indicates that since 1960, more than eight million people have died directly or indirectly as a result of war or conflicts in Africa, and projections suggest that by 2020 injuries caused by war will have become the eighth most important factor placing a disease burden on society (DfID, 2001).

Environmental problems associated with conflicts include: habitat degradation, reduced access to water points and other vital resources, species loss, alteration of the natural food chain, and additional pressure on biodiversity (UNEP 2006). In Angola, thousands of animals including antelopes and elephant fell prey to landmines conflicts, and in Mozambique, more than 100 elephants have died (Nachon 2004 cited in UNEP 2006:395). Other consequences of natural resources conflicts include in crimes, psychological trauma, human rights abuses, disinvestment and weakening of environmental institutions and governance systems. (Vanasselt, 2003; Luckham et al 2001:20).

2.5 Conflict Management in Nature Reserves

Conflict is inevitable and the results of conflict are not predetermined hence the need for effective conflict management system (Foundation Coalition, 2003). According to Afzalur (2001), conflict management does not necessarily imply avoidance, reduction, or termination of conflict but rather designing effective approaches or strategies to minimize the dysfunctions of conflict and enhancing the constructive functions of conflict. Bercovitch (n.d) also notes that the purpose of effective conflict management is to minimize disruption arising from the existence of a conflict, and containing structural conflicts such that they do not impinge on the equitable, efficient and sustainable management of project activities (Warner, 2000:14). However, in Ghana, conflict management in nature reserved areas have not yielded the desired results since there are pockets of conflicts which range from arrest of local people by Wildlife Officials for entry into the park to collect non-timber forest products, to serious confrontation with poachers, arrests and evictions that occasionally result in loss of lives (Ayivor et al., 2013). This section of the study focuses on the assessing the effectiveness of conflicts management systems in addressing natural resource conflicts in the KSNR. To do

this, several frameworks for assessing the effective management will be examined while some consideration will be given to the methods, strategies and the approaches for resolving conflicts in nature conserved areas.

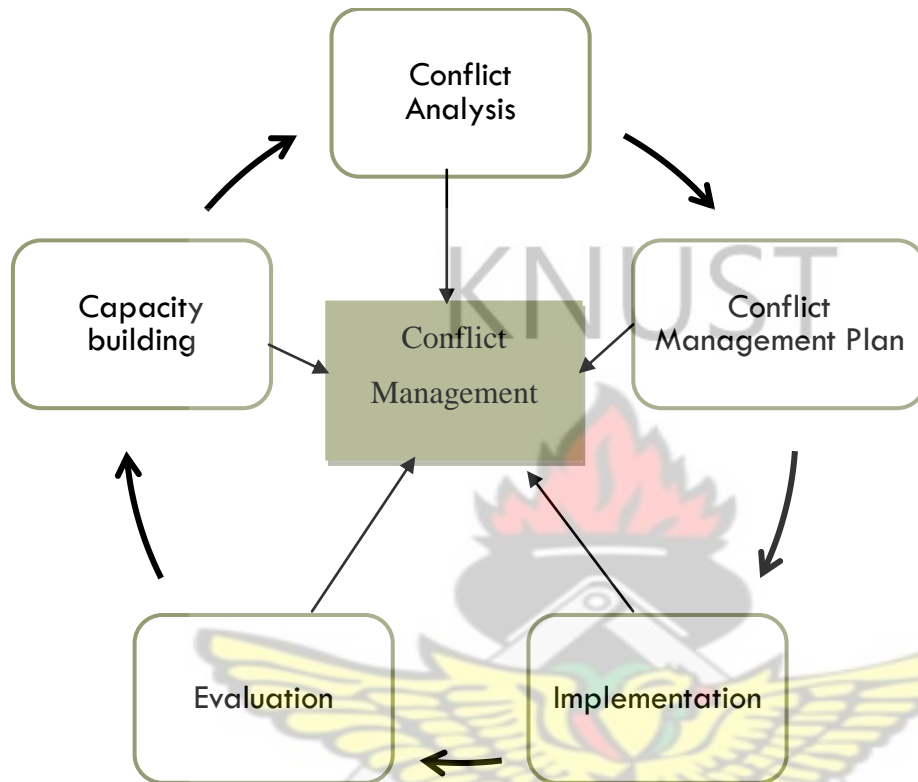
2.5.1 Conflict Management Process

Different conflict analysis frameworks have been developed to manage conflicts in natural resource areas. Natural resources management according to California Natural Resource Agency (CNRA) (2010:3), is the planning and decision making process that coordinate resources use so that the long-term sustainable benefits are optimised and conflict among users are minimised. Most of which have been general to all kinds of natural resources. Example is the UK Foundation for the People's of the South Pacific (UKFSP) (1998) framework which conceptualized the conflict management with four main components namely; conflict analysis, conflict management plan, implementation and capacity building. Lewis (1996) also developed a framework for conflict management in protected areas. The components in Lewis (1996) framework are determining roles, involving affected stakeholders and implementation and evaluation. In this study both frameworks will be harmonized due to the limitations in both frames. The limitations lie in the fact that UKFSP framework lacks an evaluation component which is necessary for the measurement of successes or failure of the management plan. In the case of Lewis model it failed to consider capacity building which is also necessary for effective implementation of the management plans. The modified framework for conflict management in nature reserve areas is illustrated in figure 2.3. The conflict analysis or assessment stage is the first step in developing, in a systematic way, a multidimensional understanding of the causes and dynamics of conflict, as well as the opportunities for peace (Schall and Becker, 2004:2; Warner 2000:22; Brehm et al., 2005:7). It focuses on the root causes, the actors and their relationships, the multiple perspectives and takes into consideration the past, present and the future.

The preparation of the management plan is the second stage of the conflict management process. According to Warner, (2000:29) the conflict management plan describes the overall strategy for managing the conflict, combined with the proposed process of consensus-building and an initial set of conflict mitigation or prevention options. The implementation component of the conflict management framework involves formalizing, and implementing the solutions to the conflict that stakeholders have agreed to, or that decision-makers decide on even without stakeholder agreement (Lewis, 1996:20). Implementing an agreement means

that the conflict parties act to put that agreement into operation, thus ending the dispute (Engel and Korf, 2005:143).

Figure 2.3: Conflict Management Process



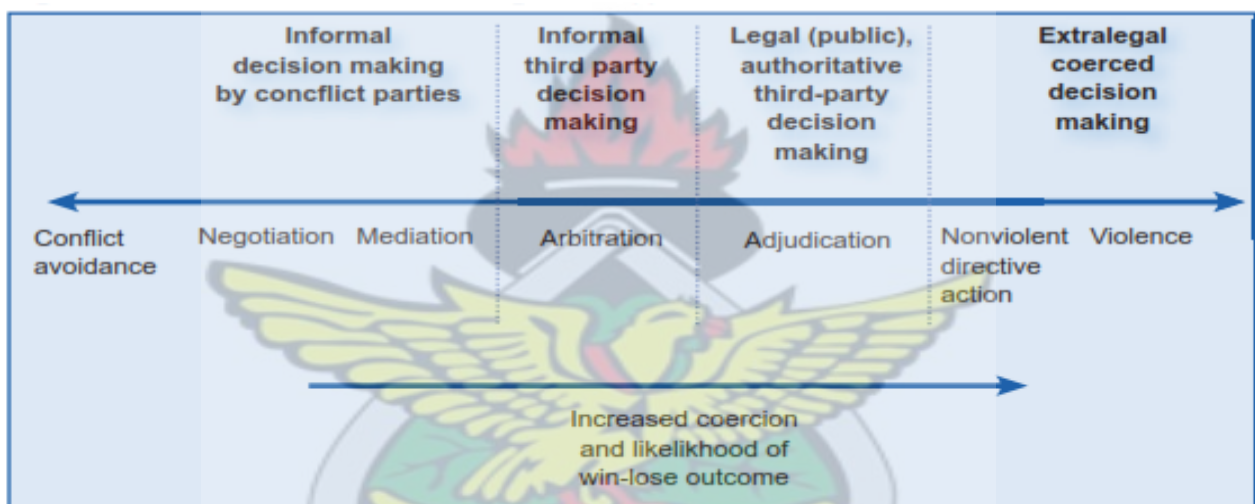
Sources: Modified from UKFSP, 1998 and Lewis (1996)

The evaluation component according to United Nations Development Group (UNDG), (2013:21) is a mechanism to ensuring coordination, sharing of information and monitoring the impact of the various natural resource interventions. Furthermore, these mechanisms should ensure strategic coordination between stakeholders. While capacity building is integral to developing a level-playing field, so less powerful stakeholders can participate equitably in a process of consensual negotiation. The capacity includes training in negotiation, facilitation and mediation for both project staff and the project's primary and secondary stakeholders. For effective conflict management process, Lewis (1996:3) underscores the stages with these principles namely focusing on the underlying interests rather than positions; involving all the significantly affected stakeholders in a fair and respectful process and understanding the power that various stakeholders have, and taking into account when trying to resolve a conflict.

2.5.2 Conflict Management Methods

Eight basic methods have been identified as the way of managing conflicts (FAO, 2000; Engel and Korf, 2005; International Network for Capacity Building in Integrated Water (Cap-Net), 2008). These include the conflict avoidance, negotiation, mediations, arbitration, adjudication, non-violent directive, coercion and violence. These methods used in conflict management are illustrated in a continuum of conflict management. These range from conflict avoidance at one extreme to physical violence at the other. Moving from left to right in the diagram, the approaches become progressively more directive and coercive in terms of decision-making (see figure 2.4).

Figure 2.4: Continuum of conflict management



Sources: International Network for Capacity Building in Integrated Water (2008)

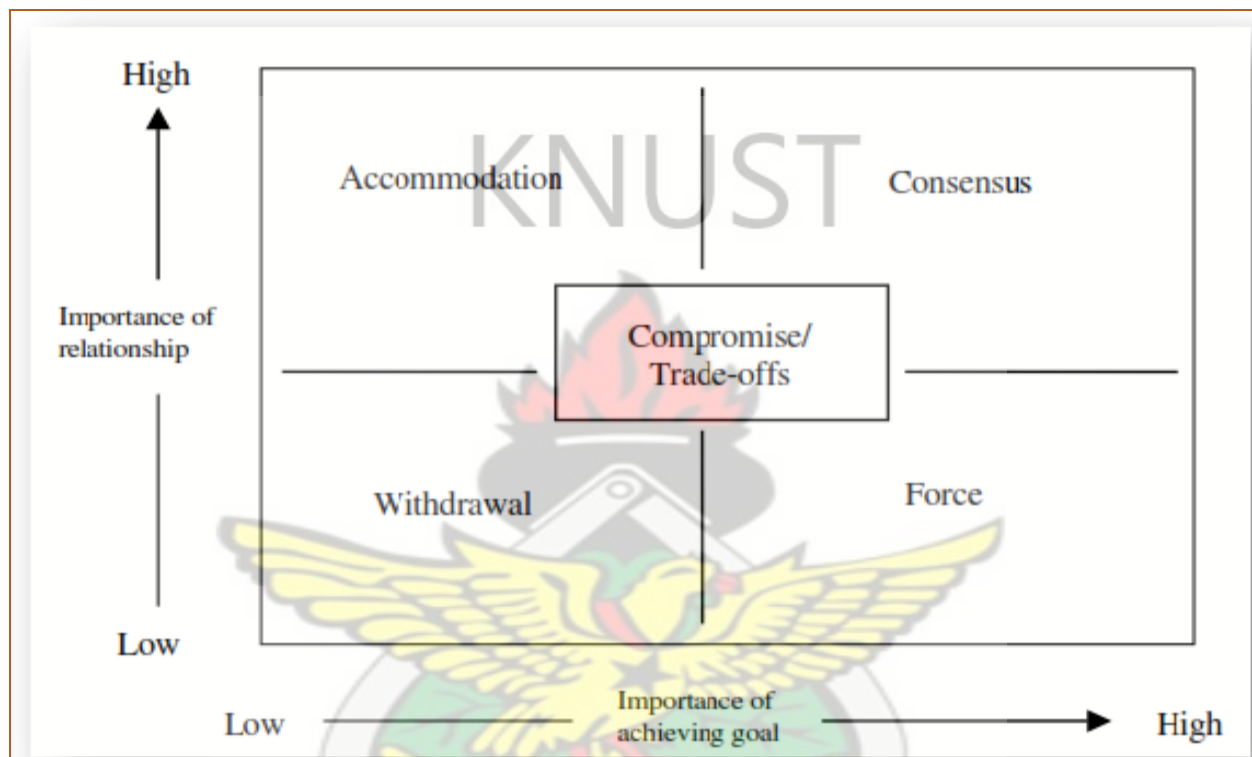
According to Moore (2003 cited in Engel and Korf 2005), the further the arrow towards the right of the diagram the less the influence that the conflict parties have on the process and outcome of conflict management.

2.5.3 Conflict Management Strategies

One of the key strategies promoted by the most researchers as the means of addressing conflicts in natural resource area is consensus-building or collaboration (Conroy et al., 1998; FAO, 2000; Warner, 2000; Opuku-Mensah, 2012). Consensus building seeks to build the capacity of people to develop a dialogue with each other, either directly or indirectly, to find a way forward based on consensus which generates mutual gains for all parties with the minimum of compromise and trade-off. Although consensus-building between multiple

stakeholders can lead to mutually acceptable, and therefore more sustainable, outcomes, it may not always be the most viable (Chupp, 1991). According to Warner (2000), even when it is, it may not be effective on its own, but may require support either concurrently or sequentially from one or more other strategies. Figure 2.5 summarises the key strategies of conflict management.

Figure 2.5: Five conflict Management Strategies



Source: Warner, 2000

In this diagram the strategies differ depending upon the extent to which a conflicting party values the continuance of good relations with other parties; and the importance each party places on achieving its own goals (Warner, 2000:17).

2.5.4 Conflict Management Approaches

The use of conflict management approaches vary among societies and at different levels (CHED, 1999). Any conflict management approach must therefore be appropriate for the context in which it happens and must take local conflict resolution customs and institutions into account (Lewis 1996:3). According to Centre for Human Environment and Development (CHED), (1999) approaches for conflict management can be grouped into traditional and modern conflict management approaches. The customary system approach is an example of the traditional approach due to its cultural orientation and implementation. The traditional

institution such as the traditional authority decides on conflicting matters and decisions made bind the parties involved (Engel and Korf, 2005). However, Maiga and Diallo, 1998; Engel and Korf 2005:45) argued that despite its simplicity and cost effective, the customary system approach is poised with certain limitation such as weak interpretations of laws and weak enforcement of directives. Furthermore, the laws also lag behind the social changes the society undergoes in resource use pattern, population density, and the social and cultural complexion of the region.

Co-management is another widely used approach for managing conflicts in nature reserve areas. It deals with problems of safeguarding individual and groups rights while preserving the integrity of the nature reserve. The basic premise is that government and local user groups become partners in resources management. With this approach, government provides the administrative, regulatory and infrastructural capabilities that do not exist at the community level, while the communities of the resources users in turn, provide knowledge, availability in the resource setting and community based mobilization in support of management efforts (Homeland 1999; Kruse et al 1998; Pinkerton 1992; Sunderlin and Gorospe, 1997 cited in Sick 2002). To date co-management has not achieved the desired results of preserving natural resources due to the top-down nature of its operation (Sick 2002:).

Another related approach to managing conflicts in natural resources areas is the national legal systems approach. This approach is based on legislation and policy statements that are administered through regulatory and judicial institutions. Adjudication and arbitration are the main strategies for addressing conflicts, with decision-making vested in judges and officials who possess the authority to impose a settlement on disputants. (Engel and Korf 2005:46).

The alternative conflict management approach is a multidisciplinary field that addresses natural resource conflicts in collaborative efforts among the stakeholders. It promotes a joint action based on voluntary agreements. Enforcement depends solely on all parties' willingness to comply with an agreement. Third parties may facilitate this process, but cannot force anything on the disputants. Collaborative conflict management works best with conflict stakeholders who are fairly equal in strength. Practitioners use methods such as negotiation and mediation to help parties reach a consensus (FAO, 2000:5).

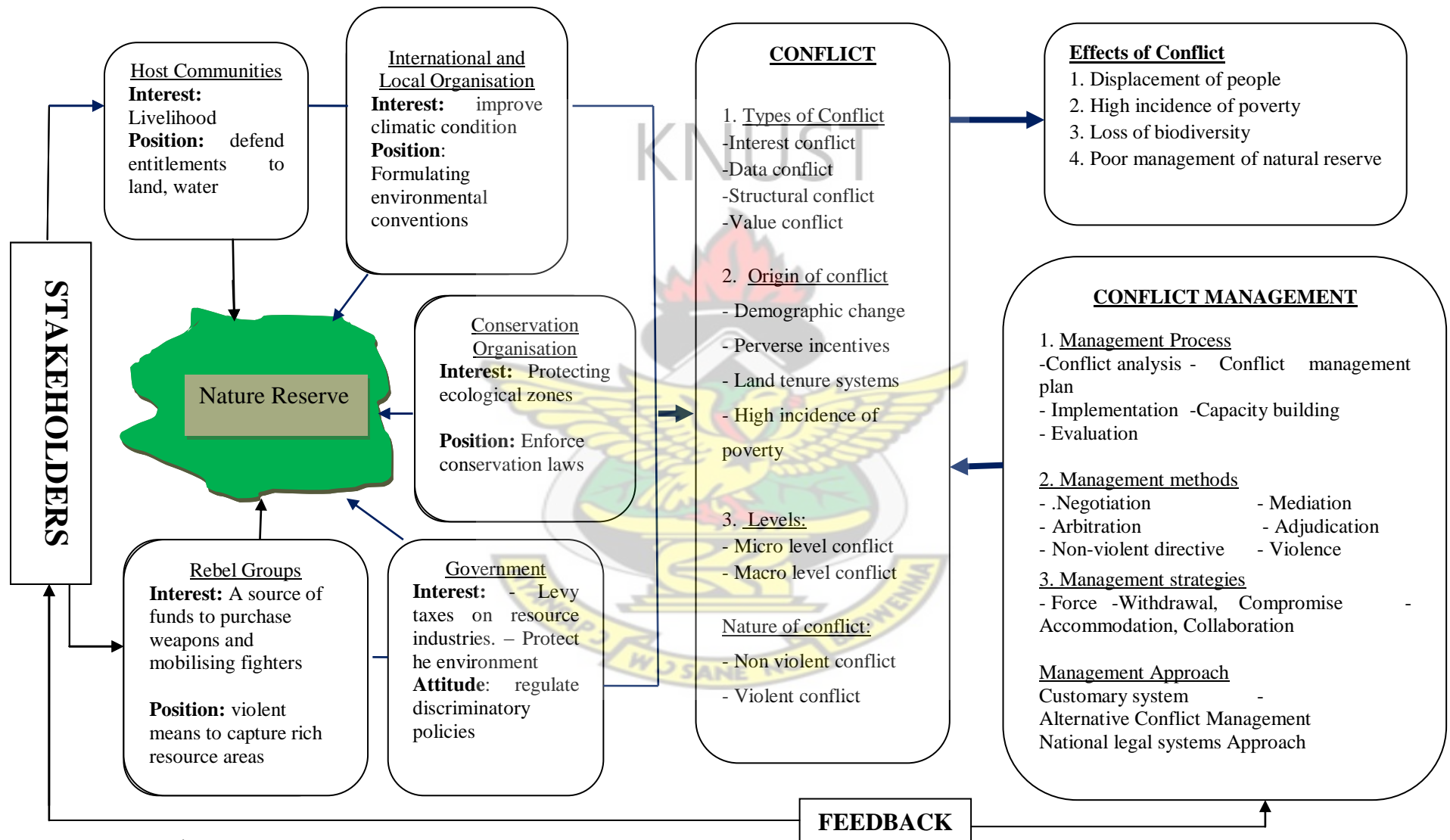
2.6 Conceptual Framework and Summary of Lessons Learnt from Literature

Natural resources conservation have long been the most effective and widespread measure for sustaining nature and natural resources. These areas are important tourist attractions, protect watersheds, help define national identity, and conserve biological diversity. Our societies would be much poorer if protected areas had not been established (Lewis, 1996).

However, Human Needs Theory (HNT) was developed in the 1970s and 1980s postulated that humans have basic needs that have to be met in order to maintain stable societies. These universal needs include security, identity, recognition, and development (Burton, 1993). The struggle to increasingly gain the control of their environment that is necessary to ensure the satisfaction of these needs cannot be curbed; it is primordial. Therefore when discriminatory policies people marginalised it may fume bitterness and social injustices are an explanation why social groups start using conflicts (FAO, 2005; Gurr 2001). Relative to the KSNR, the consistent struggle for access and control by the fringe communities for their livelihood and the WD earnestness to protect the KSNR is the point of conflict. Total farm lands on which the livelihoods of the host communities depend on has been reduced by 52.9 percent due to the extension of the KSNR boundaries by the WD. The increase in the population of the fringe communities per scarcity of land resources for survival without an application of modern agricultural technology confirms Malthusian theory on conflicts, violence and war in the societies.

Interest from donors, governments and Non-Government Organisations (NGOs) involved in conflict and conflict management in natural resource projects is emerging within three distinct areas of international development: peace-building; poverty reduction; and biodiversity conservation (Warner, 2000). Effective conflict management models therefore are needed which acknowledge conflict as a potential obstacle to sustainable development that manage its negative excesses and transform the residual into a positive force. Figure 2.6 depicts the conceptual framework for the study.

Figure 2.6: Conceptual Framework



Source: Author's construct, 2014

2.7 Chapter Summary

This chapter which provides the theoretical basis for the study has reviewed issues in relation to natural resource utilization, conflict dynamics and effects and management of these conflicts. The import from this review includes:

- Sustainable natural resources are expedient ingredient for national development. It is therefore expedient for a broader stakeholder participation in the utilisation and management of natural resources.
- Conflicts in the human society and for that matter in natural resource areas are inevitable. These conflicts may arise from high incidence of poverty, discriminatory legal frameworks, perverse incentives, political and institutional factors, demographic change etc. These conflicts may also have adverse impact on the livelihood of the people and the environment.
- Effective conflict management in natural resource areas is important to minimise the disruption that arises from the existence of a conflict, and containing structural conflicts such that they do not impinge on the equitable, efficient and sustainable management of project activities.
- The next chapter begins this step by determining the methodology required to obtain the necessary data and information to achieve this objective.

CHAPTER THREE

PROFILE OF KSNR AND RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes what research methods have been used to study the natural resource use conflicts in the KSNR. The description of the study area has briefly been highlighted and the methods which describe the research approach, research process, data collection and data processing as well as analysis are presented in seriatim.

3.2 Background of KSNR

The KSNR is a nature preservation area set up to protect the ecology, retain the transitional vegetation and fauna for scientific research and for monitoring the southward advancement of the savanna vegetation. Other aims include protecting the watersheds of the tributaries of the Sene and Afram rivers and providing timber products (Wildlife Division, 1994). Historically, the area constitutes the site where the two traditional areas, Kumawu and Kwaman, by treaty joined forces to fight invading enemies in one of their last victorious tribal wars. The area therefore is held as a sacred place for both traditional areas and each lays claim to it (Hagan, 1998).

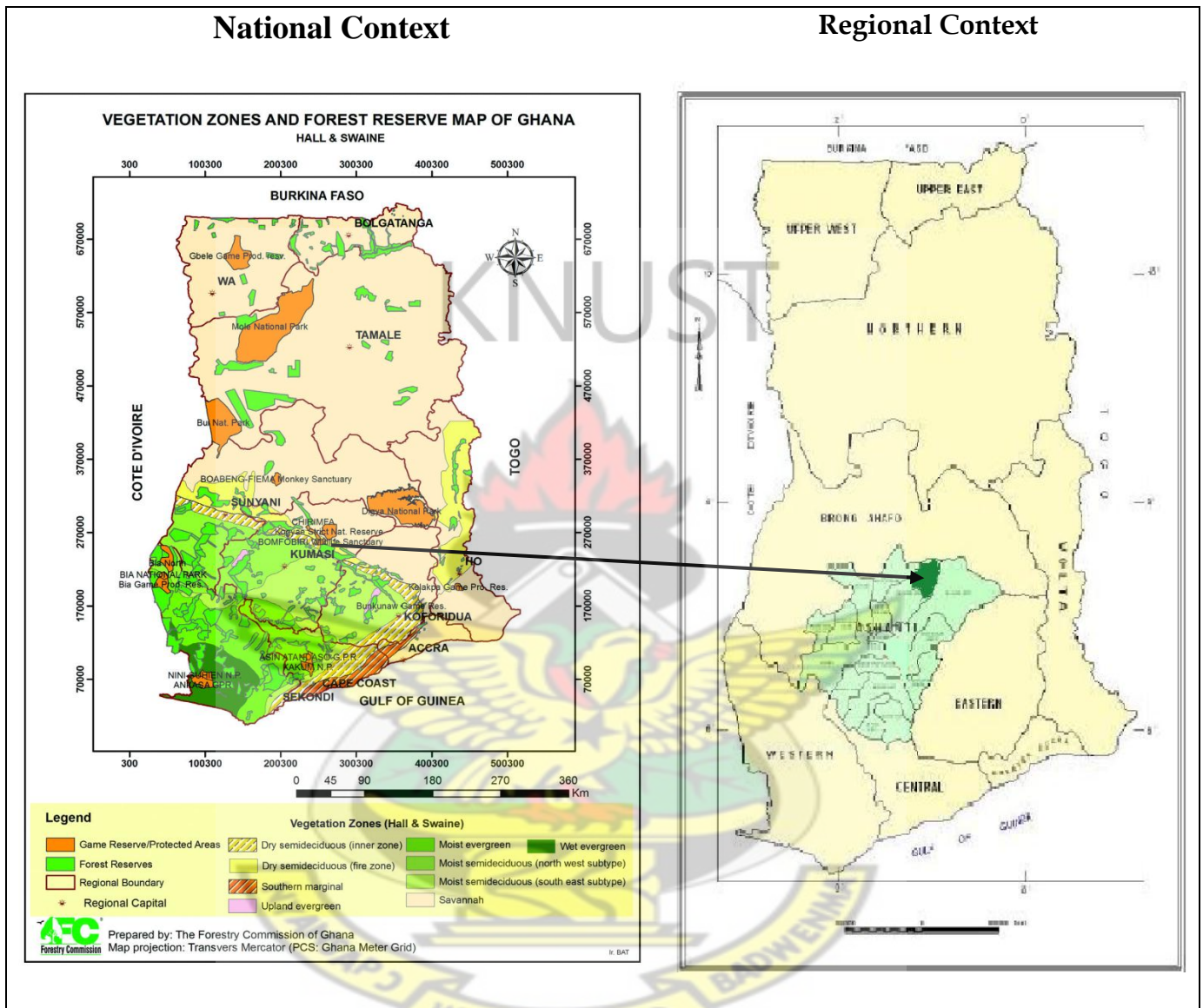
According to the Wildlife Division of the Forestry Commission, (2002) the KSNR is the extended version of the former Kujani Forest Reserve, then under the Forestry Department. In 1971, the administration of the forest reserve was handed over to the Wildlife Division (WD) for strict protection under the Wildlife Reserve Regulations, LI 710. The Kujani Forest Reserve boundaries were extended to obtain a viable ecological unit for the KSNR. This became necessary since studies conducted by the WD indicated that, in the dry season the animals in the reserve depended on the rivers in the unprotected areas for survival.

3.3 Location and Size of the KSNR

The Kogyae Strict Nature Reserve is located in the Sekyere Central District. The Reserve lies 25km South-east of Ejura and 50km North-east of Mampong at the north-eastern part of the Ashanti Region. The 405km² KSNR lies within longitudes 0.05° and 1.30°W and latitudes 6.55° and 7.30°N in the Afram Plains. It is the only reserve designated as a Strict Nature

Reserve and one of the two reserves situated in the transitional vegetation zone between the Guinea savanna and Forest regions of Ghana.

Figure 3.1: Sekyere Central District in the National and Regional Context

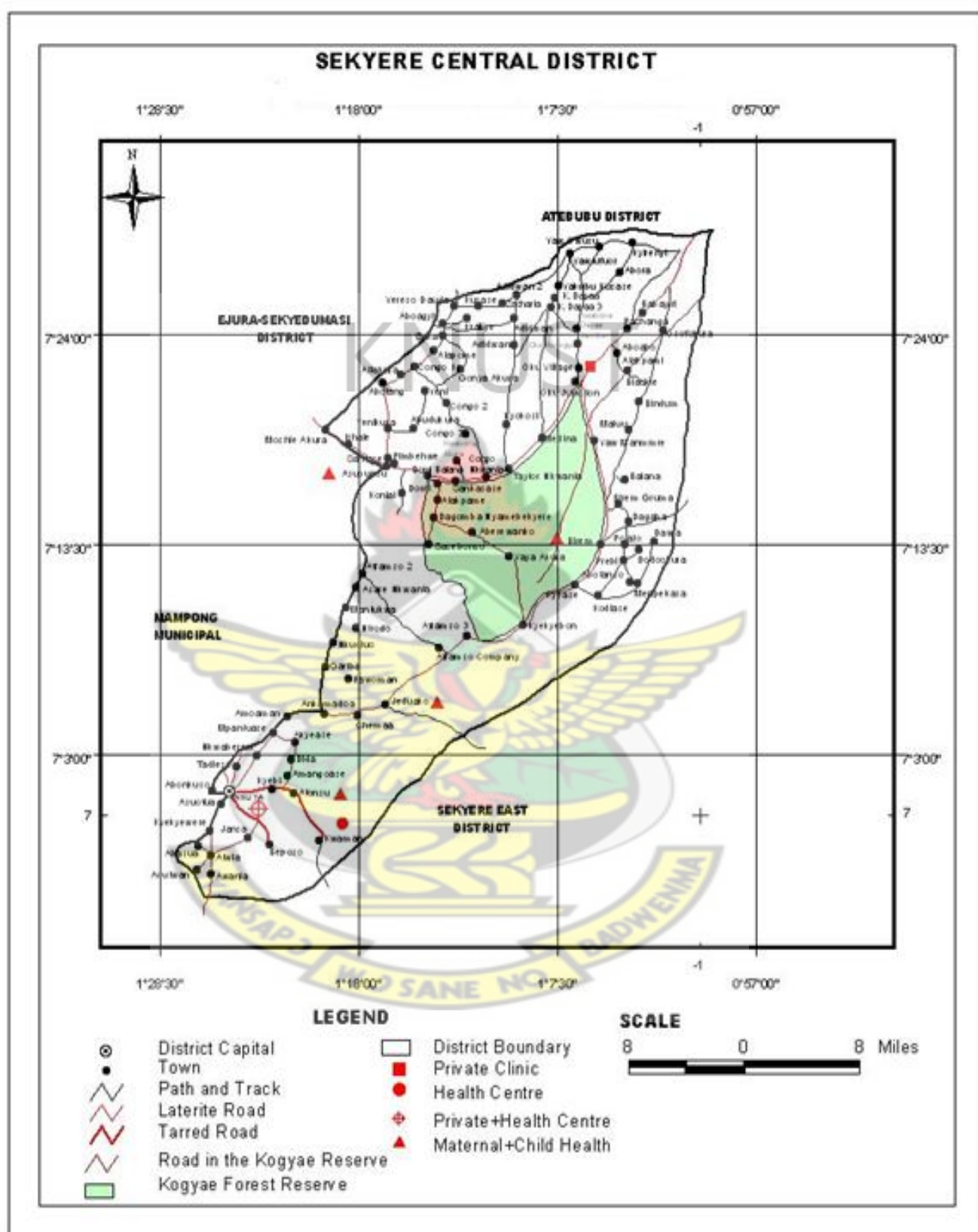


Source: Adapted and Modified from Ministry of Lands and Natural Resources, Ghana, 2012

Some of the host communalities within the KSNR are Asasebonso, Atakpame, Nyamekyere Dagomba, Birem, Yahayakura, Aberewanko, and Asasebonso Konkomba. The fringe communities are, Chichibon, Chiriase and Dome. Figure 3.2 is the location and the host communities of the KSNR in the Sekyere Central District.

For effective management, KSNR has been zoned into four major land-uses namely the Protected Areas (PA), Special Use Zone (SUZ), Restoration Zone (RZ) and Development Zone (DZ).

Figure 3.2: Kogyae Strict Nature Reserve in the Sekyere Central District



Source: Town and Country Planning Department, SCD, 2014

Table 3.2 indicates the proportions of the land-uses in the KSNR. The PA is the largest land-use in the KSNR. It constitutes 220km², and represents 57 percent of the KSNR. This area of the reserve represents the most important and least disturbed habitats of the KSNR. The SUZ constitutes 98km² and represents 20 percent of the KSNR. The SUZ is a land-use practice that is not compatible with conservation activities but has been forced on management as a compromise with the local communities to resolve certain conflicts as a result of the boundary extension.

Table 3.1: Land-uses of the KSNR

Land-uses	Protected Area	Special Use Zone	Development Zone	Restoration Zone
Land size	220km ²	98km ²	1km ²	86km ²
Percentage	57	20	1	22

Source: Wildlife Division of the Forestry Commission, (2002)

Other land-uses of the KSNR are the DZ and the RZ constituting 1km and 86km representing 1 percent and 22 percent respectively. Figure 3.3 shows the land-uses of the KSNR.

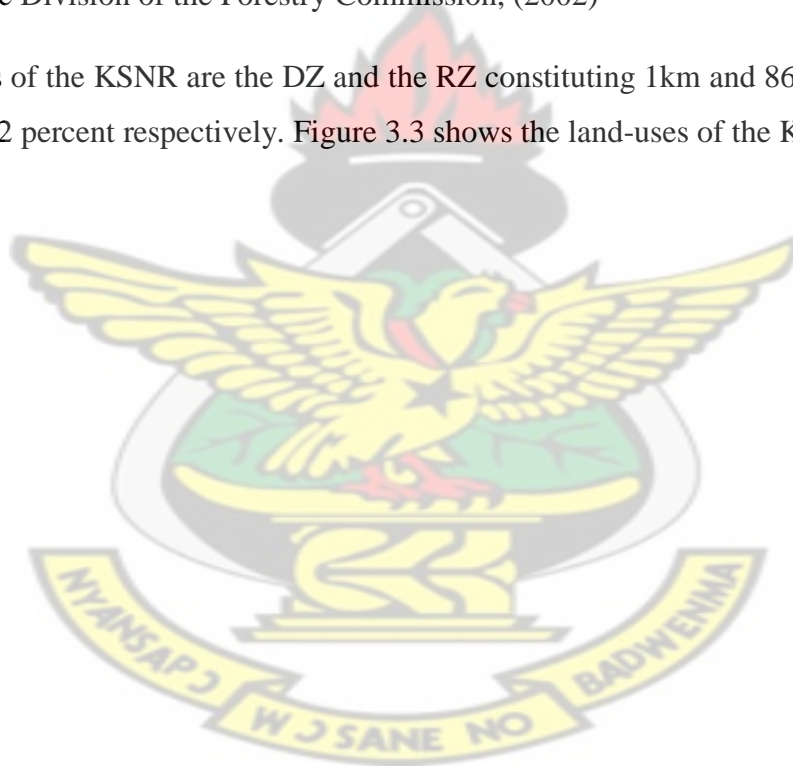
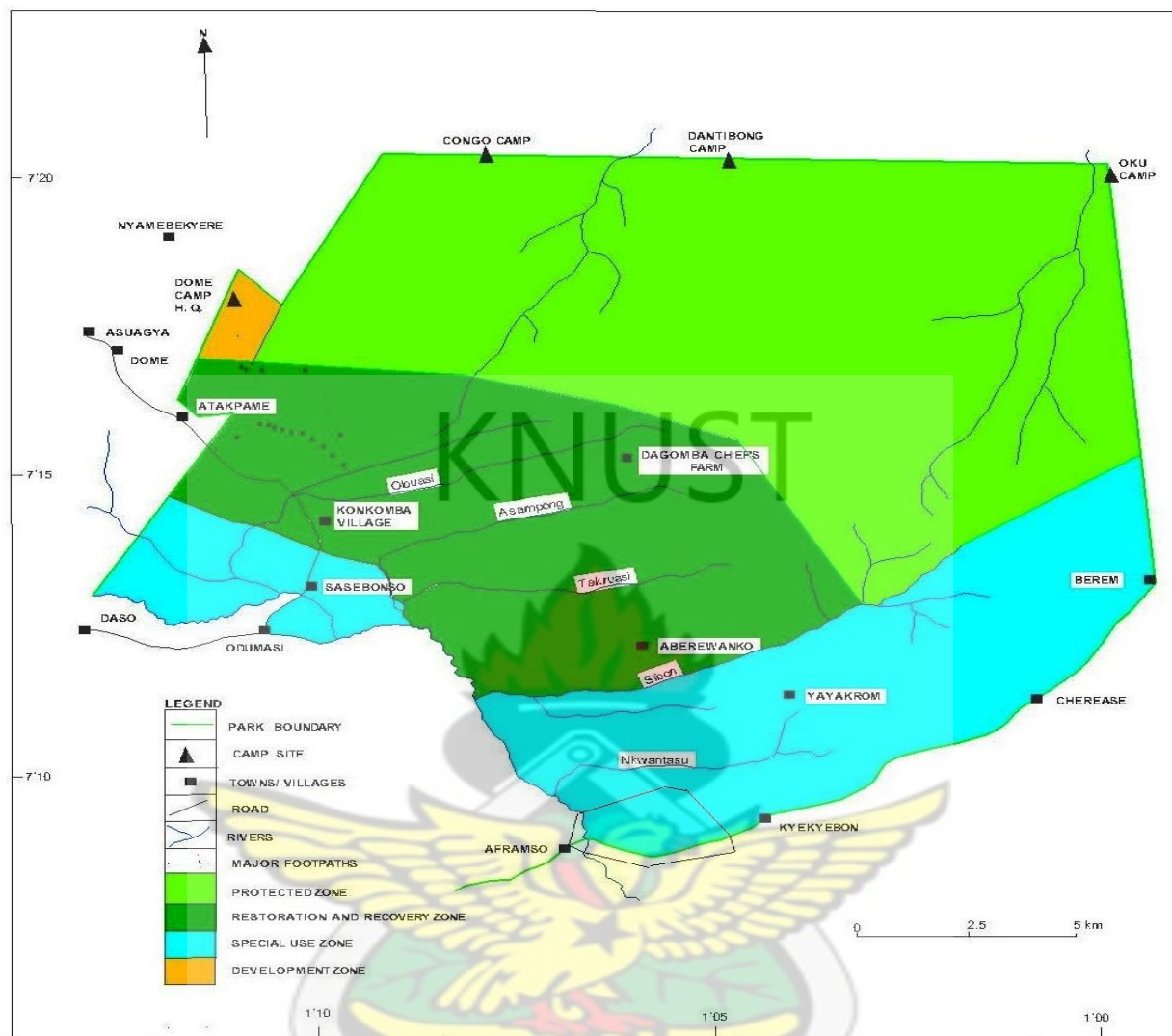


Figure 3.3 Land-uses of the KSNR



Source: Wildlife Division of the Forestry Commission, (2002)

3.4 Socio-Economic setting of the Communities

3.4.1 Population Distribution

Most of the settlements around the Kogya Strict Nature Reserve came to being after the opening of the roads to enhance accessibility to the Afram plains for farming by the PNDC government in 1984 (Wildlife Department, 1994). Many of the present inhabitants are immigrant farmers from the North Region and Kete Krachi who have moved into the area to take advantage of the fertile arable land. These farmers abandon the area once the land becomes infertile and unproductive.

3.4.2 Economic setting

The economy of the communities surrounding the KSNR can be described as purely agrarian. Agriculture being the major economic activity constitutes the main source of household income in the area. These agricultural activities include crop farming, livestock farming, hunting, lumbering and fishing.

Other non agricultural activities include charcoal making, akpeteshie distilling and gathering of shea nuts. Some of the women process the shea nuts into shea butter for domestic consumption and sell the nuts to middlemen who eventually sell them to the Cocoa Marketing Board (Coco bod). Petty trading in items such as smoked/dry fish, bread and salt engaged in by some of the indigenous women. Others operate drinking and catering (chop bars) services.

3.4.3 Administration

The KSNR falls under the Sekyere Central District Assembly. The Municipal Chief Executive serves as the highest political authority. The area lies within the Nsuta-Kwaman constituency. The traditional ownership of KSNR is currently being contested in court by the chiefs of Kumawu and Kwaman. Both chiefs belong to the Golden Stool of Ashanti, the land, therefore, ultimately belongs to the Asantehene. The Kumawuhene has appealed against the court ruling and the case is still pending (Wildlife Department, 1994).

3.4.4 Land Tenure and Rights

Land in the area where the Kogyae Strict Nature Reserve is situated is vested in divisional chiefs, who sublet authority to local chiefs and/or sub chiefs. These Local inhabitants have the right to use land anywhere provided it is within the jurisdiction of their native or sub chief. However, a settler farmer needs the approval of the local chief to use land for any activity. The settler pay a fee of a sheep and drink (schnapps) popularly known as the "ritual fee". Any land that is required for Government projects has to be negotiated with the divisional chief and to whom all compensation for the land is paid (Wildlife Department, 1994).

3.5 Research methodology

Research methodology is the way to systematically solve the research problem. According to Bryman (1988) the decision to choose a specific methodology should be based on its suitability to answer the research question. The knowledge claims, the strategies and methods all contribute to a research approach that tend to be quantitative, qualitative or mixed (Creswell, 2003).

3.5.1 Research Approach

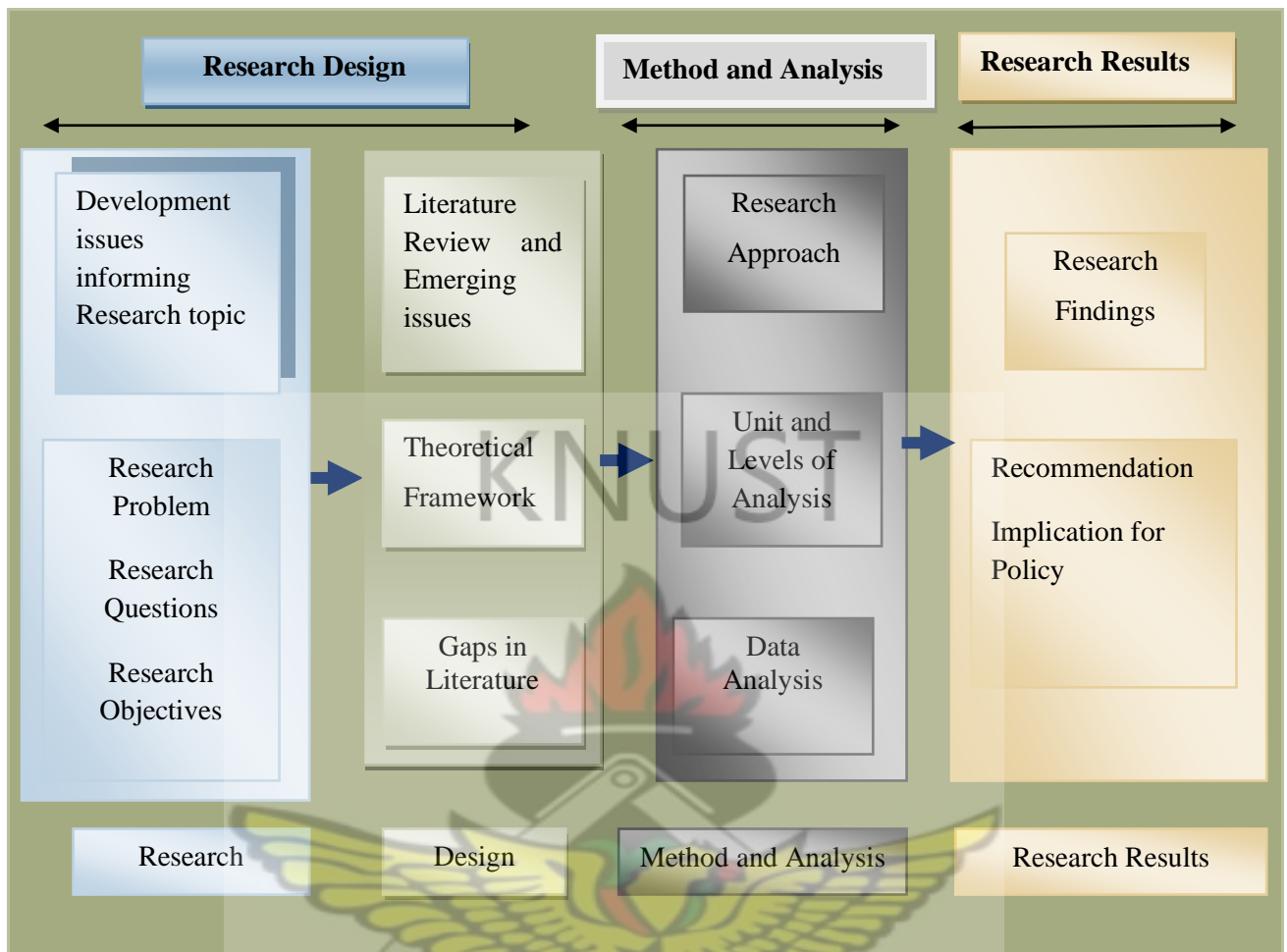
A qualitative investigation was used for the Study. This was considered to be the most appropriate for this Research as it enhances the exploration and interpretation of the Study elements (Brockington and Sullivan, 2003: 57). This field of study as well as its exploratory nature demanded a more flexible and open research design rather than one that is highly structured and rigid. It again demanded participatory and collaborative relations in decision-making processes and hence the use of a qualitative approach. This inquiry was guided by a case study approach to unearth the factors that influenced the Study variables (Yin, 2003:1). The participatory nature of the Study required the use of semi-structured interviews that have been viewed as central to participatory approaches.

The semi-structured interview guides ensures flexibility in the discussions while keeping the discussion within the research scope (Bryman, 2008:438-9). It also allows the interviewees to freely share their opinions with the researcher by placing a high value on informants' responses (Dunn, 2000) thereby allowing households to divulge more information and exposing the researcher to ideas s/he will never have anticipated from the outset of the research (Cloke et al., 2004).

3.5.2 Research Process

Empirical research needs to be situated in a broader academic discourse (Kitchin and Tate 2000). A three- broad phase process was used in undertaking this study. These were mainly the research design, the methods and analysis and the research results. Figure 3.4 illustrates the research process of the study.

Figure 3.4: Research Process



Source: Author's own construct 2014

The research began with the identification and the definition of the problem. Having outlined the objectives for the study, a comprehensive desk study was conducted where relevant literature were reviewed to understand the various theories and concepts that have been built around the subject. This helped to develop a conceptual framework to guide the process of the study.

3.5.3 Data Requirements and Sources

A preliminary visit to WD (the government body responsible for managing the KSNR) and the four host communities (two host communities each within and outside the KSNR) were made prior to the actual data collection to seek their approval. Contacts were also made with the other stakeholders such as the Traditional Authorities, Unit Committees and the Assembly members to discuss the research intentions. In addition to the secondary data sources, the preliminary visit helped gain a better understanding of the conflict issues surrounding the KSNR as well as gathered more detailed information on the stakeholder

groups and the other study variables. These preliminary interviews helped test the overall effectiveness of the field research methodology (Parfitt, 2005) and minimised the possible influences, for instance, researchers beliefs, values, etc., which could have affected the study process (Patton, 2002).

3.5.4 Sampling

Since the ultimate aim of this research is not statistical representativeness (Longhurst, 2003), coupled with the limited time frame and available resources, four out of the seven host communities (Dome and Nyamebikyere Dagomba with the KSNR and Birem and Chiriase outside the KSNR) were considered for this Research. Purposive and snowball sampling were used for the selection of households as the main households (Mack et al., 2005: 5). In line with this, households who depended on the Reserve for their livelihood were interviewed. In all, 100 heads of households were interviewed (25 households each from the four communities). Preliminary visit helped select initial cases for interviewing. The initial cases identified then led the researcher to other cases. Recruiting informants via multiple initial contact points reduces selection biases markedly, if not avoid it all (Valentine, 2005).

3.5.5 Field Research

The Data collection process involved interviewing the Communities, WD, Traditional Authority, Unit Committee and Assembly members. Table 3.2 depicts the research questions, units of enquiry and the methods of data collection. The researcher employed semi-structured in-depth interviews with the households from the selected communities, WD, Traditional Authority, Unit Committee and Assembly members. The research instruments have been attached as Appendix Table 3. Effort was made to visit the Reserve to familiarize with its current conditions. Brochures were also collected as important sources of information. The communities and institutional surveys were therefore done using semi structured as well as semi-structured in-depth interviews.

The time, place, duration and recording of informants' responses are critical in semi structured in-depth interviewing (Sin, 2003; Smith, 2003). The interviews were conducted in the households' houses and mainly in the evenings as a result of their working schedules. Informed by the disadvantages with only taking notes (Dunn, 2000), interviewees' responses were taped-recorded and shortly after transcribed. This was particularly done when interviewing WD. Shorthand notes were also taken right after the interview to capture

important observations. The audiotaping helps avoid any pre-occupations with note taking by the interviewer (Cloke et al., 2004) and its play back ability helps recapture all lost details during note taking (Valentine, 2005).

Table 3.2: Research Objectives and Variables, Data Requirements, Observation Units and Survey Instruments

Elements	Unit of Inquiry	Data Needs	Survey Instrument
Origin, types, levels and nature of conflicts	Members of the District Assembly, Unit committee etc) Traditional Authorities and Elders, Wildlife Officials, Households	Causes, sources, types and levels of conflict in the KNSR	Semi-structured in-depth Interviews Interview guide,
Effects of the conflicts on development	Members of the District Assembly, Unit committee etc) Traditional Authorities and Elders, Wildlife Officials, Households	Livelihood, environment and management of the KSNR	Semi-structured in-depth Interviews, Interview Guide,
Conflict Management	Members of the District Assembly, Unit committee etc) Traditional Authorities and Elders, Wildlife Officials, Households	Methods, processes, strategies, Approaches strength and the weakness	Questionnaire, Semi-structured in-depth Interviews, Interview Guide

Source: Author's Construct, 2014

3.5.6 Data Analysis

The analysis of data proceeded in three stages: identification of themes, descriptive accounts and interpretative analyses. Based on the research questions, themes were identified from the data and derived inductively from the theoretical framework. These ensure that the themes remained grounded in the data (Fereday and Muir-Cochrane, 2006). The identified themes were given meaning through descriptive account and interpretative analyses. Thematic analysis was used for the data analysis as its usage helps identifies significant commonalities in qualitative data to form patterns that are referred to as themes representing the shared

views in the collected data (Braun and Clark, 2006). It again facilitates a better understanding of the concrete views of interviewees for adequate reporting (Leech and Onwuegbuzie, 2007) as well as helping in communicating results from the Study through categorisation, which presents the authentic data without distortion (Simons *et al.*, 2008). The themes were analysed and presented in the words of the households and in some cases, direct quotes were used to embody the voices of all identified and interviewed stakeholders. This ensured a more reliable and credible research findings. Again, as an outsider to the Reserve and the host communities, it was easier to interpret non-verbal signs made by research participants. This is in line with Laurier (2003) warning that insiders may be too familiar with the setting during participant observation that they may not notice key happenings. Outsider dimension in this issue of insider/outsider dimension (Crang, 2003) made the research findings more rigorous.

3.5.7 Establishing Rigour

In qualitative research of this nature, analysis is mostly dependent on subjective judgment of the researcher. There is therefore the urgent need to consider and observe some research ethics that validate and reflect the actual situation under study. By so doing, the research is able to disentangle people's interpretation of their own world and ensure the research methodology validates and reflects the actual situation under study (Bradshaw and Stratford, 2000). This renders the research findings more reliable and credible.

For this purpose, a preliminary visit was made to the Reserve and the communities to ascertain their current situation. This gave first-hand information on how to maintain good impression and to have maximum co-operation as well as avoid problems during the data collection (Scheyvens and Storey, 2003: 100-104). The result was the basis for the selection of FGD as an important data collection method in the Community. It also informed about the dress code, mode of communication, their availability and other issues that could have hindered the data collection process. The inclusion of the FGD served the purpose of triangulation in the Study (Bryman, 2008:379).

3.5.8 Ethical Consideration

It has been contended that research might actually harm, exploit or expose what is being researched (Scheyvens & Leslie, 2000). Researchers are as such responsible for the integrity of the research and its processes (O'Leary, 2004). To protect interviewees therefore, they

were represented with pseudonyms to protect their identities; letter codes represent their gender and numbers indicate the order of the interview.

Again, permission was sought from WD, District Assembly, and Traditional Authorities.

All participants were informed that participation in the Study was voluntary and that their decision to withdraw at any point in time would be respected. Being aware of the importance of one's own positioning as a researcher in terms of historical, cultural, gender and socioeconomic background and the fact that the researcher's background might taint the perceptions and interpretations s/he gets from households (Kapoor, 2004), all households were informed about the academic nature of the Study without state, parastatal or any other organisation's involvement.

The result of this assurance was sincerity in communication (Scheyvens and Storey, 2003). Mutual trust was also established (Hennink, 2007) as both parties (interviewer and interviewees) agreed that the issues discussed would not be made public with reference to any specific person or name.

3.6 Chapter Summary

In relation to the objectives of this chapter as outlined in the introduction, this chapter has duly highlighted the research methodology of this study by not merely stating the research methods used but also providing a rationale for choosing these methods and techniques. The chapter has presented the survey design, instruments, sampling techniques and procedures, data requirements and sources as well as the profile of the host communities of the KSNR which is the study area for this research. The next chapter presents the analysis of data collected from the field survey.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

4.1 Introduction

The Chapter provides the setting for an in-depth understanding of the Study variables. The analysis and presentation have been organised under themes identified from the data and derived inductively from the research questions and theoretical framework.

These issues include the general information on the demographic and economic activities of the people, the causes, levels and nature of the conflicts and the effects of the conflicts on both the lives of the people and the KSNR. It also presents the conflict management processes and the challenges or problems that managers face in addressing conflicts affecting the effective management of the KSNR. For a better appreciation of the conflict issues in the KSNR a history or background of the conflict is in addition presented.

4.2 Demographic and Socio-Economic Characteristics of Households

This sub-section considers the socio-economic characteristic that the defined the Households surveyed in the selected four host communities of KSNR. The specific issues discussed under this section include age, sex, education, livelihood activities of the households and the number of years that they have lived in the study area. The objective of this sub-section is two-fold; one, to provide an insight into the survey population and two, to present a demographic profile of the households.

4.2.1 Age-Sex characteristics of the Households

The survey revealed that the number of females exceeded the number of males. From Table 4.1, 52.3 percent of the population surveyed were females while 47.9 percent were males. The sex ratio of the population is about 91 males per 100 females. This sex ratio of 91 male per 100 female is lower than both the District level of 94 male per 100 female and the national level of 95.2 (GSS, 2012). Table 4.1 also indicates that with respect to the age structure, majority of the households were within the economic active group (20-59). This constituted 84 percent of the total households while the aged constituted 16 percent of the total households.

Table 4.1: Age and Sex Structure of the Households

Age	SEX				Total	
	Male	%	Female	%	No	%
20-29	27	7.2	40	9.7	67	8.4
30-39	93	24.6	159	38.7	252	31.8
40-49	104	27.5	66	16.1	170	21.5
50-59	87	23.1	93	22.6	180	22.7
60+	66	17.4	53	12.9	119	15.6
Total	377	47.9	413	52.3	790	100

Source: Field Survey, April, 2014.

This implies that the population of the area is a youthful population. However, the unadjusted SUZ to accommodate the needs of the increased population for the past 16 years has made the KSNR susceptible to poaching by the host communities for survival. This has resulted in frequent arrest of the youths who engage in hunting in the protected areas in the KSNR. Farming activities that are observed beyond the SUZ in the KSNR are also destroyed by the WD. The conflicts are not between the youth of the host communities and the WD but also among themselves as they compete for farmlands with the limited SUZ. This finding confirms the observation by Ohlsson (2003) and Huggins et al. (2004) that young men and women resort to conflicts as a way of accessing and controlling resources to protect their livelihoods. Efforts should therefore be put in place improve upon the educational and health infrastructure facilities and also create job opportunities for the increasing number of the youth.

4.2.2 Household Size

The household size was computed for the households surveyed. Table 4.2 indicates that majority (43.9 percent) of the households surveyed had household size within 6-9 members while 5.1 percent of the households had the least of household size above 15 members. The current average household size figure is 7.9. This is higher than the current Sekyere Central District and National average household size figures of 6.4 and 4.6 respectively. The implication is that each household has a large number of dependants to feed, clothe and house.

Table 4.2: Household size for the Households in the KSNR

Household size	Frequency	Percentage
2-5	269	34.0
6-9	347	43.9
10-13	134	16.9
Above 15	40	5.1
Total	790	100

Source: Field Survey, April, 2014.

However given the limited land resources in the SUZ to expand their farming activities, household heads poach for extra lands for farming and housing and logs as building materials for accommodation in the KSNR. For example, the current growth direction of Chiriase and Birem are towards the north of KSNR. These host communities have the boundaries of the KSNR pass through their town. The situation has made it very difficult for the WD to exercise control over the activities of the host communities' hence the continual encroachment on the natural reserve.

4.2.3 Educational levels

The educational status of the households was also computed for the survey. Table 4.3 indicates that 48 percent of the households did not have any form of formal education. While 36 percent, 11 percent and 5 percent had elementary, secondary and secondary level of education respectively. Those without any form of formal education (48 percent) gave reasons for their non-completion and non-attendance of any stage of their educational life as basically financial, poor academic performance and lack of interest.

Table 4.3: Educational Status of the Households in the KSNR

Level of education	No. of Response	
	Frequency	Percentage
Elementary	36	36
Secondary	11	11
Tertiary	5	5
No schooling	48	48
Total	100	100

Source: Field Survey, April, 2014.

The survey also revealed that the people lack the requisite education that would enable them to compete effectively for jobs in the formal sector. The people again lack the required occupational skills that would allow them to venture into different types of alternative livelihood activities. As a result they turn to find their source of livelihood in the KSNR where little or no skills needed for farming. The high illiteracy rate among the people was observed to be affecting their appreciation and support for conservational policies in the KSNR. Consequently, they poach the KSNR for their livelihoods especially in communities like Nyamebekyere Dagomba and Dome who are located within the reserve and has virtually no access to education. These in effect results in conflicts as the WD try restrain the activities of the members of the host communities.

4.2.4 Source of Livelihood Activities

Agricultural activities were mainly observed as the source of livelihood for the households in host communities of the KSNR. These activities were mainly farming, hunting and gathering, fuel wood collection, charcoal burning, logging, logging and palm wine tapping. Table 4.4 indicates the proportions of the households engaged in the agricultural activities.

Table 4.4: Livelihood Activities of Households in the KSNR

Activities	No. of Households	
	Frequency	Percentages
Farming	97	97
Hunting and gathering	62	62
Fuel wood collection	89	89
Medicinal plant collection	59	59
Charcoal making	29	29
Arts and craft material	11	11
Logging	46	46
Palm wine tapping	18	18
Total	100	100

Source: Field Survey, April, 2014.

From table 4.4, it is evident that the major occupation of the members of the host communities (97 percent) is farming while 89 percent were engaged in fuel wood collection

as the main source of energy for cooking. Farming was observed to be done on subsistence level with poor farming practices such as slash and burning. Almost all the above livelihood activities of the host communities were illegal activities in natural reserves especially in strict nature reserve in Ghana according to the Wildlife Reserve Regulations of 1971, LI 710. However, attempts by the WD to enforce these natural resource laws have been perceived as a way of impoverishing and marginalising the members of the host communities. Desperations among the members of these host communities to maintain their rights and control to the KSNR consequently results in conflicts in the KSNR. This finding is confirmed by the research of FAO, (2005:3).

4.2.5 Household Income levels

It was necessary to identify the income level of the households to determine whether their livelihood sources were enough to support their basic needs. Table 4.5 indicates that 29 percent of households were earning income between GH¢4001.00- GH¢6000.00 while 23 percent were earning income level below GH¢2000.00. The average annual income level of households computed was GH¢600.32. This was lower than both the district and national average annual income level of GH¢730.20 and GH¢1,217.00 respectively.

Table 4.5: Income level of Households in the Host communities

Income levels	No. of Households	%
Below GH¢2000.00	23	23
GH¢2001.00- GH¢4000.00	17	17
GH¢4001.00- GH¢ 6000.00	29	29
GH¢ 6001.00- GH¢8000.00	15	15
GH¢10001 and above	10	10
Total	100	100

Source: Field Survey, 2014

The low income level of the people partly explains their continual dependency on the agricultural activities since little capital is required to finance them. Local people in these host communities are left with nothing to save or even access the National Health Insurance Scheme. This could probably explain the over 50 percent of the households' dependence on medicinal plant collection in the KSNR for their medical reasons (See Table 4.4). According to the Human Needs Theory, the universal needs of humans such as security, identity and development must be met. Therefore the inability these households to meet these needs due

to their low income levels will mean a struggle to gain the control of their environment that is necessary to ensure the satisfaction of these needs. Therefore when discriminatory policies marginalise the people, it may fume bitterness and social injustices which may start conflicts (FAO, 2005; Gurr, 2001).

4.3. Stakeholders in the Kogyae Strict Nature Reserve

Several stakeholders were identified with the KSNR in terms of its utilization and management. The category of these stakeholders included policy and legislative makers, resources managers, resources users, land owners, land lords, development partners and academic institutions. Table 4.6 provides a framework that unravels the respective stakeholders, their roles, needs or interests, fears, positions and options for resolving any possible conflicts in the KSNR. It also provides an overview of the levels of these stakeholders' influence (that is either directly or indirectly) and how they relate to each other in the KSNR.

Table 4.6 indicates that the overall sustainability of the KSNR lies under the auspices of the Ministry of Lands and natural Resources and the Parliamentary Select Committee on Land and Forest as policy and legislative makers. They work directly with the resource managers such as the WD, Forest Research Institute of Ghana FORIG, Police Service and the Judiciary to implement conservation policies and enforce resource laws that seek to ensure the sustainability of the KSNR. Every parcel of land in the Reserve is under the custodian of the sub-chief and elders. The sub-chief and the elders in turn administer it on behalf of the Kwamanhene and Kwawumanhene (Paramount Chiefs of the area). The communities also have communal/admitted rights to the Reserve (Special Use Zone). Development partners such as the World Vision International (WVI) and Safe Motherhood also have the responsibility of ensuring that people standard of living are improved through promoting and sustaining the sources of livelihood.

Table 4.6: Stakeholder Analysis Matrix of KSNR

Stakeholders	Issues/Role	Type of Interests/Needs	Fears/Threats	Types of Position/Means	Options
POLICY AND LEGISLATIVE MAKERS 1. Ministry of Land and Natural Resources (MLNR), 2. Parliamentary Select Committee on Land and Forestry etc.	-Formulate sustainable forest policy initiatives	- Sustainable natural resources	- Climate change - Degradation of natural resources	-Formulate laws to protect the natural resources	-Influence the dialogue process and the management of the compensation funds
RESOURCE MANAGERS 1. Wildlife Division 2. Ghana Wildlife Society 3. Forest Research Institute of Ghana (FORIG) 4. Police Service and Judiciary	-Implement conservation policies Promote scientific research - Law enforcement	- Strategic planning for projects and programmes - Maintain biodiversity - Maintain maximum security	Encroachment/ Loss of biodiversity Encroachment/ Loss of biodiversity Civil unrest	-Patrol -Traditional lobbying -Political lobbying -Establish green fire break -Maintenance of boundary lines - Financing of research projects - Prosecution of culprits	- Bringing all stakeholders on board to discuss issues Awareness creation Sensitising the public to be law abiding
RESOURCE USERS All communities (indigenes and Settlers)	- Access to land, water, game, timber	- Livelihood and Survival	- Fall in standard of living - Forced to migrate	- Political lobbying - Encroachment - Degazetting of SUZ	- Join the dialogue process Provision of alternative sources of livelihood

Stakeholders	Issues	Type of Interests/Needs	Fears/Threats	Types of Position/Means	Options
ACADEMIC INSTITUTIONS 1. Kwame Nkrumah University of Science Technology 2. University of Energy and Natural Resource 3. University for Development Studies	Promote scientific research	- Researching laboratory for students - Practical teaching and research	Loss of biodiversity	Financing of research projects	Awareness creation
LAND OWNERS 1.The Kwamang and Kumanwu Traditional Councils 2.The Sub-Traditional Authorities	- Payment of compensation funds - Benefit sharing accrued from research	- Promote economic and social development within their respective areas - Ensure optimal benefit flow to stool and subjects	Loss of stool lands	- Political lobbying - Demand for income generation projects and social amenities -Demands to gov't to return the NR to customary tenure	Join the dialogue process to determine compensation funds
PUBLIC AGENCIES 1. Ghana Water and Sewage Limited	Operationalization of dam	- Sustainable water supply	- Drying up of the water bodies - Pollution	Protect water bodies through intact of riverine forest	- Control of the use of agro-chemicals Sensitise the public on the need to protect the rivers
DEVELOPMENT PARTNERS 1. World Vision International (WVI) -Ghana 2. Safe Motherhood (Roman Catholic Church) 3. International Union for Conservation of Nature (IUCN)	- Implement 'do no harm' projects	- Provide alternative livelihoods to the communities - Improve conservation regime through efficient application of project fund	-Loss of investment - Loss of biodiversity	- Political lobbying - Provide support to resolve conflict - NR protection to be maintained as it is	Join the dialogue process

Source: Adapted from the Wildlife Division and views of experts from the FORIG and Unit committees, (2014)

It is therefore imperative in understanding how the management functions, entitlements and responsibility of the KSNR are negotiated, defined and guaranteed by the resource managers, land owners and resource users who have different interests in the use and conflict management of the Reserve.

4.4 Origin, Types, Levels and Nature of Conflicts

Assessing the types, origin, nature and levels of conflict enable one to better appreciate the root causes and dynamics of conflict, as well as the opportunities for peace.

4.4.1 Types of Conflicts in the KSNR

Identifying the type of conflict is useful when the issues in a conflict are centralized in one of the five categories. When issue focus occurs, different responses to conflicts are required. Based on the typology of conflicts by Moore 1996, three main types of conflicts were identified namely structural conflict, data conflict and interest conflicts in the KSNR.

A structural conflict was the main type that characterised the KSNR. According to Moore (1996) such conflicts arise when there are structural inequalities in control, ownership, power, authority, institutional limitations or geographic separation. Weak enforcement of resource laws, absence of conflict management mechanism, land litigation and demographic changes were identified as the main causes of this structural conflict in the KSNR. The improper structures to effectively regulate the operations of the KSNR have been the major triggers of conflicts among the host communities and the WD. There is therefore no harmony and cooperation among these stakeholders to ensure the conservation of the KSNR.

Data conflict is also another type of conflict characterising the KSNR. This type of conflict arises when information is lacking, differently interpreted or withheld by one party from the other party. Natural resource policies and interventions were formulated without the active and sustained participation of members of the host communities and other stakeholders such DADU, WVI-Ghana, Ghana Education Service, Ghana Health Service and Religious bodies. Consequently these unaware stakeholders continued their activities which were in were illegal according to the Wildlife Reserve Regulations of 1971, LI 710 and hence generating conflicts. DADU in its ignorance has continually supported farmers in the host communities to expand their farm size which eventual encroach on the KSNR. The head of one of these communities (Nyamebekyere Dagomba) was judged the best Ashanti Regional Yam farmer

in 1991. Since then he has farmed so extensively that the original protected area is seriously threatened. WVI-Ghana has also continually provided some social amenities such as bore holes, primary schools etc which are located in the KSNR. The consequence was the constant confrontations that are mostly violent especially when the WD makes attempts to destroy farms of the members of the host communities and the investments that the other stakeholders have made in the KSNR.

The third and last type of conflict observed in the KSNR was the interest conflict. This occurs when there are actual or perceived scarce resources such as physical assets. This has resulted into competition between different users such as the Wildlife Division, Traditional Authorities, District Agricultural Development Unit, settlers and households of the host communities to capture or protect specific resources for their various interests or activities. The forceful eviction of the host communities especially by the WD has generally resulted into conflicts.

4.4.2 Origin of conflict in the KSNR

Several factors were identified as the causes of conflicts in the KSNR. Among these causes (see Table 4.7), household heads interviewed attributed Imposition of policy without effective participation of stakeholders, Inadequate source of livelihood and Demographic change as the immediate source of conflict respectively in the KSNR.

Table 4.7: Sources of conflict in the KSNR

Factors	No. of Households	
	Frequency	Percentages
DC	18	18
LL	11	11
ISL	25	25
WERL	9	9
IPEPS	37	37
Total	100	100

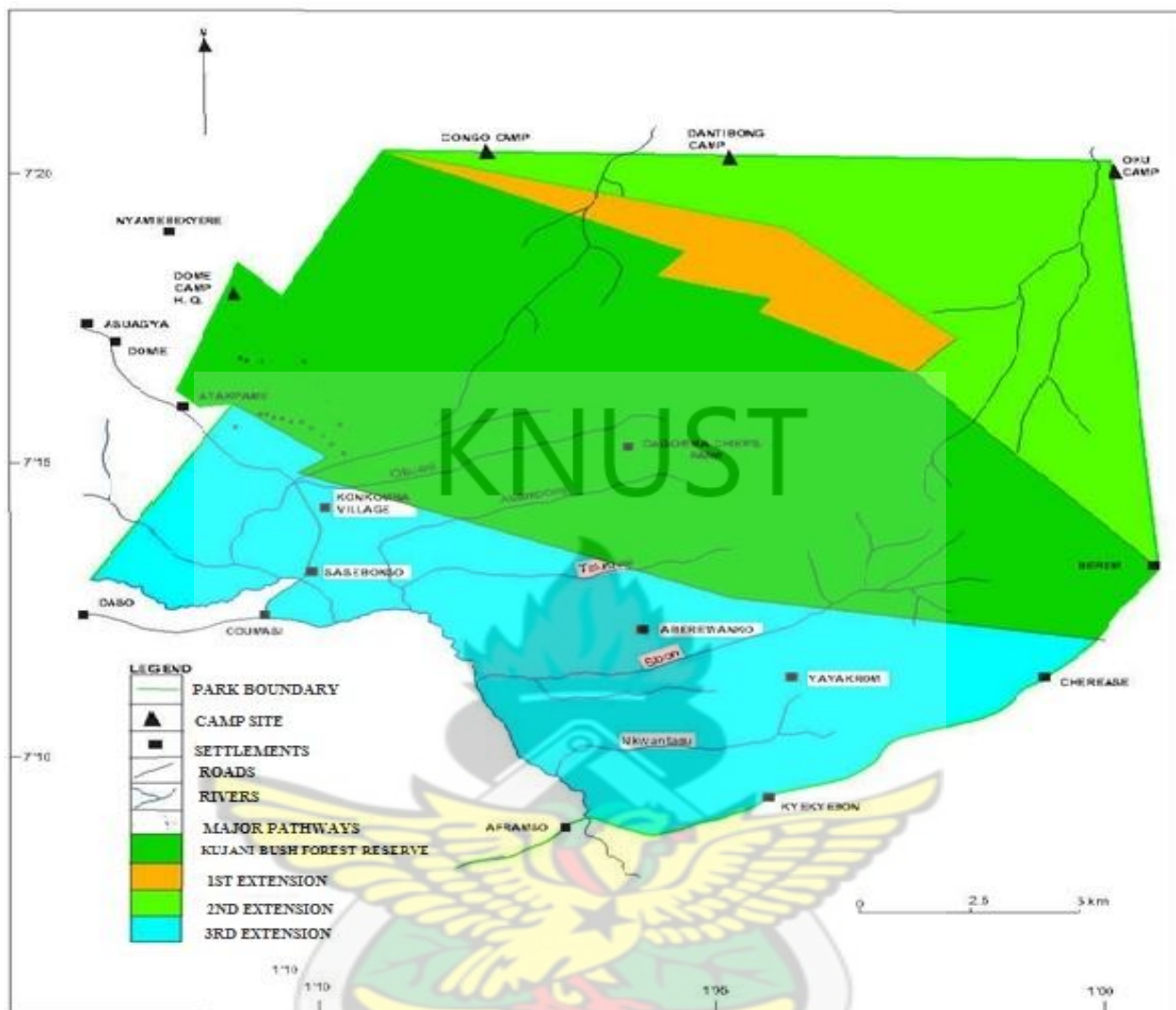
DC – Demographic change LL – Land litigations WERL-Weak enforcement of Resource laws
 ISL– Inadequate source of livelihood IPEPS – Imposition of policy without effective participation of stakeholders

Source: Field Survey. April, 2014

Table 4.7 indicated that 37 percent out of the 100 households attributed IPEPS as the main source of conflicts in the KSNR. The host communities of the KSNR and other state institutions such as District Agricultural Development Unit (DADU) and development partners such as WVI-Ghana claimed their unawareness of the policy change of the former Kujani Forest Reserve to the KSNR until later years. Consequently, these ignorant stakeholders such as the state agencies endorsed the right of the indigenes and the settlers whom efforts are made to be evicted to perpetuate their stay and engagement in unrestrained farming activities in the KSNR. This mostly resulted into conflicts with the Wildlife Guards (WGs). The situation in the KSNR confirms Nang et al. (2011) postulation that poor stakeholder analysis in natural resource management is the major causes of conflicts over natural reserves.

Again, 25 percent of the households also revealed that the causes of conflict were influenced by ISL in the KSNR. It was evident from the field survey that 97 percent out of the 100 households depended on farming for their livelihood. While 89 percent, 62 percent, 59 percent, 46 percent and 35 percent, of the households undertook fuel wood collection, hunting and gathering, medicinal plant collection, logging and charcoal making activities respectively to support their livelihood (see Table 4.4). However, the creation of the KSNR necessitated for the extension of the original boundaries of the reserve to obtain an ecological unit suitable for the conservation of the wildlife (see Figure 4.2). This action according to the households claimed most of the farmlands as well as some part of their built environment without any corresponding provision of alternative livelihood support for the affected people. According to the respondent they had no other option than to fall back on the KSNR for survival. In the interview to find out from the WD why no alternative livelihood support was provided for the host communities, Assistant District Manager (ADM) of the WD claimed that the people did have both formal and occupational skills that could enable them to compete for jobs. From the field survey, it was evident that 48 percent of the households interviewed did not have any formal education (see Table 4.3). In addition, the WD also revealed that the people lack the needed funds to train and establish themselves in the alternative livelihood activities that were identified with them. This has resulted in their over dependence on farming, petty trading and other activities in the KSNR to make a living.

Figure 4.2: Extensions of the Kogyae Strict Nature Reserve



Source: Wildlife Division of the Forestry Commission, (2002)

The absence of health facilities in the Dome and Nyamebekyere Dagomba communities forces 39 percent of the households to depend on medicinal plant collection to meet their healthcare needs. The continuous dependence on these medicinal plants exerts pressure on those plant species and these sometimes generated conflicts between the people and the WGs.

In addition to the sources of conflicts, Table 4.7 indicated that 18% of the households associated DC as another cause of conflicts in the KSNR. According to the households, the increase in population for the past 16 years has not seen any extension on the SUZ from which their livelihoods depended. This was evident from the increase in average household size from 3.2 in 1998 to 7.9 in 2014 (see table 4.8). The increase in the population over the period was attributed to the natural increase and the influx of migrants from the northern region to undertake farming activities.

Table 4.8: Household size for the communities in the KSNR

Household size	1998	2014
2-5	109	269
6-9	141	347
10-13	54	134
Above 15	16	40
Total	320	790

Source: Field Survey, April, 2014.

The increase in the household size implies that household heads whose entire source of livelihood depends on the SUZ will have much more greater responsibility in ensuring quality education for their children, health and food security. According to the Unit Committee in Birem and Chiriase the rate of unemployment among the youth has also increased as most of them cannot find lands in the SUZ to farm. The unemployment situation in Dome however differed since most of their farmlands were not in the SUZ. The effects of the unemployment situation have resulted into conflicts among the community members in the SUZ as well as serving as pervasive incentive to encroach on the protected area. This also has resulted in conflict among the WD and the community members as the WD resists the encroachers in the protected areas.

Other factors observed (Table 4.7) from the households from which conflicts were emanating from included:

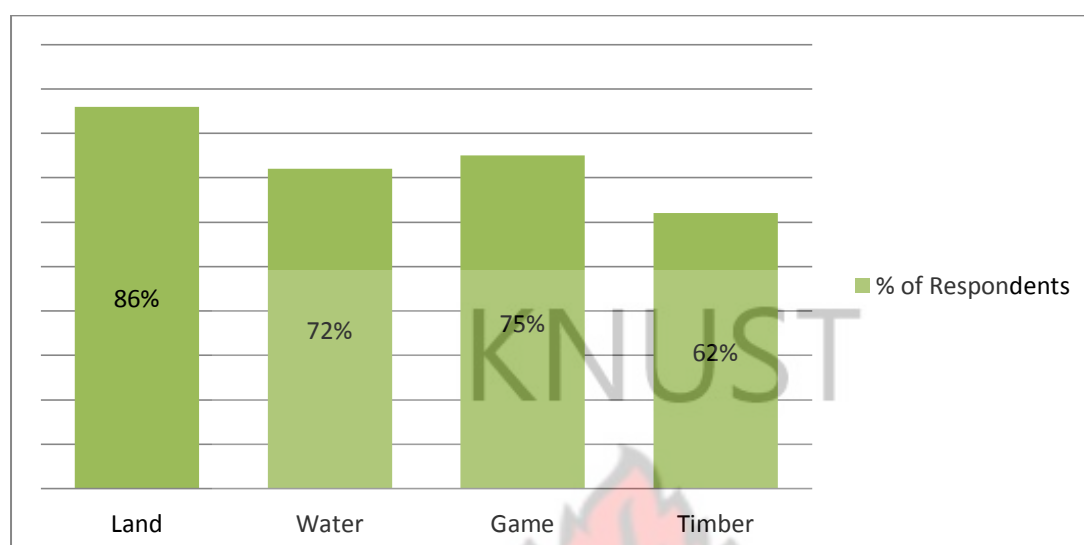
- land litigations between the Kumawu Traditional Council and the Kwaman Traditional Councils over the KSNR and
- weak enforcement of resources laws due to low capacity of the WD and Traditional Authority and political influences. This was evidenced from the number of poachers observed (301) as against the number of poachers arrested (76) (See Appendix 1.1).

4.4.1.1 Conflicting items in the KSNR

The Heidelberg Institute for International Conflict Research (2010) underscores conflicting item as the units or substance around which conflicts are triggered. They are thus the objects of interest around which positions are taken by stakeholders to achieve. From the field survey land (86 percent), timber (75 percent), water (72 percent) and game (percent) were the major items around which these conflicts were occurring according to the households (see Figure

4.3). This finding corroborate Anderson et al. 1996 and Ayling and Kelly 1997 assertion on conflicting items usually fought over in natural resource areas.

Figure 4.3: Conflicting Items in the KSNR



Source: Field Survey, 2014

The demand for land especially for farming among community members continues to serve as a major conflict in the KSNR. With high average household size of 7.9, loss of soil fertility and influx of migrants to the host communities, continue to exert high pressure on the available limited fertile lands in the in SUZ. With farming as the major economic activity, the struggle over these lands becomes worse off during the farming season in the SUZ which has not been adjusted to accommodate needs of the current population. The current loss of soil fertility in the SUZ encourages encroachments in the protected area of the KSNR which serve as a source of conflicts between the WD and the communities.

Conflicts over water resource are intensified during the dry season especially when the inadequate boreholes fail to supply water to meet the domestic needs of the host communities. Without any other source of water supply during such seasons, the community members fall back to the river bodies in the protected area of the KSNR as alternative source of drinking water. The situation has encouraged fishing in the Aframso River where most often poisonous chemicals are used.

Incidence of poacher's activities in the KSNR was estimated 301 according to the 2012 Annual Wildlife Division Report. This was evidenced by the numerous spent cartridges, carbide, gin traps and wire snares that were observed. Appendix 2.1 shows some confiscated

guns, gins and wired traps as evidence of poaching activities in the KSNR. However, hunting on commercial basis has generally declined by the indigenous people even though the settlers trap animals for domestic consumption. Group hunting using dogs is also carried out in and around the reserve in the dry season with the resultant escalation of bushfires. Equipment usually used during such hunting expeditions includes clubs, cutlasses and rarely guns especially in the SUZ though such activities are forbidden. There have been several occasions where staff have been assaulted and beaten up for trying to arrest poachers. Wild animals¹ that are hunted include Duikers (Adowa), Antelopes (Otwe), Bushbuck (Kokote) and Deer (Wansane). Other small mammals include African Giant Rat (Kusie), Grass Cutter (Akrantee), Palm Squirrel (Opro) and other rodents. Appendix 2.1 and Appendix 2.2 shows a poaching camp at Chiriase and confiscated game in the KSNR.

Commercial charcoal making is taking place throughout the reserve where farming is taking place (See Appendix 2.4). Though farmers are not allowed to cut trees in the SUZ by any means especially with chainsaw machines, they rather set pockets of fire at roots of the trees so as to get the taproots weaken to fall and used them (See Appendix 2.5). Dead trees that have been left over after farming are usually used for charcoal burning. Poaching of timber trees by logging companies and individuals occurs in the southern part of the reserve. Appendix 2.6 also shows confiscated logs from the protected area of the KSNR at Dome Camp of the WD.

4.4.2 Levels of the Conflicts in the KSNR

The conflict in the KSNR has taken several levels. Two basic levels of conflicts were identified during the survey. These two were commonly found among the community members themselves and between the community members and the WD. To go by the categorizations of the levels by Grimble and Wellard (1997), the micro-micro conflicts and micro-macro conflicts levels will be used for analysis. 66 percent of the households interviewed claimed that conflicts were mostly observed at the micro-macro level (that is between the WD and the community members) while 33 percent of the households indicated a micro-micro conflict level (see Appendix 1.3) in the KSNR.

Conflict at the micro-micro level resulted from struggles for fertile lands for farming in the SUZ. The failure to share lands that were allotted to the communities among the households

¹ Names of hunted animals in the local dialect are in the brackets

as intended in the ²Action Plan for Biodiversity Conservation and Sustainable Livelihood in the SUZ explains the conflicts at the community levels. In the case of Dome, the sub-chief indicated that households could cultivate larger farms depending on its ability. However, according to the sub-chief the conflict arises when other households encroach on other households' farmlands that had been left to fallow. This has resulted in several tensions and poor human relations among the farmers. The situation is high in Birem and Chiriase where most of their lands in the SUZ are rocky. This leaves great pressure on the limited lands that are suitable for farming and a temptation to encroach the PA. Another source of conflicts among the community members is the failure of the Community Conflict Management Committee (CCMC) in sharing the lands in the SUZ to the households of the host communities as determined by the Memorandum of Understanding (MOU) arrived under the WVI conflict management initiative. Consequently, households had to struggle among themselves in order to obtain some portions of the SUZ to farm. The situation has degenerated into deep conflicts resulting into social break downs among the community members. This conflict situation confirms the conflict perspective theory which postulates that the loss of other groups (households) due to the scarcity of farmlands in the SUZ may serve as a source of conflict.

Micro -macro conflict level on the other hand occurred between the community members and outsiders. From the survey, the main outsider in conflicts with the community members was the WD. The presence of the WD has served as a major obstacle to the community members in accessing resources from the SUZ and the protected area in the KSNR. Restrictions such as not growing tree crops, hunting and gathering, logging etc. Community members who are caught violating these regulations are arrested by WGs and handed over to the Police for prosecution. The WD is able to track illegal activities in the KSNR through patrolling and informants in the communities. Tensions usually become high when the Traditional Authorities refuse to release these culprits to the WD for arrest and prosecution

4.4.3 Nature of the Conflicts in the KSNR

The nature of conflict in the KSNR has taken varying forms. From the survey, varying opinions were given with regards to the nature of the conflict. The forms of the nature of the conflict have been a mixture of non-violent (45 percent) and violent conflicts (55 percent) is presented in Table 4.9. The most dimension of the non-violent conflict was intervention (46.7

² Wildlife Division of Forestry Commission, KSNR, (2002)

percent) while environmental damage (41.8 percent) and economic damage (40 percent) represented the most dimensions of the violent conflict.

Table 4.9: Nature of Conflicts in the KSNR

Forms of conflict	No. of Households	
	Frequency	Percentage
<i>Non-violent Conflict</i>		45
- Intervention	21	46.7
- Non-cooperative	10	22.2
- Protest	14	31.1
<i>Violent conflict</i>		55
- Physical damage	4	7.3
- Economic damage	22	40
- Environmental damage	23	41.8
- Social damage	6	10.9
Total	100	100

Source: Field Survey, April, 2014.

The most observed way in which all stakeholders have adopted to make conflicts in KNSR constructive or non-violent is lobbying which has received the most intervention from the government. The community leaders mostly lobby through the politicians to get their positions achieved. An example of such a political lobby was when the President of Ghana in 1993 gave a directive to an amicable solution to be reached when the communities were threatened with eviction by the WDs. The lobby resulted in the re-adjustment of the boundary of the KSNR for the communities to have access to the lands to farm in the KSNR. The WD has achieved some level of constructive conflict through traditional lobbying. These are done through the Paramount Chief of Kwaman to tone down agitations from sub-chiefs in the host communities of the KSNR.

Notwithstanding, environmental damage, a dimension of violent conflict also occurs when some aggrieved section of the people of the host communities felt that the WD was insensitive to their needs or plight in emergence situations especially when an official request has been made. An instance was when in 2012, some victims of fire in Asaasebonso requested for logs from the PA to reconstruct their ruined houses. However, their request was not granted by the WD. This provoked the victims to poach for logs in excess. The

uncontrolled logging resulted in deforestation and loss of most economic trees and limited species. Hunters who were not allowed into the PA sometimes set some part of the PA on fire to drive the animals to areas where they could be killed.

Economic damage that occurred from the violent conflicts in the KSNR involved the destruction of farms that were undertaken in the protected area of the KSNR by the community members. An example of such an economic damage was when in 2008, a whole community maize farm that was undertaken by the people of Birem in the protected area of the KSNR was destroyed by the WD. When a section of the people was asked the reasons for such a venture in the KSNR, they claimed most of their fertile farmlands were absorbed by KSNR during the extension of the boundaries and as such had limited lands to do farming. Hunting and gathering and charcoal products obtained from the KSNR are also seized or destroyed by WD. Victims of such activities especially the charcoal producers eventually lose their investments. The seizure is done to discourage the reoccurrence of such incidence. However, economic damage is on the low level in Dome and Chiriase because most of their farmlands are not in the KSNR.

Other dimensions of both non-violent and violent conflict observed in the KSNR were protest (31.1 percent), non-cooperation (22.2 percent), social damage (10.9 percent), and physical damage (7.3 percent). One can therefore conclude that the high non-violent nature (45 percent) of the host communities is a positive indication of their willingness to participate in a constructive conflict resolution over the KSNR.

4.5 Effects of the Conflicts on Development

The indigenous people concede that the reserve exerts enormous influence on the environment in general and rainfall in particular. It also protects wild animals which otherwise would have been non-existent in the area, to the disadvantage of future generations. The reserve has also contributed enormously to significant research both locally and internationally. However, the conflict situation has had negative impacts on the livelihood of the people in the host communities, the management of the KSNR and on the environment.

On the livelihood a consequence, the conflict between the host communities and the WD has constantly resulted in the destruction of farms that were undertaken in the protected area of the KSNR by the community members. An example of such an economic damage was when in 2008, a whole community maize farm that was undertaken by the people of Birem in the

protected area of the KSNR was destroyed by the WD. Individual farms that are found outside the SUZ but in the KSNR also destroyed by the petrol team of the KSNR. The temptation for encroaching on the KSNR for their farm activities is due to the reduction in the total farm lands of the host communities from 185km² to 98km². This represents 52.9 percent reduction in the total farm land size of the host communities whose main livelihood depended on farming (see Table 3.1). The situation is compounded when for the past 16 years the size of SUZ has not been re-adjustment in the form of extending its size to accommodate the current needs of the increase population which has its average household size increased from 3.2 in 1998 to 7.9 in 2014 (see Appendix 1.2). The limited SUZ is now a source of unemployment for most youth in the village. This could partly explain why their annual average income of household of the host communities' is 21.6 percent and 102.7 percent lower than the district and national annual average income. Household heads with the current average household size of 7.9 are currently over burdened, a situation that is also affirmed by Anderson et al. 1996; Ayling and Kelly 1997 in natural resource areas. Plate 4.1 indicates houses constructed out of improvised local materials, notably switch for wall construction and thatch for roofing showing the poverty level of the people.

Plate 4.1: Common condition of houses in the fringe communities at KSNR



Source: Field Survey, 2014

Restrictions of the host communities by the WD from accessing the river bodies affects the water supply of the people especially during the dry season where the inadequate boreholes

are not able to reach the water table to supply enough water. The effect has been the outbreak of diseases such as cholera and other water borne disease. In conclusion, it can be said that the main challenge in meeting the livelihood needs of the host communities is employment opportunities. The people especially the youth should be trained and equipped to make them more versatile for job opportunities.

On the issues of the effect of the conflict on the management of the KSNR, the unresolved litigation over the lands in the KSNR between the two Paramount Chiefs (Kwaman and Kumawu Traditional Councils) coupled with nonpayment of compensation have resulted into a low sense of commitment from the Traditional Authorities to support WD in the management of the KSNR. They see the reserve as potential farm land which should be released to them; especially the savanna section which they claim is very suitable for the production of yam and other food crops. To them it is a waste of arable land to maintain the areas as a reserve. Consequently, some indigenes on the south eastern part of the reserve continue to lease land to settlers for the cultivation of food crops. Nyamebikyere Dagomba is a typical example of settler community to which vast land has been leased inhabitation and farming in the KSNR by the Asaasebonso an indigenous community. The conflict has also resulted in creating fear of stigmatization among community members as an informant to WGs when noticed to be interacting with the WGs. This has resulted in poor collaboration among the host communities and the WD which is necessary for effective management of the KSNR.

Another effect of the conflict on the management of the KSNR is the present boundary of the reserve. The host communities recognise only the boundary of the former Kujani Bush Forest Reserve which presently represents the protected area in the KSNR. Ironically, the present boundary passes through communities like Berem, Chichibon and Cheriase, with the result that some of the inhabitants in these communities live inside the reserve. This state of affairs has led to the present uncontrolled use of the reserve land for farming, timber logging, charcoal making and akpeteshie distilling.

The vegetation of the KSNR is fast becoming degraded. It was evident from the survey that the forest and farmlands have been destroyed due to fast depletion of trees for charcoal production, poor farming practices, timber operations, and bush fires. Shifting cultivation was observed as the farming practice by the farmers. Farmers frequently shifted from land to land due the financial incapacity to procure and apply agro-chemicals to enrich the soil. The

fallow period has been reduced to 2-3 years. The consequence is the break in the resilience in the KSNR ecosystem. The trees are continuously logged especially within the SUZ for charcoal production which consequently results in high incidence of bushfire especially in the SUZ of the KSNR. Spots of the charcoal site become channels for erosion which degrades the land. According to the WD, the fragmentation of habitat, local disappearance of native species and invasion by exotic weeds and other plants are some of the other ecological consequences of shifting agriculture in the KSNR.

The KSNR also serves as the source for some major rivers such as the Afram. The river faces a great threat from the extensive farming which is systematically destroying its forest cover. The Afram, which used to flow regularly throughout the year breaks into pockets of pools during the dry season. Afram is one of the major rivers that flow into the Volta River which supplies water to the hydro-electric dams at Akosombo and Kpong. Threats to the Afram will have a devastating effect on power generation at the two dams.

4.6 Effectiveness of Conflict Management

There was no structured conflict management mechanism in addressing conflicts that usually aroused between the WD and the host communities of the KSNR. This could probably be due to the lack of legislative instrument for collaborative natural resource management in Ghana. This has undermined the support for the establishment of conflict management structure which is aimed at promoting sustainable natural resources management. Conflict Management mechanisms or arrangements towards sustainable natural resources management of the KSNR are therefore done on ad hoc basis. Three ad hoc conflict management initiatives were observed as measures to address conflicts in the KSNR. Two of these initiatives were initiated by external stakeholders such as the President's conflict management initiative and the World Vision International-Ghana conflict management initiatives. Only one has been initiated by the WD. The effectiveness of these initiatives will be examined based on the process, method, strategies and the approach employed in addressing the conflicts.

The first of an ad hoc conflict management mechanism was initiated by the President of the Ghana in 1993 after the establishment of the KSNR in 1971 to address the emerging conflicts between the WD and the host communities. According to the former WDM, the occasion took place when the host communities were prevailed upon to relocate to other areas outside

the reserve. These communities namely Birem, Chiriase, Chichibon, Dome and others when no compensation had been paid to and no relocation arrangement had been put in place for them. These communities therefore petitioned the President of Ghana at the time to intervene. Anchored on this, the President issued a directive for an amicable solution. Series of meetings were consequently held at the Ashanti Regional Administration between the Traditional Councils of Kumawu and the WD under the chairmanship of the Ashanti Regional Minister to find a lasting solution to the conflict. A re-adjustment of the southeastern boundary of the reserve to accommodate the farming and other needs of the indigenous communities was determined. However, the recommendation was not implemented due to the neglect of settlers (Atakpame, Nyamebekyere Dagomba, Konkomba, Yahayakura and Abrewanko) and their needs. The WD been determined to eject the communities from the reserve began using force. The people resisted the attempted eviction and vowed to take up arms to defend their right to stay and use the land.

The second ad hoc conflict management mechanism was initiated by the World Vision International-Ghana. In 1998, the World Vision International-Ghana which had been working in the surrounding communities of the KSNR since 1985 undertook a facilitation role to enhance the effective management of the KSNR and for that matter to resolve the conflicts and protect their investments in those areas. Efforts were made to bring all stakeholders on board to find an amicable solution especially to the conflict. After several workshop meetings, Memorandum of Understanding (MOU) was arrived. A Community Conflict Management Committee (CCMC) made up of the representatives of the stakeholders was established to implement the tenets of the MOU in a drawn Action Plan. The CCMC was also tasked to resolve any conflict that might arise between stakeholders in relation to the land and resources use. However, the CCMC did not last long to carry its responsibilities due to financial constraints. This affected their regular meeting which was necessary for resolving conflict.

The last of the ad hoc conflict management mechanism was the Protected Area Management Advisory Board (PAMAB). This was initiated in 2011 by the WD policy directive stipulated in the Wildlife Division Policy for Collaborative Community Based Wildlife Management (2000). This provided an interface between the WD of the KSNR and its surrounding principal stakeholders for conflict resolution and a mechanism to allow for the conditional access to the resources of the protected area. However, the operations of the PAMAB failed

due to the unfair representation of the host community members on the board. In an interview with the Traditional Authorities to find the reasons behind their withdrawal, they expressed the fear that decisions taken by the board been biased hence not favouring their interests. In effect, they have withdrawn their membership from the PAMAB to show their displeasure. A review of the membership of the PAMAB however showed that out of the 13 member board the communities had only 5 slots to represent their communities who are the direct users of the SUZ of the KSNR. The rest of the board membership were made up of state agencies such the WD, Police Service, Ghana Fire Service, District Agricultural Development Unit (DADU), District Assembly, NGO's etc.

4.6.1 Conflict Management Process

Going by what Lewis (1996) and the UKFSP (1998) had proposed as the effective way of going about a conflict management process, one would have expected that there was a similar laid down process by which conflicts that arise in the KSNR are addressed. Though there are some form of conflict analysis, preparation of management plan these are not consciously done to ensure maximum output. Conflict analysis which involves active stakeholder participation to understanding causes, dynamics of the conflicts and the opportunities for finding a lasting solution to the conflicts are not adequately done. At the community level, though there are several stakeholders such as household heads, religious bodies, settlers, women and youth groups, only the Paramount Chiefs who do not even live in the host communities were engaged. Little are the sub-chiefs, assembly members and the unit committee members engaged in any consultations. This could partly explain why the President Conflict management initiative failed since they did not engage settlers in the needs assessment. The resultant effect has been the failure of the communities to appreciate the need for the KSNR and rendering their support to the WD in achieving their objectives.

Financial constraint has been the major obstacle to implementing conflict management plans in KSNR. From the overview of the conflict management in the KSNR, it was evident that the failure of the CCMC to govern the activities in the SUZ and to addressing conflict issues was as a result of unavailability of funds. The source and the total cost of funding for CCMC operations were not clearly determined. Some members of the CCMC indicated that they were expecting the WVI to provide the funding since it facilitated the conflict management process. WVI when contacted admitted the blame for not making funds available but also added their operations in the area had by then lapsed and that there was little they could do.

No evaluation has been undertaken for the Action Plan since it was drawn in 2002. It is therefore difficult for one to assess the impact it has had on the lives of the people and management of the KSNR. The lack of an evaluation plan partly explains the poor coordination and sharing of information among the stakeholders especially between the WD and the local communities.

4.6.2 Conflict Management Methods

Arbitration and mediation have been the main conflict management methods employed in addressing the interests of the two major conflict parties namely the host communities and the WD. The first method to be used was the arbitration where a third party that is the President with much power greater than major opposing parties (the local communities and the WD), directed the then Ashanti Regional Minister to find solution to the ensuing conflict between the WD and the host communities. The outcome of the arbitration process was the re-adjustment (demarcation of the SUZ and the Protected Area) of the boundaries of the KSNR to ensure that the needs of the local people were accommodated while meeting the interest of the WD (the demarcation of the Protected Area).

Though the recommendation of the arbitration process failed to be implemented due to the exclusion of the needs of the settlers, it was accepted by the local communities and the WD as the best option to address the ensued conflict. It was around this time that the WVI which with no power played the mediation role of facilitating the establishment of the SUZ with the needs of the settlers addressed.

Negotiation process has not worked in the case of addressing conflicts between the WD and the local communities. This is evident from the formation of the PAMAD proposed by the WD to manage conflict issues that arise between the local communities and the WD. According to the community leaders, their decision to withdraw from the PAMAD is due to the unfair representation on the PAMAB. In conclusion, there seem to be mistrust between the opposing parties. They however believe in third party guide and ruling which will not take sides in addressing the conflicts in the KSNR.

4.6.3 Conflict Management Strategies

Conflict management in the KSNR has experienced a mixture of the conflict management strategies. It is evident from the overview of the conflict management in the KSNR that the influence of political factors and the inadequate capacity of the WD have made it exercise the

‘compromise strategy’ to allow for the re-adjustment of the boundaries of the KSNR to accommodate the needs of the host communities. However, the failure of the CCMC and the PAMAD has made the WD adopt the ‘force strategy’ to control the illegal activities and conflicts both in the SUZ and the PA. This strategy has taken the form of arresting of culprits and forcefully evicting the host communities by the Wildlife Officials, a situation which has not helped in curtailing illegal activities and conflicts in the KSNR. This finding is affirmed by Ayivor et al (2012) study in the Digya National Park. The local communities on other hand have adopted the ‘withdrawal strategy’ in any conflict management mechanism that will outweigh the goals they are trying to achieve. They have therefore withdrawn from the PAMAB which will not favour their position.

4.6.4 Conflict Management Approaches

Currently, the Traditional Authorities, the District Security Council (DISC) and the Regional Security Council (RISC) have been tasked as ad hoc institutions to address conflicts that emerge in the KSNR. Non-violent conflicts that ensue among community members over the SUZ in the KSNR have been assigned to the Traditional Authorities to be addressed in their various jurisdictions. According to the ADM, conflicts that emerge in form of violent are referred to the DISC and RISC which have the requisite capacity to address them. The intensity and possible impact of such violent conflict determines whether DISC or RISC will handle it. Figure 4.4 is the ad hoc organizational structure for addressing conflicts.

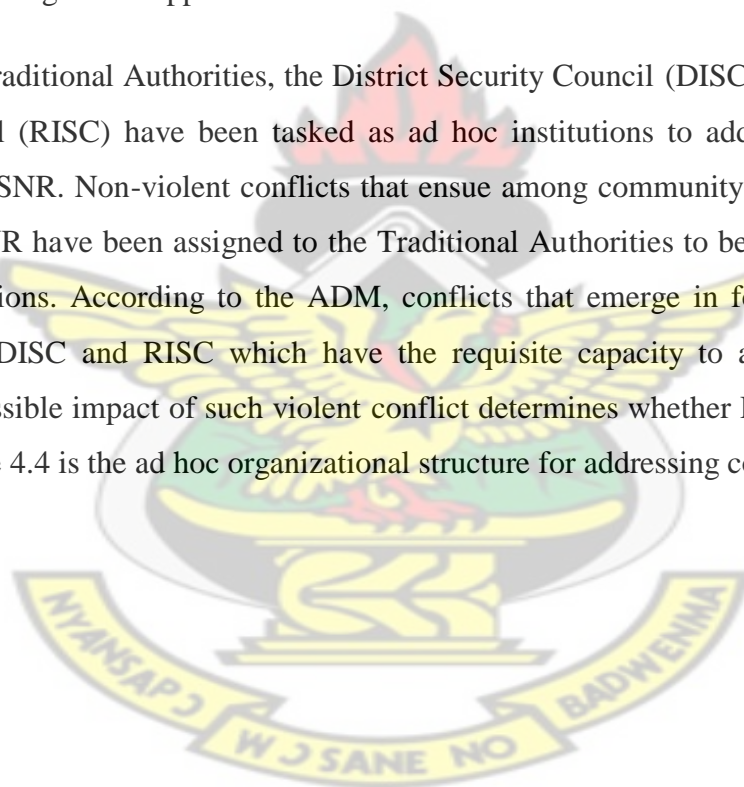
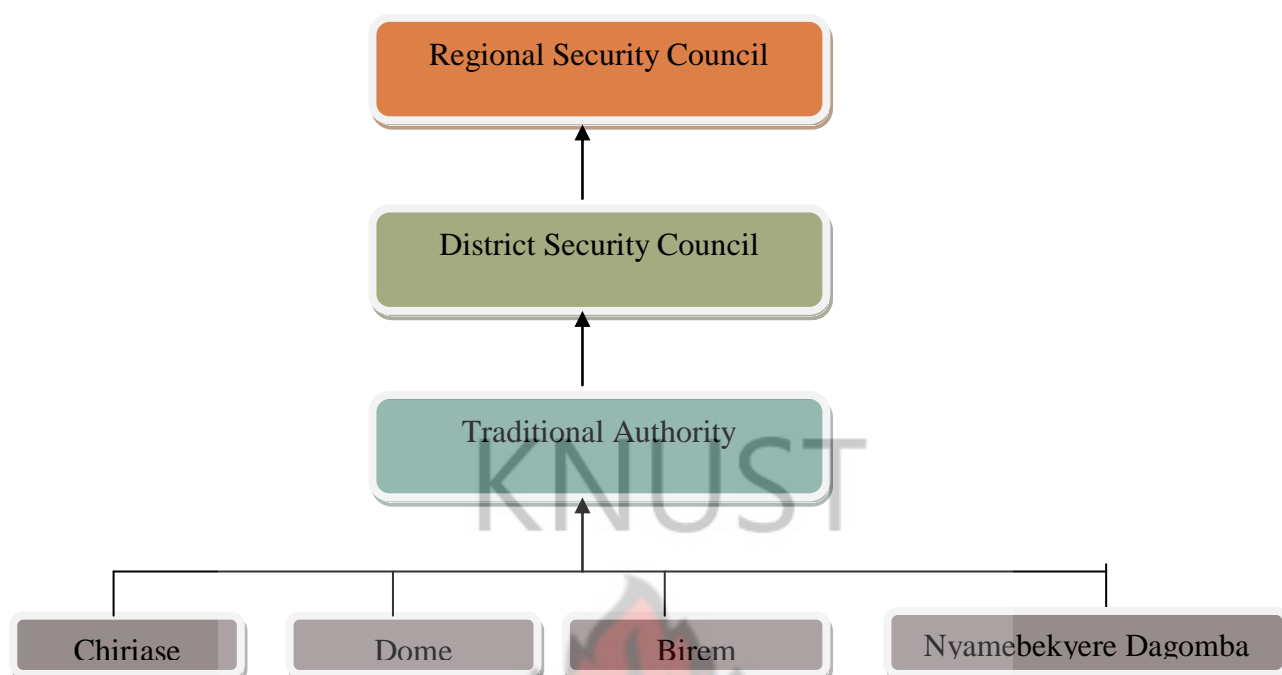


Figure 4.4: Ad hoc Organisation Structure for Managing Conflicts in the KSNR



Source: Wildlife Division, 2014

4.6.5 Key Conflict Management Constraints in the KSNR

There were number of setbacks confronting conflict management in the KSNR. Despite the policy to establish conflict management mechanism such as the PAMAB to handle conflict issues in the protected areas, there are no laid down procedure for the formation of the body; the proportions of stakeholders who should constitute the PAMAB; the constitution that should govern the operation of the PAMAB, the sources of funds and a legislative instrument that should enforce its establishment. More so, though there are broad objectives for the establishment of the KSNR, the reserve has suffered from mismanagement and lack of direction because of the absence of definite policy guidelines and management plan. There is therefore no conscious effort to address conflict issues that may arise between the local people and the WD. The resultant effect has been the reliance on third parties to facilitate conflict management initiatives.

Non-payment of compensation to the Paramount Chiefs and sub-chiefs since the establishment of KSNR is also another major constraints to conflict management in the KSNR. The effect has been the challenge of the legitimate ownership of the WD on the lands that were acquired through the extension the boundaries. The present boundary along the road from Dome to Oku and Aframso does not exactly conform to the boundary description in LI.

710. The implication is that anytime the road layout changes, the boundary line will also change since there are no pillars demarcating that part of the boundary. The land at the south-western corner of the reserve is believed to be under the jurisdiction of Beposohene. The staffs have continually been prevented from cleaning the boundary of that section of the reserve by the inhabitants of Didaso because they claim their chief has not released the land to the Department.

Again, inadequate financial support for the WD was viewed as the important factor undermining the implementation of management plans which a component of addressing conflicts in the SUZ. This has resulted in ineffective law enforcement since they are not able to procure the necessary logistic to embark on regular patrolling. The WD lacks the required number of camps with accommodation for staff in the local communities. Monitoring of the activities of the local people in the reserve is become very difficult to undertake. The WD also lacks the conflict management techniques necessary to predict possible conflicts and to address them.

Lack of conservation education programmes for the local people was also observed as major constraints to effective management of conflicts. They see the reserve as potential farm land which should be released to them; especially the savanna section which they claim is very suitable for the production of yam and other food crops. To them it is a waste of arable land to maintain the areas as a reserve. Even though they realize that the land will finish in no time in the light of heavy influx of immigrants to the area, they claim that they will allow longer fallow for abandoned farms to restore their fertility.

4.7 Chapter Summary

KSNR is clearly characterized by several types of conflicts. The various types of conflicts in the KSNR are data conflict, interest conflicts and structural conflicts. Structural conflict is the dominant type of conflict in the KSNR. This is caused by weak enforcement of resource laws, absence of conflict management mechanism, land litigation and demographic changes. These conflicts in the KSNR occur at both the micro-micro level (45 percent) and micro-macro level (55 percent). What makes the situation dire in KSNR is the 55 percent violent nature that characterizes the conflict. This has taken various forms such as economic damage (40 percent), environmental damage (41.8 percent) etc.

These conflicts have had tremendous effects on the livelihood of the host communities; the environment and the management of the KSNR. Agriculture which is the main source of livelihood of the host communities has suffered a loss of 52.9 percent farmlands to the KSNR. This has resulted into low income levels due to low outputs and a high incidence of unemployment especially among the youth.

Despite several attempts to address these conflicts, these have been done on ad hoc basis due to the lack of well structured conflict management mechanism. Managing these conflicts has not been effective mainly due to lack of legislative instrument for collaborative natural resource management, poor stakeholder analysis, financial constraints and low conflict expertise. These setbacks calls for pragmatic and innovative plans to address them and the next chapter discusses it.



CHAPTER FIVE

SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION

5.1 Introduction

The analysis of empirical data on the type, origin, level nature and effects of conflicts on development and the effectiveness of the conflict management as well as the constraints that managers face in management of the KSNR have brought up interesting revelations that need to be attended to. This chapter presents a summary of the findings from the analysis. The findings from the analysis give basis for suggesting plausible recommendations to improve or otherwise correct adverse outcomes. Based on these findings, attempts have been made to propose practical recommendations to deal with the problems identified. The chapter ends with a general conclusion to the research. The conclusion summarizes all the findings and processes of the research.

5.2 Summary of findings

The findings of the study bordered on the objectives which were outlined and guided the process of the entire research. The findings as per the objectives are outlined as follows:

5.2.1 Type, Origin, level and nature of conflict in the KSNR

The study revealed structural conflict as the dominant conflict characterizing the KSNR. The ineffective structures to address litigations over land enforce resources laws, managing conflicts and controlling population growth have been the drivers of conflicts in the KSNR. Others types of conflicts identified included the data conflict and interest conflicts.

As much as the study tried to relate the origin of the conflicts in the KSNR, the major cause identified for the phenomenon is the imposition of policy without effective participation of stakeholders. This constituted about 30 percent of the causes of conflicts in the KSNR. It was identified that state institutions, the host communities and development partners were major stakeholders in the natural resources were not aware of the change in the policy that converts Kujani Forest Reserve to the Kogyae Strict Nature Reserve until later years. Consequently, these stakeholder especially the host communities continued to stay and undertook their economic activities in the reserve which resulted in conflicts between the WD and the affected communities; a fact also stressed by FAO (2000) and Nang et al, (2011).

Inadequate sources of livelihood have in part contributed 25 percent to the alarming conflicts in the KSNR. The loss of 52.9 percent of the total farmlands of the host communities to the KSNR without a corresponding provision of alternative sources of livelihood to support them has reduced their potential sources of income. As these people became poor and marginalised they engaged in violent conflicts to demonstrate their resentments and as a means of protecting their livelihood and their families (FAO, 2005:3). Demographic change, land litigations, weak enforcement of resource laws and the absence of effective mechanisms for conflict management were other factors identified to be contributing to conflicts in the following proportions 18 percent, 11 percent, 9 percent and 7 percent respectively. The above findings on the sources of conflicts in the KSNR also affirm Onuoha (2008) assertions that natural resources conflicts are logical developments of the absence of proper democratic, legal and administrative mechanisms which are the root cause of these conflicts.

The study also uncovered that the conflict in the KSNR occurred both at the micro-micro level (33 percent) (among the host community members) and micro-macro level (66 percent) (between the host communities and the WD) according to the households. These were mainly due to scarcity of land in the SUZ for farming and weak institutions to govern the activities in the SUZ.

The research also found that the nature of conflict in the KSNR was characterised with a mixture of violent (55 percent) and non-violent (45 percent) forms according to the households. Violent conflict took the following dimensions; environmental, economic, social and physical damages. Non-violent conflict expressed itself in the following dimensions; intervention, non cooperation and protests. The high proportion of 45 been 45 is a potential that can be harnessed to attain a constructive conflict that can minimise the destruction of properties.

5.2.2 Effects of conflict on development

Conflict in the KSNR is responsible for the low standard of living among the host communities. Agriculture is the main economic activity of the host communities. This employs 97 percent of the total population. However, the loss of 52.9 percent of the total farmlands of the host communities to the KSNR due the conflict has affected the farm output and their income levels. The current annual average household income of the host communities (GH¢600.32) is 21.6 percent and 102.7 percent lower than the district and national annual average income. The low income level coupled with high average household

size of 7.9 has worsened the standard of living of the people in the host communities. Unemployment among the people especially the youth remains higher.

Environmental consequence on the KSNR due to the conflict was observed to be very alarming. The forest and farmlands have been destroyed due to fast depletion of trees for charcoal production, poor farming practices, timber operations, and bush fires. Shifting cultivation was observed as the farming practice by the farmers. The fallow period has been reduced to 2-3 years due low financial capacity to apply agro-chemicals. The consequence is the break in the resilience in the KSNR ecosystem, fragmentation of habitat, local disappearance of native species and invasion by exotic weeds.

Effective management of the KSNR has been impeded by the level of conflict. There is little or no support from the two Traditional Councils (Kwaman and Kumawu) due to the litigations over the land in the KSNR and nonpayment of compensations since the creation of the KSNR. The fear of being stigmatized as an informant to WGs concerning illegal activities has also resulted in poor collaboration among the people and the WD which is necessary for effective management of the KSNR.

5.2.3 Effectiveness of Conflict Management Mechanism

It was also evident that there was no structured conflict management mechanism in addressing conflicts that usually arose between the WD and the communities affected by the KSNR. There is no legislative instrument to enforce a well structured conflict management on the WD to undertake. The situation has resulted in less commitment from the WD to addressing conflict issues. However, three ad hoc conflict management mechanisms have been initiated to address emerging conflicts. These mechanisms include Presidential conflict management initiative (1993), WVI-Ghana conflict management initiative (1998) and the PAMAB (2011).

Consequently, conflict management process is not effectively and adequately undertaken to enable broad stakeholder participation, critical assessment of the causes of the conflict and its dynamics. Usually only the two Paramount Chiefs, Assembly members and the Unit committee are engaged leaving out the sub-chief, household heads, religious groups, youth and women groups and state institutions such as DADU. It was also identified that stakeholders that were engaged were not given the adequate capacity training to enable them make a meaningful participation. The Committees established to implement conflict

resolutions are not financially resourced to execute their tasks. Little success has therefore been achieved in addressing conflicts in the KSNR.

A mixture of the conflict management methods has been used to address conflict in the KSNR. Arbitration was employed by the Ashanti Regional Coordinating Council upon the directive from the President to ensure that the WD re-adjusted the boundaries of the KSNR to accommodate the needs of the host communities. Mediation was adopted by the WVI-Ghana to facilitate the compliance session between the WD and the host communities which was needful to address the conflict. Employing the negotiation method by the WD in the PAMAB to address conflict was not successful due to mistrust on the part of the community leaders in the WD and the unfair representation of the communities on the PAMAB. The communities have therefore withdrawn from the PAMAB.

A blend of strategies was observed as a way to arrive at a common platform in order to resolve the conflicts. Compromise and force strategies were usually used by the WD to achieve their objective. The WD used compromise when the President gave a directive to address the conflict. However, the failure of the President's conflict management initiatives quickly saw the WD adopting force to ensure the protection of the KSNR. This shows the role political influence has in the management of natural resources in Ghana. The local communities on the other hand have adopted the 'withdrawal strategy' to avoid any confrontation that outweighs the goals they are trying to achieve. They have therefore withdrawn from volatile locations such as the PA which is within a wider project area as well as the PAMAB which will not favour their position. The multiple uses of these strategies corroborate Warner (2000) assertion that the effectiveness of a strategy may require the support either concurrently or sequentially from one or more strategies.

Traditional Authorities were observed as the body that resolved conflict that occurred among community members. Violent conflicts especially between the WD and community members are addressed by the District Security Council (DISC).

5.3 Policy Recommendations

These recommendations seek to provide overall measures to improve policy action on how the management functions, entitlements and responsibilities of natural resource ecosystems should be negotiated, defined and guaranteed among various stakeholders for the sustainable management and utilization of natural resources in Ghana.

1. There is the urgent need for the Ministry of Lands and Natural Resource to ensure that legislation is enacted to support collaborative natural resource management in Ghana. This will go a long way to ensure support for a well structured conflict management mechanism aimed at ensuring proper cooperation between recourse managers and resource users. There is also the need for such a legislation to consider allocating a sustainable portion of benefits accruing from resource management towards the development of host communities.
2. There exists a complex system of ecosystem and human well-being linkages that require multi-disciplinary approaches to fully appreciate. There is the need to understand these ecosystem-human-well-being linkages through proper information dissemination and management without treating the different aspects as independent. When this is done, the distribution of benefits from forest resources and people's impact on ecosystem services will be clearly understood. It is therefore important for the Office of Administration of Stool Lands (OASL) and the WD to collaborate to ensure that well structures are established to ensure that there is accountability and transparency in the distribution of the resource benefits.
3. Deliberate actions should be taken to strengthen the WD to embark on educational activities in natural reserve host communities. These educational efforts should be aimed at sensitizing the community on sustainable forest management issues. To this end, the communities will be informed and local/indigenous knowledge on sustainable natural resource management practices enhanced.
4. Concerted efforts should be made by the Sekyere Central District Assembly to identify alternative livelihood activities within the KSNR host communities. This will help reduce their dependence on the natural resources and thereby improve the livelihood conditions of the host communities while maintaining the overall health of the ecosystem services. There is also the need to build the capacity of KSNR host communities and support them in exploring alternative livelihood interventions that are sustainable and viable in meeting their livelihood needs as forest communities.
5. The Sekyere Central District Assembly should also ensure that all stakeholders are involved in various stages of natural resource policy formulation processes. Considerations should however be given to their stakes, roles and capacities. Developing an integrated approach to natural resource management with the involvement of all stakeholders is imperative. By so doing, a balance between three objectives – conservation, sustainable use and fair and equitable sharing of the

benefits arising out of the utilization of the forest as proposed by the Convention on Biodiversity will be achieved. Multi-stakeholder forums should be continually held in this direction to help build confidence among the different stakeholders.

6. Efforts should be made to strengthen the capacity of local government institutions such as the WD, DADU etc in promoting the sustainable utilization and management of the social and economic benefits from natural resources. Community level governance should be enhanced to ensure that benefits received are used in an open, transparent and accountable manner. Community level institutions should therefore be well equipped to directly receive, plan for and utilize these resources.

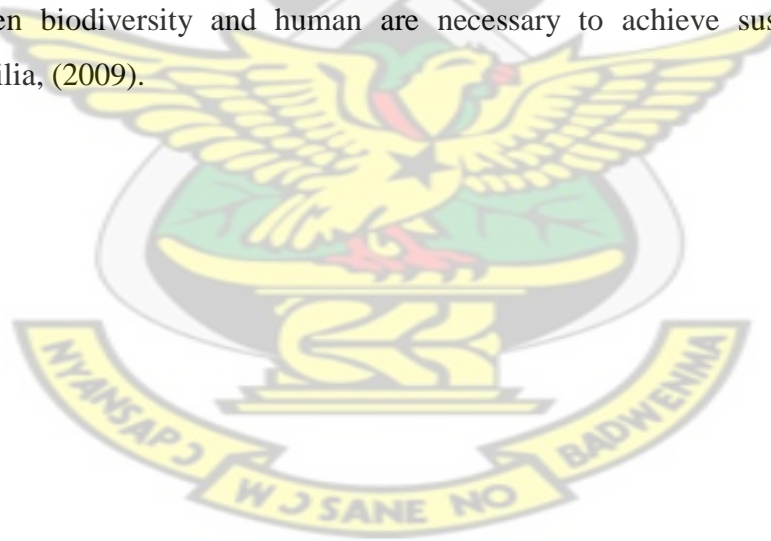
5.4 Conclusion

The livelihood of natural resource host communities is largely dependent on the ecosystems and the ecosystem services provided by the resources. Such natural resources therefore become critical to the well being of its host communities. The situation is complicated when the natural resource is designated as a reserve. When natural resources are put under reserve in poverty-dominated regions, there is always the conflict between the resource users expecting the reserve to continually provide its services to sustain their livelihood and the resource managers seeking to protect the overall health of the ecosystem through sustainable extraction of its resources. This was the case with the KSNR and the Birem, Dome, Chiriase and Nyamebekyere Dagomba communities, host communities of the Reserve.

In this Study, the imposition of policy without effective participation by stakeholders, inadequate alternative livelihood activities, demographic change for the people in the host communities have increased their dependence on the KSNR to meet their livelihood needs. In these Communities, the ecosystem services from the KSNR constitute a direct life-blood for the majority of the people. While the major occupation of the people of host communities is farming, this activity does not fetch them enough returns to meet their livelihood needs due to strict regulations governing strict nature reserves in Ghana. The situation has resulted into a mixture of violent and nonviolent between the host communities and the WD. Conflicts have also been observed among the community members due to the limited access to land, water, timber, game etc. However, with weak enforcement of resources, the tension in the area keeps on increasing between the WD and host communities due to uncontrolled exploitation of the natural resources in the KSNR.

Despite several interventions to address these conflicts, minimum success has been attained. These were due to poor stakeholder analysis and participation, low financial capacity to implement conflict resolutions, lack of legislative instrument to enforce a well structured conflict mechanism. The WD has adopted the force strategy to keep the peoples' illegal activities from the reserve while the communities have also adopted withdrawal strategy to stay away from any conflict management mechanism initiated by the WD such as the PAMAB.

There is the need therefore to call to ensure a collaborative approach towards sustainable conflict management through consultation, needs assessment, investigation, synthesis and consensus building. When this is done, there will be equity and fair distribution of benefits and a better collaboration among the stakeholders to ensure efficiency in the execution of sustainable utilization and management of the KSNR. The following words are worth echoing: Despite the need to protect biodiversity, hence the legitimate reason for the establishment of protected areas, there are also cogent arguments for permitting the consumptive use of these natural resources Pragmatic measures to ensuring that there is harmony between biodiversity and human are necessary to achieve sustainable natural resources (Vondilia, (2009).



REFERENCES

- Afzalur, R. M. (2001). *Managing Conflict in Organizations*. 3rd ed. United States of America: Greenwood Publishing Group, Inc. Available on: <http://www.untagsmd.ac.id/files/conflict%20in> Accessed on: 14-01-2014
- Akinyoad, D. (forthcoming). *Ontology and Epistemology of Peace and Conflict Studies. The Security Sector and Conflict Management in Nigeria*. Ibadan: Institute of African Studies.
- Alao A. (2011). *Natural Resources and the Dynamics of Conflicts in West Africa*. In Jaye T., Garuda D., and Amadi S., (2011). *ECOWAS and Dynamics of Conflict and Peace-building*. Dakar CODESRIA. Available at: www.codesria.org/spip.php/article1534 Accessed on: 20-10-2013.
- Anderson, J.; Gauthier, M.; Thomas, G.; and Wondolleck, J. (1996). *Setting the stage. Presented at the Global Conference on Addressing Natural Resource Conflict Through Community Forestry, Jan–Apr 1996. Forests, Trees and People Programme of the Food and Agriculture Organization of the United Nations, Rome, Italy.*
- Atta-Asamoah A. (2010). *Beyond Greed and Grievance: natural resource Characteristics and Conflict in Africa*. Institute for Security Studies Pretoria.
- Atta-Asamoah, A. (2013). *Besides greed and grievances: Natural resource characteristics and conflicts in Africa*. Paper 243. Conflict Prevention and Risk Analysis Division, Institutes for Security Studies.
- Attuquayefio D. K and Fobil, J. N. (2005). *An Overview of Biodiversity Conservation in Ghana Challenges and Prospect*. *West Africa Journal of Applied Ecology*, vol. 7, Department of Zoology, University of Ghana.
- Ayivor S. J., Gordon C. and Ntiamo-Baidu Y. (2013). *Protected Area Management and Livelihood Conflicts in Ghana: A case study of Digya National Park*. , Institute for Environment and Sanitation Studies, University of Ghana, Legon, PARKS Vol. 19.1
- Ayling, R. and Kelly, K. (1997). *Dealing with conflict: natural resources and dispute resolution*. *Commonwealth Forestry Review*. Available at: www.dhdi.free.fr/researches/environment/.../routforestpluralism.htm Accessed on: 13-09-2013.

Bercovitch, J. (Ed) and Rubin, J. Z. (Ed) (1992). Mediation in international relations: Multiple approaches to conflict management. New York, NY, England: St. Martin's Press, Inc. Available at: www.aspheramedia.com/.../5000214.pdf Assessed on: 26-07-2013.

Bercovitch, J. (no date). Conflict and Conflict Management in Organizations: A Framework For Analysis. University of Canterbury.

Bercovitch, J. (1983). Conflict and Conflict Management in Organizations: A Framework for Analysis. The Asian Journal of Public Administration, 5(2).

Bercovitch, J. (1989). International dispute mediation: A comparative analysis. In K. Kressel & D. G. Pruitt (Eds.), Mediation research. San Francisco: Jossey-Bass.

Bercovitch, J., Kremenyuk, V. A. and Zartman, I. W. (2008). Introduction: The Nature of Conflict and Conflict Resolution. Sage Publications Ltd, London, UK. Available at: http://www.sagepub.com/upm-data/24632_Bercovitch_Intro.pdf Accessed on: 20-10-2013

Bercovitch, J., Kremenyuk, V. and Zartman, W. (2009). The Sage Handbook of Conflict Resolution. The SAGE Publication London.

Bergh of Foundation (2012). Bergh of Glossary on Conflict Transformation. 20 notions for theory and practice Berlin. Available at: www.berghof-foundation.org Accessed on: 23-12-2013.

Brehm Y., Heinrich, A. and Stöcklein A. (2005) Guidelines Conflict Sensitive Approach. GOPA, Worldwide Consultants. Bad Homburg. Available at: http://www.gopa.de/fileadmin/GOPA_Conflict_Sensitive_Approach_Englisch_BRX.pdf Accessed on 26-12-2013.

Buckles D. and Rusnak G. (2005). Conflict and collaboration in natural resource management. International Development Research Centre Available at: http://idrc.org/en/ev-27964-201-1-DO_TOPIC.html Accessed on: 12-07-2013.

Burton, J. (1993). Conflict: Human Needs Theory. New Zealand: Macmillan Press Ltd.

Brockington, D. and Sullivan, S. (2003) Qualitative research. In: Scheyvens, R. and Storey, D., Development fieldwork: A practical guide. London: Sage Publications.

Cap-Net, (2008). Conflict Resolution and Negotiation Skills for Integrated Water Integrated Water Resources Management Resources Management: Training Manual. Available at: <http://www.cap-net.org/sites/capnet.org/files/Conflict%20Manual%20Final> Accessed on: 17-02-2014.

Chevalier, J. and Buckles, D. (1995). A Land without Gods: Process Theory, Mal-development and the Mexican Nahuas. Zed Books, London, UK.

Cloke P., Cook I., Crang P., Goodwin M., Painter J. & Philo C. (2004) Practising Human Geography. London: Sage.

Collins, S. D. (2008). Module 3: Managing Conflict and Workplace Relationships. Volume 3 of Managerial Communication Series. Cengage Learning, Available at: www.books.google.com.gh/books?isbn=0324584199 Accessed on 23-12-2013.

Conroy, C. Rai, A., Singh, N. and Chan, M. K. (1998) Conflicts affecting participatory forest management: Some experiences from Orissa. (Revised version of a paper presented at the Workshop on Participatory Natural Resource Management in Developing Countries: Mansfield College, Oxford, 6–7th April, 1998).

Creswell J. W. (2003). Research Design; Qualitative, Quantitative, and mixed methods approaches. Second Edition. www.gobookee.net/creswell-research-design/ Accessed: 15/03/2013.

Dudley, N. (Ed.) (2008). Guidelines for Applying Protected Area Management Categories, IUCN, ISBN 978'2'8317'1086'0, Gland, Switzerland.

Dunn, K. (2000) Interviewing in qualitative research methods In : Hay, I. (ed.) Human Geography. Oxford: Oxford University Press.

Engel, A. and Korf, B. (2005). Negotiation and mediation techniques for natural resource management. Prepared in the framework of the Livelihood Support Programme (LSP) An interdepartmental programme for improving support for enhancing livelihoods of the rural poor. Management Service, Information Division, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy.

EU-UN, (2012). Toolkit and Guidance for Preventing and Managing Land and Natural Resources Conflict Environmental Scarcity and Conflict. Renewable Resources and Conflicts United Nations Interagency Framework Team for Preventive Action.

Fisher, S. (2000). Working with Conflict: Skills and Strategies for Action. Zed Books. England. Available at: [tp://us.macmillan.com/workingwithconflict/SimonFisher.pdf](http://us.macmillan.com/workingwithconflict/SimonFisher.pdf) Accessed on 23-01-2014.

FAO, (2000). Conflict and Natural Resource Management. Food and Agriculture Organization of the United Nations Available at: <http://www.fao.org/forestry/21572-0d9d4b43a56ac49880557f4ebaa3534e3.pdf> Accessed on: 25-10-2013.

Foundation Coalition (2003). Understanding Conflict and Conflict Management. Available on: <http://www.foundationcoalition.org/teams> Accessed on: 22-11-2013.

Garrett, N. and Piccinni A. (2012). Natural Resources and Conflict A New Security Challenge for the European Union A Report for SIPRI by Resource Consulting Services.

Gupta, S. P., (2011). Climate Change, Forest Resource and Risk of Violent Conflict in Nepal: Understanding the Linkage HNRSC, Kathmandu University.

Gurr, T.R. (2001), Minorities and Nationalists: Managing Ethnopolitical Conflict in the New Century, In: Crocker, C.A. et al (eds), Turbulent Peace, Washington, D.C.: United States Institute of Peace, pp 163-188.

Hagan, J. E. (1998). The Kogyae Strict Nature Reserve. The World Bank/WBI's CBNRM Initiative, GIMPA, Accra. Available at: <http://srdis.ciesin.columbia.edu/cases/ghana-003.html> Accessed on 15 -08-2013.

Hammill A. and Bescançon C. (2010). Promoting Conflict Sensitivity in Transboundary Protected Areas: A Role for Peace and Conflict Impact Assessments. Paper prepared for the workshop on Transboundary Protected Areas in the Governance Stream of the 5th World Parks Congress, Durban, South Africa.

Heinz-Jürgen, A., Milososki, A. and Schwarz, O. (2006). Conflict – a literature review, Duisburg, 23 February, Available on: http://www.europeanization.de/downloads/conflict_review_fin.pdf Accessed 20-10- 2013.

HIK (2010). Conflict Barometer 2010. Heidelberg Institute for International Conflict Research. 19th Annual Conflict Analysis, University of Heidelberg. Available at: http://www.hiik.de/en/konfliktbarometer/pdf/ConflictBarometer_2010.pdf Accessed on 20-09-20.

Hirsch, P., K. Phanvilay, and K. Tubtim (1999). Community-based natural resource management and conflicts over watershed resources. In Buckles, D. ed. (1999). Cultivating Peace: Conflict and Collaboration in Natural Resource Management. IDRC/World Bank.

Huggins, C., P. Kamungi, J. Kariuki, H. Musahara, J.S. Oketch, K. Vlassenroot and J.W. Wakhungu. (2004) "Land, Conflict and Livelihoods in the Great Lakes Region: Testing Policies to the Limit", EcoPolicy Series, no. 14, Nairobi: ACTS, December 2004.

IUCN (1980). World Conservation Strategy: Living Resource Conservation for Sustainable Development. IUCN (World Conservation Union/International Union for the Conservation of Nature and Natural Resources), UNEP, and World Wildlife Fund. Gland, Switzerland: IUCN.

Joy, K. J. and Paranjape, S. (2009). Understanding Water Conflicts in South Asia. Society for Promoting Participative Ecosystem Management (SOPPECOM), Pune.

Kitchin, R. and Tate, N. J. (2000) Conducting research in human geography: Theory, methodology and practice. Pearson: Harlow.

Krishnarayan, V. (2005). Understanding and Managing Natural Resource Conflicts. Caribbean Natural Resources Institute Illustrations: Michael Hunt. Available no: www.canari.org/guidelines6.pdf Accessed on: 30-01-2014.

Levy, C. (2009). Protected Areas: From Vertical Institutions to Collaborative Dynamics. Biophysical and socio-economic frame conditions for the sustainable management of natural resources. Available at: www.tropentag.de/.com Assessed on: 22-05-2014.

Lewis, C. (1996). Managing Conflicts in Protected Areas. IUCN, Gland, Switzerland, and Cambridge, UK. xii + 100 pp.

Longhurst, R. (2003) Semi-structured interviews and focus groups In : Clifford N., French, S. and Valentine, G. (eds.) Key methods in geography. London: Sage.

Mack N., Woodsong C., Macqueen K. M., Guest G and Namey E. (2005) Qualitative research methods: A data collector's Field guide. Wiley-blackwell.

Maiga, I. and Diallo G., (1998). Land Tenure Conflicts and Their Management in the 5th Region of Mali. Issue Paper 76, International Institute for Environment and Development. <http://www.iied.org/pubs/pdfs/7379IIED.pdf> Accessed 23-03-2013).

Millennium Ecosystem Assessment (2005). Ecosystems and Human Well-being: Biodiversity Synthesis. World Resources Institute, Washington, DC.

Ministry of Lands and Natural Resources (2012). Ghana Forest and Wildlife Policy. Accra: Ministry of Land and Natural Resources.

Moore, C. (1996). Typology of Conflict. in The Mediation Process. 2 Ed. San Francisco: Jossey-Bass. Available on: <http://www.cios.org/encyclopedia/conflict/sources.htm> Accessed on : 20-01-2014

Nang, P., Khiev, D., Hirsch, P. and Whitehead, I. (2011). Improving the Governance of Water Resources in Cambodia: A Stakeholder Analysis. CDRI Working Paper Series, no. 54. Phnom Penh: Cambodia Development Resource Institute.

National Development Planning Commission (NDPC) 2010, Medium Term National Development Policy Framework: Ghana Shared Growth and Development Agenda (GSGDA, 2010-2013).

Ohlsson, L. (2003) "Livelihood conflicts and the need for a Global Environmental Marshall Plan", Presentation at the International Conference on "Conflict Prevention – analysis, policies and practice", Lund, 8-9 May 2003.

OECD (2011). The Economic Significance of Natural Resources: Key points for reformers in Eastern Europe, Caucasus and Central Asia. Available at: www.oecd.org/.../2011_AB_Economic%20significance%20of%20NR%20 Accessed on: 16-08-2013.

Ogunbameru O.A., (2005). Human-Environment Interactions: The Sociological Perspectives. Department of Sociology and Anthropology, Obafemi Awolowo University, Ile-Ife, Nigeria. Available at: <http://www.krepublishers.com/02-Journals/2005-Web/pdf> Accessed on: 23-12-2013.

Parfitt, J. (2005) Collecting primary data: questionnaire design and sampling methods In: Flowerdew, R. and Martin, D. (eds.) human geography: A guide for students doing a research project 2nd ed. Pearson: Harlow.

Ramírez, R. (1999). Stakeholder Analysis and Conflict Management. A concept of society In Buckles, D. (1999). Cultivating peace: Conflict and Collaboration in Natural Resource Management. International Development Research Centre, Ottawa, ON, Canada.

Rowley, J. (2002). Using Case Study Studies in research”, Management Research News, Vol.25. ISS: 1, pp16-27.

Roe, D., Nelson F. and Sandbrook C., (2009). Community management of natural resources in Africa Impacts, experiences and future directions. International Institute for Environment and Development (IIED), UK. Available at: http://pubs.iied.org/_pdfs/17503IIED.pdf Accessed on: 17-02-2014.

Schall N. and Becker M., (2004). Practioner’s Guide: Conflict Analysis. MethodFinder. GTZ-FRCS Project Team p. 2-11. Available at: www.MehtodFinder.net Access on: 12-10-2-13.

Schweithelm, J., Kanaan R. and Yonzon, P. (2006). Conflict over Natural Resources at the Community Level in Nepal Including Its Relationship to Armed Conflict. ARD, Inc. United States Agency for International Development.

Sick, D. (2002). Managing Environmental Processes Across Boundaries: A review of literature on institutions and Management. Minga Program Initiative, International Development Research Council, Ottawa.

Suliman, M. (1997). Civil War in Sudan: The impact of Ecological Degradation. A Contribution in Black Studies Vol. 15, Article 7. University Khartoum. Available at: <http://scholarworks.umass.edu/cibs/vol15/iss1/7> Accesses on: 23-07-2013.

Sunderlin, W., A. Angelsen, B. Belcher, P. Burgers, R. Nasi, L. Santoso, and S. Wunder. (2005). “Livelihoods, Forests, and Conservation in Developing Countries: An Overview.” World Development 33 (9): 1383–1402.

Tamakloe, W.(2000). State of Ghana’s Environment – Challenges of Compliance and Enforcement Ghana Environmental Protection Agency. Available at: www.inec.org/indicators/proceedings/04h_ghanapdf Accessed on 14-09-2013

The Finance and Trading Times (2010) Natural Resources Classification. How are natural resources classified? Available at: <http://www.finance-trading-times.com/2010/05/natural-resources-classification-how.html> Accessed on 11-09-2013.

United States Institute of Peace (2007). Natural Resources, Conflict, and Conflict Resolution. A Study Guide Series on Peace and Conflict For Independent Learners and Classroom Instructors Washington, DC.

United Nation Development Programme (UNDP), (2012). 2010 Ghana Millennium Development Goals Report. ClayDord Consult, Ghana. Available at: http://www.gh.undp.org/content/UNDP_GH_IG_2010MDGreportpdf Accessed on 24-02-2014

United Nation Environmental Protection (UNEP), (2009). From Conflict to Peace building: The Role of Natural Resources and the Environment. Available at: http://www.iisd.org/pdf/2009/conflict_peacebuilding.pdf Accessed on 05-03-2014

Vondilia K. G. (2009). Do Ghanaian Farmers have preferences for the National Biodiversity Strategy? A case study of farmers living around the Kakum National Park in the Central Region. Ghana Policy Journal. Vol 3. The Institute of Economic Affairs, Accra. Ghana.

Wehrmann, B. (2008). Land Conflicts: A practical guide to dealing with land disputes. Technische Zusammenarbeit (GTZ), Eschborn, Germany. Available at: www.giz.de/expertise/downloads/giz2008-en-conflicts.pdf Accessed on: 30-07-2014.

Warner, M. (2000). Conflict management in community-based natural resource projects: experiences From Fiji and Papua New Guinea Working Paper 135. Overseas Development Institute Portland House Stag Place London SW1E 5DP UK pg 9.

World Bank (2006). Where is the Wealth of Nature? Measuring Capital for the 21st Century, World Bank, Washington, D.C.

World Bank, (2010). Valuing Protected Areas. The International Bank for Reconstruction and Development/ The World Bank 1818 H Street, N.W. Washington, D.C. 20433 U.S.A.

World Bank, (2010). Valuing Protected Areas. The Word Express, Inc. The World Bank Washington, D.C. 20433 U.S.A. Available on: www.elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-6441 Accessed on 03-02-2014.

World Trade Organisation (WTO), (2010). World Trade Report 2010 Trade in natural resources. Available at: www.wto.org/world_trade_report10_e.pdf Accessed on: 11-09-2013.

Wyman, M. S., (2013). Conflict and Collaboration in Natural Resources. School of Forest Resources and Conservation. Summer Syllabus University of Florida. Available at: <https://lss.at.ufl.edu/> Accessed on: 08-09-2013.

WWF (World Wildlife Foundation), (2005). Cross-cutting tool stakeholder analysis. Resources for implementing the WWF standards. Washington DC.

Yin, R.K. (1994) Case study research: design and methods. 2nd edition. Thousand Oaks, CA: Sage Publications.



APPENDICES

Appendix 1: Data Base from Households in the Host Communities.

Appendix 1.1: Incidence of Illegal activities in the KSNR

Serious offences	Frequency
Poachers arrested	76
Poachers escaped	225
Poachers observed	301
Poacher's camps found	54
Gunshots heard	50
Firearms confiscated	86
Snares found	154
Total	2145

Source: Field Survey, April, 2014.

Appendix 1.2: Household size for the communities in the KSNR

Household size	1998	2014
2-5	109	269
6-9	141	347
10-13	54	134
Above 15	16	40
Total	320	790

Source: Field Survey, April, 2014.

Appendix 1.3: Levels of conflicts in the KSNR

Levels of Conflicts	Percentage. of Response
Micro-micro conflicts	33
Micro-macro conflicts	66
Total	100

Source: Field Survey, April, 2014.

Appendix 1.4: Types of Conflicts in the KSNR

Types	%
Structural conflict	45
Data conflict	30
Interest conflict	25
Total	100

Source: Field Survey, April, 2014.

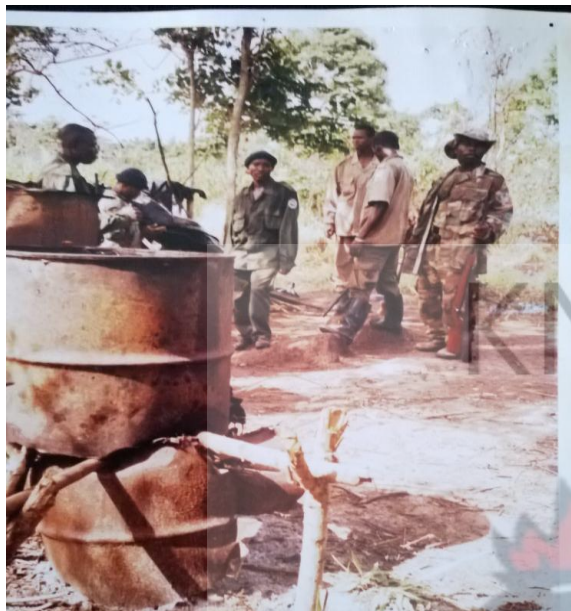
KNUST



APPENDIX 2

Photographs of Illegal Activities in the KSNR

Appendix 2.1: Poaching camp in the KSNR



Source: Field Survey, 2014

Appendix 2.2: Confiscated game in the KSNR



Source: Field Survey, 2014

Appendix 2.3: Confiscated guns and gin and wire snare in the KSNR



Source: Field Survey, 2014

Appendix 2.4: On-going Charcoal Burning in the SUZ of the KSNR



Source: Field Survey, 2014

Appendix 2.5: Chainsaw and fire used to fall trees in the KSNR

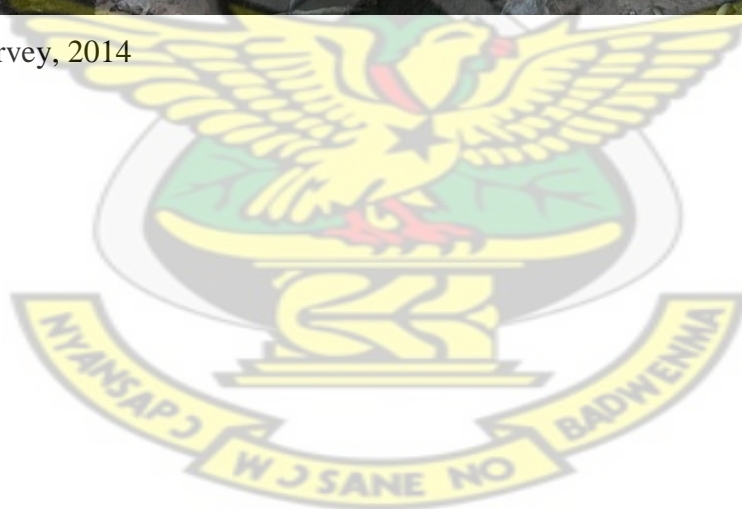


Source: Field Survey, 2014

Appendix 2.6: Confiscated logs from the PA in the KSNR



Source: Field Survey, 2014



Appendix 3:

Survey Instruments

Department of Planning
Kwame Nkrumah University of Science and Technology
MSc. Development Planning and Management



RESEARCH TOPIC:
ASSESSING NATURAL RESOURCE USE CONFLICTS IN THE KOGYAE STRICT
NATURE RESERVE, GHANA.

(HOUSEHOLD QUESTIONNAIRE)

This research is to solicit for relevant empirical data for the completion of an academic exercise on the subject “Assessing Natural resource use conflicts in the Kogyae Strict Nature Reserve, Ghana” towards the attainment of Master Degree in Development Planning and Management (SPRING Programme) in KNUST. Your cooperation is very much anticipated since data collected will be treated with complete confidentiality

Section 1: Identification

Name of Community

Name of Respondent

Contact Number

Section 2: Basic Demographic and Socio-Economic data

1. Sex of respondent [a] Male [b] Female
2. Age of households [a] -19 [b] 20-29 [c] 30-39 [d] 40-49 [e] 50-59 [f] 60+
3. What is the size of the your family in 1998 [a] 2-5 [b] 6-9 [c] 10-13
4. What is the size of the your family in 2014 [a] 2-5 [b] 6-9 [c] 10-13

Please complete this table

Name of Household Member	Sex Male Female	Age	Employment Status 15-60 yrs Student Homemaker Unemployed Employed	Educational Status No Education Primary JHS SHS Voc/Tech Tertiary	Occupation 1. Agric 2. Sales 3. Services 4. Clerical 5. Artisan 6. Professional 7. Managerial 8. Technical 9. Pensioner Student

8. How much do you earn from each occupation.....

9. Do you undertake any activity in the forest reserve?

[a] Yes [b] No

9a. If yes, what are they? (Please tick as many as applicable)

[a] Farming [b] Hunting [c] Fuel wood collection [d] Logging/ Timber

[e] Arts and Craft material [f] Medicinal plant collection

[g] Others (please specify).....

Section 3: Causes, Nature, Types and Levels of Conflicts in the KNSR

1. Are there any incidences of conflicts in the KNSR? [1] Yes [2] No

2. If yes, what are the causes of conflicts in the KNSR? (Please tick as many as applicable)

[a] Demographic change [g] Market Pressure

[b] Perverse incentives [h] Economic Integration

[c] Customary and State regulatory differences [i] Inequalities

[c] Weak enforcement of resource laws [j] Discriminatory policies

[d] Unequal distribution of resource benefits

[e] Weak conflict management mechanism

[f] Inadequate public participation in decision making

[k] Others please specify.....

3. Please indicate other stakeholders' interest and position in the KNSR?

Stakeholders	Interest	Position

4. What are the conflicting items involved in the KNSR? (Please tick as many as applicable)

[a] Land [b] Water [c] Game [d] Timber [e] Minerals

[f] Others, (specify).....

5. How will you describe the nature of the conflicts?

[a] Non violent/Constructive [b] Violent/ Destructive

5a. If the nature of conflict is non-violent, what form does it take?

[a] Protest [b] Non-cooperation [c] Intervention

[d] Others, please indicate.....

5b. If the nature of conflict is violent, which form does it take?

[a] Physical damage [b] Psychological damage [c] Social damage

[d] Environmental damage [e] Economic damage

[f] Others, please indicate.....

7. How will you describe the levels of conflict in the KNSR?

[a] Micro-micro level [b] Micro-Macro level

8. If at the micro level, please indicate the parties involved?

.....

9. If at the macro level, please indicate the parties involved?

.....

10. If at the inter micro-macro level, please indicate the parties involved

.....

Section 4: Establishing the effects of conflict on development

1. How will you assess the effects of the conflicts in the KNSR on the following development issues?

a. Livelihood

.....

b. Environment

.....

c. Management of the KNSR

.....

Section 4: Effectiveness of Conflict Management in the KNSR

1. Do you think the KNSR is significant? [1] Yes [No]

1.2 If yes, how is significant it?

.....

1.3 If no, why is not significant?

.....

2. What are the potential threats to the survival KNSR?

.....

3. What are the opportunities of the KNSR development?

.....

5. How do the shape, size and location of the KNSR affect conflict management?

.....

6. Who is/are responsible for the management of the conflict in the KNSR?

.....

7. Are there any conflict management measures for mitigating conflicts in the KNSR?

[1] Yes [2] No

7a. If no, why are there no conflict management measures for addressing the conflict in the KNSR?
.....

7b. If yes, since when has this conflict management measures been in place?

[a] 1-3yrs [b] 4-7years [c] 8-11yrs [d] other please specify

8. What are these conflict management measures?
.....

9. Please tick stage(s) of the conflict management process in which you were involved

[a] Stakeholder analysis [b] Preparation Conflict management plan

[c] Implementations [d] Evaluation [e] Capacity building

[f] If any please indicate.....

10. What role do you play in the following stages of the conflict management process in the KNSR?

Stakeholder analysis

[a] Effective, how?
.....

[b] Not Effective, how?
.....

Preparation of conflict management plan

[a] Effective, how?
.....

[b] Not Effective, how?
.....

Implementation

[a] Effective, how?
.....

Evaluation

[a] Effective, how?
.....

[b] Not Effective, how?
.....

Capacity building

[a] Effective, how?
.....

[b] Not Effective, how?
.....

11. Was the implementation of the adopted methods effective in addressing the KSNR?

[a] Yes [b] No

If yes, why was it effective?
.....

11a. If no, why was it effective?
.....

12. Who is responsible for the implementation of conflict management strategies in the KSNR?
.....

13. Was the implementation of the conflict management measures successful?

[a] Yes [b] No

13a. If yes, how successful were they?

13b. If no, how unsuccessful was the implementation of the conflict management measures?

14. In view of the objectives of the conflict management measures, how will you describe the outcome on the following?

[a] KSNR

[b] Communities

QUESTIONNAIRE FOR INSTITUTIONS

Section 1: Identification

1.1	Questionnaire Code	
1.2	Contact of Households	
1.3	Date of Interview	

Section 2: Causes, Nature, Types and Levels of Conflicts in the KNSR

1. Are there any incidences of conflicts in the KNSR? a. Yes [] b. No []

2

2. What are the causes of conflicts in the KNSR? (Please tick where applicable)

a. Demographic change []

f. Market Pressure []

b. Perverse incentives []

g. Economic Integration []

c. Customary and State regulatory differences []

h. Inequalities []

d. Weak enforcement of resource laws []

i. Discriminatory policies []

e. Unequal distribution of resource benefits []

j. Weak conflict management

mechanism []

k. Inadequate public participation in decision making []

i. Others please specify.....

3. What are the conflicting items involved in the KNSR?

a. Land [] b. Water [] c. Game [] d. Timber [] e. Minerals []

Others, (specify).....

4. What are the timelines of the conflict KNSR?

5. Why do the conflicts arise within the specified timelines indicated in question (4)

.....
.....
.....

6. How will you describe the nature of the conflicts?

a. Non violent/Constructive [] b. Violent/ Destructive []

6a. If the nature of conflict is non-violent, what form does it take?

a. Protest [] b. Non-cooperation [] c. Intervention []

d. Others, please indicate.....

6b. If the nature of conflict is violent, which form does it take?

a. Physical damage [] b. Psychological damage [] c. Social damage []

- d. Environmental damage [] e. Economic damage []
f. Others, please indicate.....

8. How will you describe the levels of conflict in the KNSR?

- a. Local level [] b. National level [] c. Inter local –national level []

a. If at the micro level, please indicate the parties involved?

b. If at the macro level, please indicate the parties involved?
.....

c. If at the inter micro-macro level, please indicate the parties involved
.....

9. What stage will you describe the conflicts in the KNSR

- a. Latent conflict [] b. Perceived conflict [] c. Felt conflict []
d. Manifest conflict [] e. Aftermath conflict []

11. What positions have you taken to safeguard your interest in the KNSR?
.....

12. Please indicate other stakeholders' interest and position in the KNSR?

Stakeholders	Interest	Position

Section 4: Establishing the effects of conflict on development

1. How will you assess the effects of the conflicts in the KNSR on the following development issues?

Livelihood
.....

Environment
.....

Management of the KNSR
.....

Section 4: Effectiveness of Conflict Management in the KNSR

1. Do you think the KNSR is significant? a. Yes [] b. No []

a. If yes, how is significant it?
.....

b. If no, why is not significant?
.....

2. What are the potential threats to the survival KNSR?
.....

3. What are the opportunities affecting the KNSR?
.....

4. Are you aware of any national legislation, policies and plans governing the operation of the KNSR? a. Yes [] b. No []

4a. If yes, how do these instruments affect the conflict management of the KNSR?
.....

5. How do the shape, size and location affect conflict management in the KNSR?
.....

6. Are there any conflict management measures for mitigating conflicts in the KNSR?

a. Yes [] b. No []

a. If no, why are there no conflict management measures for addressing the conflict in the KNSR?

.....

b. If yes, since when was this conflict management measures been in place?

a. 1-3yrs [] b. 4-7years [] c. 8-11yrs []

d. other please specify

7. What are these conflict management measures?

.....

8. Please tick stage(s) of the conflict management process in which you were involved

a. Stakeholder analysis [] b. Conflict management plan [] c. Implementations []

d. Evaluation [] e. Capacity building []

e. If any please indicate.....

9. In your own opinion, how will you describe the effectiveness stage of the conflict management process in the KNSR?

Stakeholder analysis

[a] Effective, how?

.....

[b] Not Effective, how?

.....

Preparation of conflict management plan

[a] Effective, how?

.....

[b] Not Effective, how?

.....

Implementation

[a] Effective, how?

.....

[b] Not Effective, how?

.....

Evaluation

[a] Effective, how?

.....

[b] Not Effective, how?

.....

Capacity building

[a] Effective, how?

.....

[b] Not Effective, how?

.....

10. What problems confront the management process?

.....

11. Are there any staff limitations to achieving conflict management objectives in the KNSR?

a. Yes [] b. No []

a. If yes, please indicate them

.....

12. Are there any logistical constraints to achieving conflict management objectives in the KNSR?

a.] Yes [] b. No []

a. If yes, please indicate them

.....

13. Are there any financial constraints to achieving conflict management objectives in the KNSR?

a. Yes [] b. No []

a. If yes please indicate them

.....

14. What are your major sources of funding?

.....

15. Which of the following conflict management methods have been used to address conflicts in the KSNR?

a. Conflict avoidance [] b. Negotiation [] c. Mediation []
d. Arbitration [] e. Adjudication [] f. Non-violent directive []
g. Violence [] h. Coercion []

16. Was the implementation of the adopted methods effective in addressing the KSNR?

[a] Yes [b] No

a. If yes, why was it effective?

.....

b. If no, why was it effective?

.....

18. Which of the following conflict management strategies have been used to address conflicts in the KSNR?

[a] Force [b] Withdrawal [c] Accommodation [d] Compromise [f] Consensus

19. Was the implementation of the adopted strategy effective in addressing the KSNR?

[a] Yes [b] No

a If yes, why was it effective?

.....

b. If no, why was it effective?

.....

20. Which of the following conflict management approaches is been used to address conflicts in the KSNR?

[a] Customary system [b] Co-management [c] National legal system
[d] Alternative Conflict Management

21. Was the implementation of the adopted approach effective in addressing the KSNR?

[a] Yes [b] No

21a. If yes, why was it effective?

.....

21b. If no, why was it effective?

.....

22. Was the implementation of the conflict management measures successful?

[a] Yes [b] No

22a. If yes, how successful were they?

.....

22b. If no, how unsuccessful was the implementation of the conflict management measures?

.....

23. In view of the objectives of the conflict management measures, how will you describe the outcome on the following?

[a] KSNR

.....

[b] Communities

.....

24. Is there a body responsible for the management of the conflict in the KSNR?

[a] Yes [b] No

If yes, how will you assess its performance in relation to addressing conflicts?

[a] Poor [b] Not poor [c] Good [d] Very good

25. What role do you play in conflict management in the KSNR?

.....

26. In your opinion what are the problems the conflict management body is confronted with in addressing conflicts?

a. If no why is there

.....