

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,
KUMASI, GHANA**

**COLLEGE OF AGRICULTURE AND NATURAL RESOURCES
DEPARTMENT OF SILVICULTURE AND FOREST MANAGEMENT**

**THE ROLE OF AFRICAN TRADITIONAL PRACTICES IN SUSTAINABLE
FOREST MANAGEMENT AND CONSERVATION: A CASE STUDY OF THE
MALSHEGU SACRED GROVE IN THE NORTHERN REGION OF GHANA**

BY

FRANCIS CALEB ATANGA

(B.A. INTEGRATED COMMUNITY DEVELOPMENT)

NOVEMBER, 2015

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,
KUMASI, GHANA**

**The role of African Traditional Practices in Sustainable Forest Management and
Conservation: A case study of the Malshegu Sacred Grove in the Northern Region of
Ghana.**

By

Francis Caleb Atanga

(B.A. Integrated Community Development)

**A thesis submitted to the Department of Silviculture and Forest Management,
College of Agriculture and Natural Resources
in partial fulfilment of the requirements for the degree of**

MASTER OF PHILOSOPHY

In

(Natural Resource and Environmental Governance)

November, 2015

CERTIFICATION

I hereby declare that this thesis is my own work towards the award of the MPhil. Natural Resource and Environmental Governance and that, to the best of my knowledge, it contains no 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.

Francis Caleb Atanga
(PG 9078313)	Signature	Date

Certified by:

Dr. Winston Asante
(Lead Supervisor)	Signature	Date

Dr. Paul Sarfo-Mensh
(Co-Supervisor)	Signature	Date

Certified by:

Dr. Emmanuel Acheampong
(Head of Department)	Signature	Date

DEDICATION

I dedicate this work to the glory of God, my dear mother Mma Laadi Attotee, Mr. & Mrs. Ampong and the Asmah family that made this work a reality. It is also dedicated to the memory of the late Deacon Stephen Arthur Gyasi; though dead yet your care and words are alive in my memories today, impossible to forget you.

ABSTRACT

Forest resources of Ghana are very vital for the country's sustainable development and several forestry initiatives have been executed to improve governance in the sector. Traditional forest management approach such as the protection of traditional areas (sacred groves, trees species and non-forest products) in Ghana aims at achieving effective management and sustainability of natural resources, especially off reserves that falls under traditional communities.

The study aimed at investigating the contribution of African Traditional Practices (ATPs) in forest management and conservation. The bond between traditional practices in forest management of the study area and a set of socio-demographic characteristics were analyzed.

The effectiveness of traditional practices, reasons for adherence to these practices and the challenges faced in traditional forest management were also identified. Participatory Rural Appraisal (PRA) techniques were used to collect data from the community. A total sample of 105 respondents comprising 94 household individuals, 8 traditional authorities, the *Gundana* (land/forest chief) and 2 officials (each from EPA and FSD) were interviewed. Data analysis were done using mainly descriptive statistics such as frequency, percentages and the pairwise ranking method (was used to determine the effectiveness of the traditional practices). The result revealed that 73% of the respondents agreed that traditional practices were effective in protecting the sacred grove, 15% disagreed and 13% neither agreed nor disagreed to the assertion. Some of the perceptions revealed from the study showed the contributions of traditional practices to forest management and conservation included; the sustainable conservation of the Malshegu sacred grove as a cultural heritage to the people and the chieftaincy system of Dagomba and adherence to traditional practices as a sign of respect to the gods (resulting in bumper harvest and blessings).

Furthermore, the study results showed that only men participated in forest management decisions and related activities. The results also indicated that 28% of the respondents participated in management decisions or meetings, 16% had access only to the sacred grove while only 12% had both access and control (direct managers) over it and this category included the Chief, the *Gundana* (land/forest chief) and the chief/fetish priest.

The main policy implication drawn from the findings are that resource managers and policy makers need to be sensitive to create more practical integrated management approach or policies to ensure meaningful participation from forest-dependent communities. The success of this approach relies heavily on a positive relationship between forest-dependent communities and resource managers. In designing participatory integrated management approach, differences in socio-demographic variables (gender and age) and capacity building interventions should be considered by resource managers to ensure extensive grass-root participation.

The study concludes that traditional practices can still play key role in forest management and conservation if integrated into modern forest management policies given the fact that these practices have stood the test of time. However, poor interest in traditional practices (amongst the youth) due to the stigmatization from the influx of Islam and Christianity and low grass-root participation (because of gender and age biasness) in traditional forest resource management are major lapses or challenges which have limited adherence and control of traditional leaders over their subjects and hence negative implications on the sustainability of forest resources in Ghana especially traditional community forests.

ACKNOWLEDGEMENT

‘All we know that all things work together for good to them that love God, to them who are the called according to His purpose.’ (Romans 8:28). To God almighty be the Glory, Honour and Adoration for his guidance, protection, peace and grace bestowed on me all these years.

I wish to express my sincere thanks and appreciation to my supervisors Dr. Winston Asante (Faculty of Renewable Natural Resources- KNUST) and Dr. Paul Sarfo-Mensah (Director, BIRD-KNUST). I owe you a debt of gratitude for providing technical suggestions and constructive criticisms. I thank you for your guidance, encouragement, confidence, patience and willingness to supervise this thesis. To the Department of Silviculture and Forest Management and lecturers in the Natural Resource and Environmental Governance (NREG) Programme, who have provided me with valuable insight and integrated knowledge in natural resources and environmental governance, I am grateful for your professional service to humankind.

Furthermore, I wish to express my sincere thanks and appreciation to Mr. and Mrs. Ampong and Mr. and Mrs. Asmah for the morale, encouragement and financial support granted me. I also extend my profound gratitude to my dear mother and mentor Mma Laadi Atotee for her various support, love and care. I am indebted to “my sister from another mother” Lydia Awuku-Adu for her care and kindness. To my brother and sisters, Ransford Ocran, Loctima Gado and Mimi Amoako, thank you for your morale and contributions in diverse ways. I equally extend my heartfelt gratitude to all the community members living around the Malshegu Sacred Grove.

TABLE OF CONTENTS

CERTIFICATION	i
DEDICATION	ii
ABSTRACT.....	iii
ACKNOWLEDGEMENT	v
TABLE OF CONTENTS	vi
LIST OF TABLES	xi
LIST OF FIGURES	xii
LIST OF PLATES	xiii
LIST OF ABBRVIATIONS.....	xiv
CHAPTER ONE	1
1.0 INTRODUCTION.....	1
1.1 Background.....	1
1.2 Problem Statement	3
1.3 Research Justification.....	4
1.4 Research Objectives	5
1.5 Research Questions	6
CHAPTER TWO	7
2.0 LITERATURE REVIEW	7
2.1 The Theoretical Perspectives on Traditional Forest Management Practices.....	7
2.1.2 The Debate on Traditional Natural Resource Management (NRM) and Forest/Biodiversity Conservation.....	10
2.2 The genesis of African Traditional Practices/Religion	11
2.2.1 African Traditional Practices (ATPs) and environmental sustainability.....	12

2.3 The essence of sacred groves in the management and conservation of forest/biodiversity	13
2.3.1 Taboos/totems associated with sacred groves.....	15
2.3.2 Factors causing degradation or threats to sacred.....	17
2.3.3 Current and potential challenges to the enforcement of traditional practices, systems and taboos involved in the management and conservation of sacred groves.....	19
2.4 Festivals as stage for natural resource management campaign	20
2.4.1 An outline of the nature of traditional authorities in Northern Ghana	21
2.5 The Malshegu Sacred Grove.....	23
2.5.1 Land use dynamics in Malshegu	23
2.5.2 Strong local religious beliefs.....	24
2.5.3 Significance and benefits of the sacred grove.....	25
2.5.3.1 Socio-cultural significance and benefits	25
2.5.3.2 Ecological significance and benefits	25
2.5.4 Traditional religion and effective environmental protection practices.....	26
2.5.4.1 Locally accepted protection guidelines for the sacred grove	27
2.5.4.2 The Kpalevorgu festival as platform for the management of the grove	28
CHAPTER THREE	30
3.0 MATERIALS AND METHODS	30
3.1 Study Area	30
3.1.1 Location and Size	30
3.1.2 Population and Occupation	32
3.1.3 Relief and Drainage	32
3.1.4 Climate and Vegetation	32
3.2 Method.....	33

3.2.1 Preliminary Literature Search	33
3.2.2 Reconnaissance Survey	33
3.2.3 Sampling Procedure.....	34
3.2.4 Design of Research Questionnaires.....	36
3.2.5 Pre-test of Research Questionnaires	37
3.2.6 Main Field Survey (Data Collection)	37
3.2.6.1 Questionnaire Administration	37
3.2.6.2 Focus Group Discussion	38
3.2.6.3 Key Informant Interview	38
3.3 Data Analysis	39
3.4 Limitations	39
CHAPTER FOUR.....	40
4.0 RESULTS	40
4.1 Introduction.....	40
4.1.1 Socio-demographic Characteristics of Respondents	40
4.1.2 Gender distribution.....	40
4.1.3 Age distribution of respondents	41
4.1.5 Occupation of respondents.....	43
4.2 Identified Traditional Management Practices	44
4.2.1 Effectiveness of traditional forest management practices over the past 20 years	45
4.2.2 The level of effectiveness interventions in protecting the sacred grove.....	46
4.2.3 Plant species available in the sacred grove	47
4.3 Reasons for Adherence to Traditional Forest Management Practices	48
4.3.1 Benefits of the natural resource to the local people	49

4.3.2 Traditional forest management responsibilities	50
4.3.2.1 Stakeholder participation in management decisions, access and control	50
4.3.3.1 Results of the overview of the Cooperative Integrated Project on Savannah Ecosystems in Ghana (CIPSEG) initiative in Malshegu	52
4.3.4 Willingness to contribute (WTC) towards sustainable management of the sacred grove	53
4.3.4.1 Reasons for inability to contribute	53
4.4. Challenges and Threats to Traditional Management Practices	54
4.4.1 Challenges to traditional forest management practices	54
4.4.3 Suggestions on how the sacred grove could be managed sustainably	56
CHAPTER FIVE.....	58
5.0 DISCUSSION	58
5.1 Socio-demographic Characteristics of Respondents	58
5.1.1 Gender and age distribution of respondents	58
5.1.2 Gender and traditional leadership	58
5.1.3 Educational level of respondents.....	59
5.1.4 Occupation distribution of respondents	59
5.1.5 Religious status of respondents.....	60
5.2 Identified Traditional Management Practices	61
5.2.1 Effectiveness of traditional forest management practices	62
5.2.2 The level of effectiveness intervention of traditional forest management practices.....	63
5.2.3 Plant species available in the sacred grove	64
5.3 Reasons for Adherence to Traditional Management Practices	64
5.3.1 Benefits of the natural resource to the people.....	65
5.3.2 Traditional forest management responsibilities	67

5.3.2.1 Stakeholder participation in forest management decisions, access and control	67
5.3.3 Resource mobilization for traditional forest management over the past 20 years	68
5.3.4 Willingness to contribute (WTC) towards sustainable management of the sacred grove....	69
5.3.4.1 Reasons for inability to contribute	69
5.4 Challenges and Threats to Traditional Management Practices.....	70
5.4.1 Challenges to traditional forest management.....	70
5.4.2 Threats on the sacred grove arising from land use dynamics	71
5.4.3 Suggestions on how the sacred grove could be managed sustainably	71
CHAPTER SIX	73
6.0 CONCLUSIONS AND RECOMMENDATIONS	73
6.1 Traditional forest management practices.....	73
6.2 Reasons for adherence to traditional management practices	74
6.2.1 Stakeholder/gender participation in forest management decisions, access and control	74
6.3 Challenges and threats to traditional management practices	75
REFERENCES.....	79
APPENDIX I.....	90
APPENDIX II.....	98
APPENDIX III.....	100

LIST OF TABLES

Table 3.1: Showing community sections in Malshegu	35
Table 3.2: Number of traditional authorities selected in Malshegu	36
Table 4.1: Gender distribution of respondents in the six sections of the community.....	40
Table 4.2: Age distribution of respondents in the six sections of the community.....	42
Table 4.3: Religious status of respondents	44
Table 4.4: Identified traditional forest management practices over the past 20 years.....	45
Table 4.5: Effectiveness and sustainability of the traditional forest management practices.....	46
Table 4.6: Pairwise ranking of the effectiveness of traditional forest management practices	47
Table 4.7: Some major scarce trees/plant species available in the sacred grove.....	47
Table 4.8: Reasons for adherence to traditional forest management practices	49
Table 4.9: Benefits of the natural resource to local people (based on the time lines study)	50
Table 4.10: Level of access, control and participation in decisions (based on time lines study) ..	51
Table 4.12: Reasons for inability to contribute	54
Table 4.13: Challenges to traditional forest management practices	55
Table 4.14 Threats on the sacred grove arising from land use dynamics	55
Table 4.15: Suggestions on how the sacred grove could be managed sustainably.....	57

LIST OF FIGURES

Figure 2. 1: Festivals as platform for natural resource management	21
Fig. 2.2 Traditional Institutional Structure for Natural Resource Management	22
Figure 3.1: Map showing Malshegu and the sacred grove (Map not drawn to scale)	31
Figure 4.1: Pattern of age distribution (Source: Field survey, 2015).....	42
Figure 4.2: Educational status of respondents (Source: Field survey, 2015)	43
Figure 4.3: Occupational distribution of respondents (Source: Field survey, 2015)	43
Figure 4.4: Forms of contributions respondents are willing to give (Source: Field survey, 2015)	53

LIST OF PLATES

Plate 3.1: Key informant interviews with the Malshegu secretary and EPA Programs' officer ...38

Plate 4.1: A fenced *Bombax ceiba* (cotton tree) near the Malshegu Palace (Source: Field survey, 2015)48

LIST OF ABBRVIATIONS

ATP – African Traditional Practices

ATR - African Traditional Religion

AZTREC - Association of Zimbabwe Energy Commission

BIRD- Bureau for Integrated Rural Development

CFM – Community Forest Management

CIPSEG- Cooperative Integrated Project on Savannah Ecosystems in Ghana

EPA - Environmental Protection Agency

EPC - Environmental Protection Council

FAO - Food and Agriculture Organization of United Nations

FIP - Forest Investment Program

FSD - Forestry Service Division

GEMP - Ghana Environmental Management Project

GSS - Ghana Statistical Service

IUCN – International Union for Conservation of Nature

NGOs - Non-Government Organizations

NREG – Natural Resource and Environmental Governance.

NRM - Natural Resource Management

PRA - Participatory Rural Appraisal

SDA - Sagnarigu District Assembly

SDP - Sagnarigu District Profile

SFSS- State Forest Survey Service

SPSS - Statistical Package for Social Scientists

TPA - Traditional Protected Area

UDS - University for Development Studies

UNCED - United Nations Conference on Environment and Development

UNESCO - United Nations Educational, Scientific and Cultural Organization

WCU – World Conservation Union

WRI- World Resource Institute

WTC - Willingness to Contribute

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Forests hold great value in every local community and in the global world. A landscape without forests will greatly harm human health as one of the essential elements that take carbon dioxide from the atmosphere and produces oxygen for living. Forest is not only vital to human life, but also important for the survival of other non-human lives and species that depend on the forest environment for survival and flourishing. Forests should be looked upon not simply for its utilitarian value but for its intrinsic value (Anthwala, 2010). With regards to Africa which has a tropical rain forest, its forest is in the low latitudes with heavy and regular rainfall and high temperatures (Anizoba, 2005). The African forest is filled with thousands of species ranging from trees, shrubs, parasites, animals, humans, other living organisms, and a gorgeous landscape. The forest is considerable value for Africa as other regions that have forests as it provides food resources, wood for various human venture, abode for animals, leisure, temperature control, and ameliorate climate change (Murck, 2005).

However, achieving these valuable benefits depend on the type of forest management or forest land holdings being practiced by a given nation or community. Forest land holdings or forest management are in different forms including state forest holdings (normally employs formal management system), private forest holdings (forests are usually managed on individual or communal basis) and the public-private holdings, which is a partnership between the government (formal) and the communal (traditional) systems (SFSS, 2007). Community Forest holding or Management (CFM) refers to the management system whereby community-based activities normally based on traditional beliefs or indigenous knowledge are geared towards the sustainable

use of forest (Asia CFMs Project, 2005). Traditional practices refer to the guidelines which are adopted for the enforcement of law and order in local areas of Ghana (Article 11(3) of Ghana's 1992 Constitution). This implies that these practices have become an intrinsic part of the accepted or expected conduct in a community. Though conventional management system can be associated with certain achievements, however, traditional practices are seen to more effective as they promotes local participation, hence yields much sustainable effects on forests (Eneji *et al.*, 2009).

In time past, local people have developed a variety of forest management and conservation practices that continue to exist in tropical Africa and other parts of the world (Appiah-Opoku, 2007). Traditional societies in Africa also practice ethics that enable them to regulate the connections among nature (Shastri *et. al.*, 2002). Traditional practices initiated in localities range from their way of worship, the rites of initiation, the appeal to the supremacies of divine authorities, which they hold as sacred, and how these deities converse their desire to people via their agents and the way they are pacified if offended (Eneji *et al.*, 2012).

The tenets of African Traditional Practices (ATPs) are based on the notion of supernatural influences to some or fragment of the physical surroundings as the habitats of deities of the land and how these habitats are protected. For instance, in the Gambia, mangrove areas and woodlands believed to be inhabited by mythical beasts known as "Ninki-nanka" - a dinosaur-like creature have helped maintain forests as studies reveals that such zones had higher levels of forest cover than official areas being protected. In the surveyed villages almost everyone expressed fear and concern about the ninki-nanka (Mkenda, 2010).

Some of these abodes of the gods are nicknamed sacred pond, evil/forbidden forest, sacred stream or river, sacred grove, and burying grounds amidst others. The safety of the dwellings of the deities from entry, use and abuse does latently encourage conservation and management of forests

(McCammon, 2003; Eneji et al., 2012). Ghana have several varieties of restrictions on forest resource usage. For instance, several tribes in the country consider some days to be sacred, in which farming or hunting in the forest is prohibited. These days are considered to be the resting days of mother earth and are usually used for communal labor (Abayie-Boateng 1998). In the context of managing natural resource, these local practices encourage the protection of biodiversity which lessen the constant usage of natural resources (Ntiamoa-Baidu 1995). Long before now, traditional practices and its systems dealt with variations and tension in the administration, use, control and protection of forest assets, but today their method of resource administration and conservation are yielding slight effects due to certain factors and changes (Bonye and Millar, 2004). Though developmental changes allow the virtues and abilities of local practices and organizations in effective forest management and conservation, these traditional practices are yet expressively confronted with limitations so long as forest resource management and conservation is concerned (Bonye, 2007).

1.2 Problem Statement

Forest management has been carried out by both local people and government institutions for several years in Ghana, nevertheless in the modern day, these management practices are failing to sustain the quality of the forest and deforestation is rampant. For instance, Ghana lost about 80% of its forest cover between 2000- 2010 (Hoogensbosch, 2010). The FAO and its Environment Program in 1981, projected a deforestation rate of 220 square km² per year for the period 1981-1985 (FAO, 1981). Today, only 20,000 - 25,000 km² of closed forest remain 24 – 30 % of the forest zone (World Bank, 1997).

Over the years, African traditional practices (ATPs) have been vital in natural resource governance but the contribution of ATPs to NRM has been declining mainly due to the influx of foreign

religions (Christianity and Islam), modernity/civilization, poor passage of traditions, failure of government policies to integrate these practices into contemporary management system and poverty leading to degraded forests and its adverse effects on livelihoods, human health, livestock and properties (Appiah-Opoku, 2007). Hence, Achim and Gonzalo (2004) intimated that it is true that traditional NRM practices which are tested and proved are constantly and steadily diminished. Sarfo-Mensah and Oduro (2007) equally observed that in Ghana, though the possibility of using traditional practices for forest protection is great, however, the passion to sustain these practices is extremely declining due to swift variations in the belief in the supernatural.

In spite of the observations by Appiah-Opoku (2007) and Sarfo-Mensah and Oduro (2007), the Malshegu sacred grove has been protected and managed by the community for almost three centuries and when it was originally demarcated, the traditional leaders used unwritten rules to safeguard the use of land in and around the sacred grove. Over the years, changes have been made to some of the rules to guarantee their relevance and effectiveness are maintained (Dorm-Adzobu *et al*, 1991). It is therefore important to understand why the people of Malshegu are still maintaining their sacred grove and holding on to the traditional practices in the face of these increased challenges in Ghana (as identified by Appiah-Opoku, 2007).

1.3 Research Justification

Traditional practices are approaches which if promoted can be more effective and sustainable, and can complement conventional management approaches over a prolonged period. To improve Ghana's NRM, it is critical that practical steps are made to capture the prospects that community forest management (CFM) has to offer through the active integration of these traditional practices into contemporary management policies especially practices on forest protection at these same

communities. Yet, ample study has not been carried out on the need for maintaining these traditional practices in local communities to effectively manage forests in Ghana.

A review of available literature shows limited knowledge on the effectiveness of traditional practices and perceptions in Ghana. Though, several investigations have been done on the role and challenges of traditional practices in farming systems among others, very few work is done on its effectiveness. Traditional practices has been very significant in promoting forest management and conservation in some parts of Africa and India as it enhances grass root or local participation and a sense of ownership (Sugumaran and Jeeva, 2008). Despite this credit, little research has been done on these traditional practices and Malshegu is not exceptional. Hence, this study seeks to identify the effectiveness of traditional practices with respect to the identified norms in Malshegu; taboos on prevention of entry, prohibition from felling certain trees as well as sanctions and payments of fines, hence ideal for the study. The principal reasons for obeying these traditional practices can be used to improve forest management in and around the Malshegu sacred grove. In addition, the study will also enrich the knowledge of the scientific community on the likely causes of ineffectiveness of traditional practices and serve as a reference point to guide various stakeholders and policy makers in Ghana.

1.4 Research Objectives

The main aim of this research was to identify the traditional practices that are being used by the people of Malshegu to sustainably manage the sacred grove till now, in spite of the fact that other traditional practices have broken down. Specific objectives for the study included:

- I. To identify the traditional practices that have governed the protection of the sacred grove.

- II. To determine the underlying reasons for adherence to the traditional practices of the local people.
- III. To identify the challenges that militate against the enforcement of the traditional practices in the protection of the sacred grove.

1.5 Research Questions

- I. What are the traditional practices that have governed the protection of the sacred grove?
- II. What are the underlying reasons for which the people adhere to traditional practices on the sacred grove?
- III. What are the current and potential challenges that militate against the enforcement of traditional practices in the protection of the sacred grove?

CHAPTER TWO

2.0 LITERATURE REVIEW

This chapter delves into concepts and theories that are relevant to the subject matter. Arguments or debates are made on key concepts and theories that provide the framework as perceived differently by different scholars. It also reviews relevant literature on the role of African traditional and socio-cultural practices in resource management and sustainability. Major concepts such as; traditional NRM practices and conservation; forest/sacred grove; practices and taboos in relation to indigenous forest management and conservation are reviewed and described. An overview of traditional leaders (chief, *kpalna*, clan and so forth) in Malshegu and their forest conservation and management systems are also deliberated.

Finally, the chapter ends with a framework displaying how forests are managed and conserved by the local people.

2.1 The Theoretical Perspectives on Traditional Forest Management Practices

This section explores the theories or assumptions of NRM systems and provides the basis for evaluating the successes and failures of traditional practices (which are normally community based) for forest and wildlife management and conservation in Africa. For the purpose of this study, only three different systems are considered and associated with state ownership and management of natural resources, these are controlled open access, regulated common property and private property systems (Manwa, 2005). Open access regimes involve no salient incentive features for long-term forest management. The debate and tradeoffs in terms of mechanism design involve the choice between the last two or a hybrid of the two management regimes. The private property rights school argues that open access and unregulated common property regimes are inherently inefficient because they fail to produce incentives for individuals to harvest the

resources in a socially optimal way (Marsh, 2002). Nevertheless, the authors argued that privatization of a natural resource would not necessarily lead to productivity, particularly if the privatization efficiency is evaluated in terms of its impacts on the distribution of income. Thus, Baland and Platteau (1996) emphasized that although privatization can dominate regulated common property regime in terms of efficiency and that everybody can potentially gain from privatization, nevertheless, this is can only be if adequate income compensation is available to those whose lose out is paid or if the traditional resource owners are made private resource owners. The authors argued that the practice of resource privatization shows that traditional resource users lose their customary rights to the resource, marginalized and are never adequately compensated, if at all. To them (Baland and Platteau, 1996), the most cited benefit of privatization and commercialization of natural resources is that although local communities are not compensated, they benefit by taking advantage of new job opportunities created. On the contrary, Sriniva, (2005) contended that with the introduction of private property, unless local resource users get a kickback in one form or the other, they still lose out both in terms of employment and on account of reduced individual earning.

According to Ostrom (1992), traditional NRM or community based management practices avoids the pitfalls that both regulated common property and private property regimes presents on local people, particularly in communities that score high on trust, leadership, organization and group identity. Ostrom and some scholars argued that pitfalls are avoided because traditional NRM to forest or wildlife management is preconditioned on its ability to alter local behavior and practices in ways that conform to the attainment of predetermined conservation and community development goals (Smith and Wishnie, 2000).

Nevertheless, this expectation takes for granted that local people may be interested and ready to shake off their values and norms in preference for new behavioral norms that guarantees the economic prosperity of rural dwellers. In other words, traditional NRM assumes that economic incentives will affect the behavior and interests of individuals and subsequently transform local residents into conservationists (Manwa, 2005). Manwa argues that there is strong emphasis on conservation, which may not be the primary interest of residents, sometimes making them highly suspicious and pessimistic of whether their livelihood interests will be preserved and enhanced. For instance, Agrawal (2001) observed that in Zimbabwe, Namibia, Mozambique and Botswana, game management areas among others is sometimes unclear whether community-based management programs involving buffer zones built around national parks are designed to offer appreciable economic benefits to local communities or merely to solicit their participation in wildlife conservation programs. This is due to the fact that wildlife stocks are lower in the buffer zones than in protected areas (national parks), therefore the capacity to generate revenue for community development without degrading the resource base is limited. Again, the revenues generated are spread thinly across a large number of communities and residents making it difficult to appreciate the contribution of buffer zone resources to rural development and welfare. In this regard, economic benefits from wildlife operations in buffer zones may not be enough to compensate for the losses incurred by the community as a result of the conservation program. Therefore, in this case, if financial incentives matter for community participation, then substantial external support (financial and technical) made available to local community is necessary for the program to be sustainable. Today, it is widely acknowledged that majority of these systems are environmentally friendly and promote socio-economic and national development when adapted to manage some particular forest resources (Ghai, 1994; McNeely, 1996).

2.1.2 The Debate on Traditional Natural Resource Management (NRM) and Forest/Biodiversity Conservation

Over the years, debates on traditional NRM practices and conservation have been championed by many scholars. Strong opinions have been voiced out about the effectiveness of traditional practices and its ability to yield long term sustainable impact on forest reserves and biodiversity. From one school of thought, some scholars contend that traditional practices though usually built on spiritual customary practices are vital for forest protection nowadays as they often promotes sustainable way of natural resource utilization (Vayda and Rappaport, 1968). It is discovered that some traditional practices have distinctive structures with mechanisms for retaining poised ecosystem and biodiversity (Chayanov, 1966).

In addition, recently, another school of thought suggests that traditional NRM strategies should emphasis more on various ways to improve existing traditional practices to enable its efficiency as compared to the past (Brookfield, 1996; Warren and Pinkston, 1997). This is due the fact that local people usually have insightful and comprehensive knowledge of the ecosystem and species, and hence, have developed effective methods of safeguarding how they are sustainably used (Berkes, 2009; Hens, 2006).

Furthermore, ever since the “Biodiversity Convention” was declared in Rio de Janeiro, Brazil, much highlight is placed on the integration of traditional practices into sustainable development programmes, particularly nature conservation in developing countries (UNCED, 1992; Agrawal et. al., 2006). As a matter of fact, the fusion of traditional ideas into national NRM programmes and projects has been the current discussion at several global forums and platforms in order to foster viable livelihoods and environmental conditions (Ghai, 1994; UNESCO, 1998).

Though the maintenance of traditional practices have been promoted on several national platforms and global arenas over decades, however, two major concern areas are championed by critics:

- First, it is indicated that not all traditional approaches (techniques and practices) yields a conservative effect on the environment of the local communities that applies them (Leff, 1985; Catterson, 1988).
- Secondly, it is disputed that the effectiveness of traditional practices is not derived from their practicality aspect but socio-cultural beliefs. Usually, social circumstances leads to the invention of these practices, and the way it is linked with the traditional behavior of a local people, their pattern of life related to punishment for unlawful access to natural resources and the religious or belief system that exist among them (Leff, 1985).

The point of these arguments is that conservation cannot be achieved simply by following general traditional practices but by incorporating some relevant indigenous elements in them. This implies that multicultural embracement of traditional practices may not be easily practicable unless there are cultural traits or components applicable to a local area.

Some scholars laments on the fact that contemporary situation in environmental management is branded by planning policies and social structures which altogether relegates local culture to the detriment of the ecosystem (Leff, 1985).

2.2 The genesis of African Traditional Practices

Africa Traditional Practices (ATPs) refer to established codes of behavior and principles regulating the actions of people in a society (Eneji *et al*, 2012). The authors argued that to implement these principles and codes of behavior, local people charged with the implementation of these rules of conduct grouped themselves in such a way that these rules and code of behavior were cherished and acknowledged. The authors added that, with time a chief priest is always chosen by a serving

priest who coaches a new intern over the traditions and duty of divination to take over in the event that the main priest dies or is extremely sick. The trained intern then becomes the spokesperson of the gods. Accordingly, this development has advanced to a sacred set since an individual person may not be able to effectively enforce communal by-laws. Therefore, the authors asserted that attachment was now unrestricted and open. However, individuals who owed allegiance to this order or cult had to offer sacrifices to the gods and esteem them as sacrosanct; this was the genesis of African Traditional Practices.

2.2.1 African Traditional Practices (ATPs) and environmental sustainability

ATP as practiced in most African societies are ecologically friendly and viable, thereby, encouraging natural resource management, conservation and sustainability. In Africa and indeed Ghana, ATP embraces the strength of the supernatural powers of the gods (Eneji et al, 2012). These gods communicate their will to the people through the chief priest, and the belief system is that the gods protect the community members from harm, famine, bareness, impotence, famine, epidemics, and conflict amongst others (Eneji *et al.*, 2012). However, there is the belief that the gods abode in natural environments including trees, rivers, rocks and so forth which serves as their habitats and hence, the need to keenly protect these habitats.

In addition, other authors have observed that these deities retaliate their wrath on culprits for being disobedient to what they prohibits, therefore, the traditional structure embraces every decree of the gods and cherishes it (Utkarsh *et al.*, 1999; Tupper, 2002; Udgaonkar, 2002). This emphasizes on the need for African Traditional Practices in environmental protection and natural resource management.

2.3 The essence of sacred groves in the management and conservation of forest/biodiversity

Sacred groves refer to forest fragments of varying sizes, which are communally protected and usually have a significant religious zeal and connotations for the protecting community (Bhagwat and Ormsby, 2010). According to Khan *et al.*, (2008) sacred groves are tracts of virgin forest with gorgeous variety, which have been sheltered by the natives for centuries for their cultural and religious beliefs and taboos that the deities reside in them and protect the villagers from different calamities. They are the relict climax communities preserved by the local people for certain beliefs and are forests rich in biological diversity and harbor many endangered plant species including rare herbs and medicinal plants (Manikanda *et al.*, 2011). Cardelús *et al.* (2013) asserted that sacred groves connotes small jungle zones left untouched by local people purposely for conservation by the gods and are of distinct spiritual connotations to the natives.

The perception and beliefs in sacred groves and trees are one of the finest practices meant to protect local forests and promote NRM. Sacred groves also known as religious, sacred or totem forests can be seen all around the globe comprising Ghana, India (where about 100,000 to 150,000 sacred groves are reported existing), Japan, Morocco and Ethiopia (Malhotra *et al.*, 2007; Cardelús *et al.*, 2013). They are also known as natural museums of huge trees, wealth stocks of endangered species, dispensary of curative plants, controllers of water sheds, recreational areas of city living, natural parks for botanists, stores of commercial species, utopia for nature-lovers and the workroom for ecologists (Bhagwat and Ormsby, 2010; Manikandan *et al.*, 2011). Remarkably, sacred groves are located in different continents of the world including Africa, Asia, Europe, Australia and America (Ormsby, 2011).

SGs are common features in southern and some parts of northern Ghana, notably in the North is the Malshegu sacred grove (Falconer 1992). SGs in Ghana are estimated to be about 1,904 groves

ranging from 0.5 to 1300 hectares in size according to a survey by the Forestry Commission (Ntiamo-Baidu, 1995). It often comprises of objects such as a tree, stone or rock accepted to being a deity, and about 79% of sacred groves are in the south and the rest in northern part of the country (Dwomoh, 1990).

A number of SGs in Ghana have potential for biodiversity conservation and about 80% of them serve as watersheds for catchment areas (Anane, 1997). In Ghana, some patches of forests are protected because they serve as cemetery for respected ancestors and royals (Ntiamo-Baidu, 1995). Entrance into such groves is forbidden, and only few class of people (including members of the royal family and traditional authorities) are allowed access. It is a known fact that sacred groves support and conserve diverse fauna and flora (Sugumaran and Jeeva, 2008). Therefore, I argue that all these traditional practices in the long run maintain the quality of forests.

In Ghana and other parts of Africa and India, forest spots are preserved to conserve totem or tabooed species believed to possess cultural or supernatural values. Such species are rigorously protected and to some extent touching them is strictly prohibited. A typical example is the Buabeng-Fiema Monkey sanctuary, which is a grove protected because it helps the survival of Lowe's Mona monkeys and black and white African Colobus (*Colobus polykomos*) perceived as sacred to the inhabitants (Fargey 1991).

Again, sacred groves act as significant pillars in ecological services such as clean environment (soil, water, and air maintenance), plant life and wildlife conservation, carbon sequestration and temperature regulation. Hence, sacred groves are considered the scepter of environmental conservation investigation and national forestry conservation and management policies (Ramakrishnan, 2003).

2.3.1 Taboos/totems associated with sacred groves

The term 'taboo' is derived from the Polynesian word '*tapu*', and is simply defined as 'restriction'. Communal prohibitions signify proper illustrations of informal institutions, which are based on traditional customs for enforcement (North, 1990; Singh, 2002).

There are several taboos and belief systems found to be associated with sacred groves both in Ghana and other parts of the globe. In the light of this, Manikandan *et al.*, (2011) discovered that in the Theni District of Tamil Nadu (India), the following taboos and belief systems are associated with the sacred groves found in the District;

- (i) People should not enter into the groves with footwear and must not slaughter goats and chickens 32 feet away from the main deity.
- (ii) Women should not enter into the grove for 5 days during their menstrual period.
- (iii) Girls who have attained puberty should not enter into the grove for 90 days.
- (iv) Women should enter into the grove 108 days after delivering the child.
- (v) People who have attended a death ceremony should not enter into the grove for the next 21 days.

In some India temples like the Suruli Temple, people have to first take a bath then worship God and are not allowed to wash their clothes in the holy water from the grove (Manikandan, 2007).

Prior to the advent of colonialism, the communities in modern Ghana had evolved various rules and laws governing the use of their natural resources. To this effect, traditional belief systems that forbids farming on certain days, eating certain species of animals or felling of certain tree species were common in most communities because preserving these resources is seen as a heritage (Dorm-Adzobu *et al.*, 1991, Millar, 2003). Some of these customary norms on forest conservation include the following;

- (i) Prohibition from felling certain trees (cotton tree, dawadawa, shea tree etc.) in Northern Ghana and certain communities, ban on felling of trees along river banks as well as the prohibition from felling of trees at burial grounds.
- (ii) Creation of protected forests or sacred groves.
- (iii) Use of taboos to prevent entry into forests on certain days and months.
- (iv) The use of certain species of trees as objects of worship. For instance the baobab tree is worshipped in some parts of the Northern and Upper Regions of Ghana because they are considered to be the abode of the gods.
- (v) Designation of certain animals as totem (thus, emblem that serves as the symbol of a family or clan) and use of certain animal species as objects of worship (e.g., elephants, leopards and the eagle).
- (vi) Ban on eating certain animal species in some communities (such as monkeys in Buabeng and Fiama in the Brong Ahafo Region).

In addition, findings of Colding and Folke (2001) shows that scholars have attributed four main common functions to taboos, these are: (i) Taboos differentiate between revered and irreverent objects in a culture; (ii) It recounts animist and supernatural belief systems; (iii) Taboos aid psychosomatic culminations; (iv) It promotes adaptations to the environment. Taboo adherence is very necessary because it often applies to some defined natural resources normally exposed to abuse or overutilization, therefore regulating access to natural resources (Colding and Folke, 2001).

2.3.2 Factors causing degradation or threats to sacred groves

Factors that cause degradation or serve as threats to the sustainability of groves are complex and interrelated. They arise from commercial factors such as farming and logging, bush fires, the weakening of traditional institutions and the lack of governmental support, the intervention of local government agents and the usurping of the powers of traditional authorities in local resources management.

Sarfo-Mensah and Oduro, (2010) conducted a study on various sacred groves in selected communities and observed that most local elders attributed the degradation of groves to the receding of the forest spirits, especially *mmoatia* and *sasabonsam* from the groves. It was mentioned that the noise of guns, the smell of gunpowder and the entry into the forest by menstruating women, have caused most of the forest spirits to recede. Subsequently, the *tumi* (power) in the sacred groves, which prevented their exploitation, has declined. For example, the Ntwokom sacred grove in Nchiraa (Brong Ahafo Region) which has been decimated is attributed to the receding of the forest spirits (*mmoatia* and *sasabonsam*).

Again, Sarfo-Mensah and Oduro, (2010) observed that the sacred groves which were threatened and degraded or decimated were those which were associated with mythical and legendary spirits rather than with ancestral spirits and gods, although it may be difficult to assign the explanation for degradation to a particular factor. Lebbie and Freudenberg (1996) have made similar observations in the Myamba District in Sierra Leone, where natives noted that they have not experienced some of the mysteries surrounding a particular legendary forest. Thus, this granted them the liberty to harvest resources and exploit such forests. Sarfo-Mensah and Oduro, (2010) noted that, there is an existential connection between the spirits and deities in the forests and the traditional leaders. Thus, the receding of these forest spirits and deities, as noted by local leaders,

have also caused the decline in the respect and fear of chiefs, elders and gerontocracy who are the custodians of the sacred groves and ensure their survival.

In common with most sacred groves in Ghana (Adomako *et al.*, 1998) and across West Africa (Lebbie and Freudenberg, 1996), powerful individuals in communities (chiefs, elders and gerontocracy) who are often vested with special authority as ‘caretakers’ of sacred groves, also derive their spiritual power from the gods and spirits in the forests. They ensure compliance with the rules and regulations that governs access and the extraction of forest products, although in most cases the protection of sacred groves is supposed to be the responsibility of the entire community (Dorm-Adzobu *et al.*, 1991). Adomako *et al.*, (1998) also noted that the perceived *tumi* of the gods and spirits associated with the groves primarily determines the reverence for it and also enhanced the compliance with entry restrictions into the groves. Therefore, the receding of the forest spirits and deities as well as the subsequent decline in *tumi* (power) in the sacred groves are major factors underpinning the degradation of sacred groves. Prevention of entry and the exploitation of groves are becoming increasingly difficult to achieve, especially in the transitional zone of Ghana (Sarfo-Mensah and Oduro, 2010). In fact, local oral narratives suggest that the traditional mechanisms, especially the restraint caused by the belief in *tumi* (power), may no longer be sufficient to maintain sacred groves as observed in most parts of southern Ghana (Decher, 1997).

Manikandan *et al.*, (2011) noted that sacred groves in India are threatened due to increase in population, pollution and the removal of biomass. They also observed that the 32 sacred groves found in the Theni District of India are being altered in size and structure due to changing social conditions although several taboos and believe systems of the people protected these remnant forests.

2.3.3 Current and potential challenges to the enforcement of traditional practices involved in the management and conservation of sacred groves

Evidence from the tropics indicates that wildlife, forest resources and the local mechanisms established for their viable management particularly in sub-Saharan Africa are being endangered. These coercions come not only from external conditions and policies but also from tensions from within such as interaction and influx of western cultures, urban growth and poor integration of traditional practices in policy formulation (Vivian 1991; Gyasi *et al.*, 1995). These forces have resulted in degradation and even loss of certain natural resources and traditional practices that ensured their sustainable utilization. Due to the environmental impact of these challenges, it is argued that sacred groves and the practices associated with their maintenance have disappeared to a large extent in tropical Africa, aside few isolated areas (Gyasi *et al.*, 1995). The continent has witnessed extensive habitat destruction, degradation and substantial wildlife depletion, with severe penalties on biodiversity conservation (Ntiamoa-Baidu, 1995).

Although, it should be acknowledged that these factors have produced negative impacts on traditional practices and customs, however, change does not connote loss of tradition (Vivian 1991). Nevertheless, concerns have been articulated about the sustainability of traditional practices and beliefs, which buttress most traditional NRM in Africa because of speedy invasion of foreign religions (mainly Christianity and Islam) (Appiah-Opoku and Hayman, 1999; Ejizu 2000).

According to McNeeley (1996), the degree to which traditional knowledge systems on resource management and socio-cultural beliefs are mislaid is strongly due to poor or inadequate documentation of these practices. Hence, these practices gradually disappear from unborn generations. The essence for this documentation is the fact that these traditional management practices *in situ* are still to be estimated in contrast to several proposals and theories, hence, this

can unearth its vast role in forest protection and biodiversity conservation alongside western science as an aide (Brookfield, 1996).

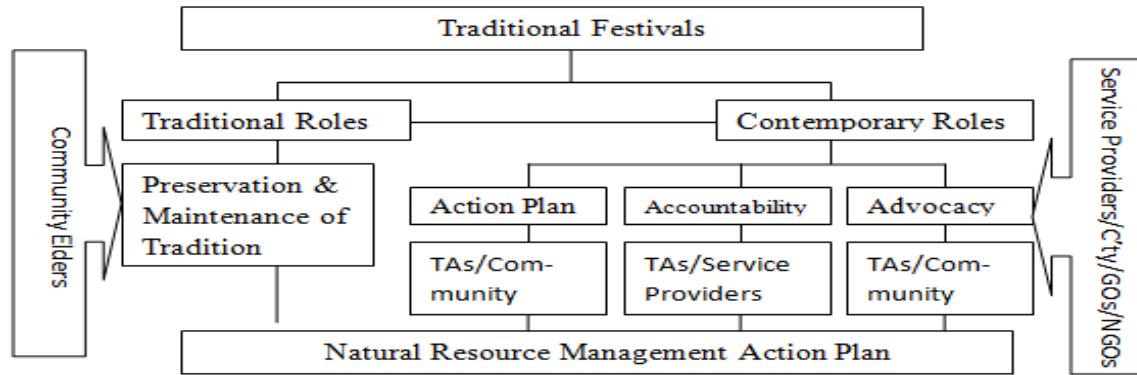
However, Fairhead and Leach (1998), maintains that there are several cases whereby traditional practices have fruitfully been used to safeguard biodiversity and the environment regardless of socio-economic change and conditions. Typical examples are sacred groves protected along fringe communities in Africa and Asia purposely for cultural or religious reasons (Ntiamao-Baidu 1995; Lebbie and Freudenberg 1996).

Therefore, this investigation on the role of African traditional and socio-cultural practices in forest management and conservation aims to contribute to this emerging interest.

2.4 Festivals as stage for natural resource management campaign

Festivals usually constitute a package of knowledge which serves as platform for cultural display (Bonye, 2007). It must be noted that, contemporary Africans have diverse tribal groups which are credited for preserving rich traditions and culture through festivals, this has now become an enduring legacy (Kuada and Yao, 1999). Nowadays, festivals are used as a stage to promote and seek support from stakeholders, broadcast NRM bylaws and policies (Bonye, 2007). The Kpalevorgu festival (which prohibits the harvest of certain tree species and bush animals) is the most dominant one in the study area.

Suzanne (2001), asserted that some art, music, totems and taboos preserved for NRM are gradually being sidelined. Hence, festivals are used as strategy to revitalize these customs that were relegated because they are expedient for NRM (Ngoma, 2001).



[Source: Adopted from Bonye, 2007

Figure 2. 1: Festivals as platform for natural resource management

The diagram in Figure 2.1 identifies some major roles of festivals (including both customary and modern roles) in NRM. Customarily, festivals are celebrated to uphold these local customs in order to disseminate moral standards and traditional dogmas which promote the passage of folklores to young offspring.

Recently, festive occasions have more to do than just their customary roles. They also create a podium for discussion with stakeholders (the government, NGOs and other duty-bearers and local authorities) who use such festive events to account for their actions regarding developmental works in the area (which does not compromise on NRM subjects). Action plans based on such discussions are initiated to promote national development.

2.4.1 An outline of the nature of traditional authorities in Northern Ghana

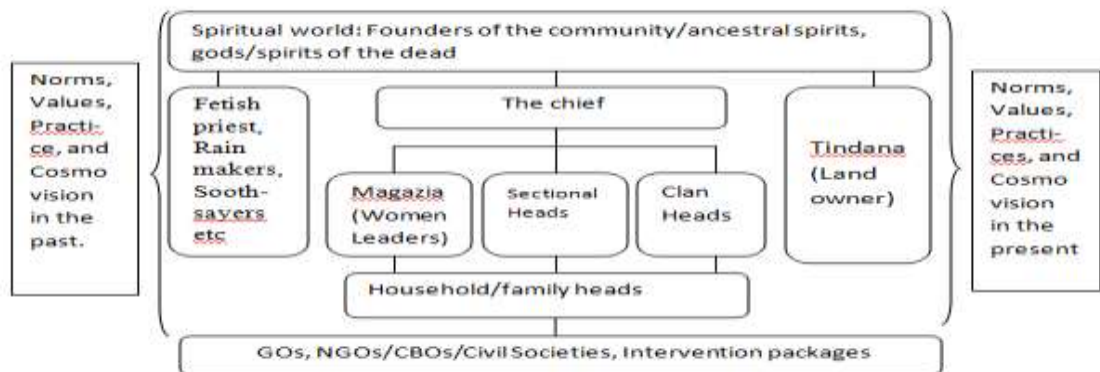
In the context of this study, traditional authorities denotes the leadership organization (chiefs, *kpana*, *tindanas*) amongst others in a local area which are by custom recognized or designated and runs the affairs of the area to ensure that their rules, practices, world view and ethics are cherished (UDS/CARE, 2004).

Customary leadership is an establishment that has advanced over several centuries on the continent of Africa and has aided Africans through several ages of conflicts, captivity and independence struggles as well as socio-economic, NRM and political reforms (Williamson, 1999). It usually encompasses historical or ancestry association which enables them with vital privileges and responsibilities. Their main task is to promote peace within their zone and controlling access to land on behalf of their people as trustees, arbitrating quarrels over land, people mobilization, delinquencies and so forth (UDS/CARE, 2004).

Traditional authority embraces societal norms, morals and practices which may be antithetical to community development. Most paramount chiefs in Ghana have assumed key leadership roles in the traditional authority structure in the management of natural resources in their communities.

In the northern sector of Ghana, natural resource usage is done with admiration and guided by conservation requirements (Abu and Millar, 2004). The strength of NRM, utilization, and protection of natural resource lies in charge of the customary setup. Based on the ethnic law, land and other related resources are held in confidence by these leaders as stewards. This leadership structure is further displayed in Figure 2.2 below;

Fig.2.2 Traditional Institutional Structure for Natural Resource Management



Source: (adopted from Miller, 2003)

Fig. 2.2 Traditional Institutional Structure for Natural Resource Management

2.5 The Malshegu Sacred Grove

The Malshegu grove is an isolated pocket of forest that contrasts sharply with the surrounding Guinea Savannah in the arid and semiarid northern region of Ghana (Dorm-Adzobu *et. al.*, 1991). The term ‘sacred grove’ here is defined as a reserved space, forest or natural site, established by a community or an individual, following the conventions based on specific phenomena and requiring the respect of engagements taken at this place in order to satisfy the spiritual, cultural and socio-political needs while focusing on the harmony and wellbeing of the native community, as well as of the whole humanity (Awuah-Nyamekye, 2009). The above definition most appropriately brings forth the salient aspect of the ‘institution of sacred sites’, that is, the mode of its establishment, the people entitled to this purpose, the beneficiaries, the very objectives of establishment, and principally the management rules that govern it.

2.5.1 Land use dynamics in Malshegu

The people of Malshegu belong to the Dagbani ethnic group. It is believed this group came to Ghana from northern West Africa; they formed part of a long human migration beginning after the fall of the Ghana Empire in the 12th Century (this empire had been a kingdom incorporating parts of today's Mali, Mauritania, and Senegal) as recorded by Dorm-Adzobu *et al.*, (1991).

Originally, extended families lived in separate compounds on farms scattered in the countryside. Four to five nuclear families usually occupied one compound round houses positioned in a circle and joined by a wall with one entrance. The heads (patriarchs) of several family compounds formed a loose council of elders; they chose one of their ranks to be a chief responsible for the concerned compounds, and they acted as his advisors. This dispersed pattern of settlement in farm compounds and loose political structure is still common in northern Ghana. The existing sociopolitical

hierarchy in Malshegu is made up of the chiefs and elders who constitute the traditional leadership (Dorm-Adzobu *et al.*, 1991).

The Malshegu settlement came into existence in the early 18th century, when several families voluntarily moved nearer each other - but remained in separate farm compounds (to defend themselves and their properties from Arab invaders from the Sudano-Sahelian region to the north). The main trans-Saharan caravan route was less than two kilometers from the current settlement and the farm compounds were frequent targets for both slave and livestock raiding. As the advantages of living together became evident, other families joined the community (Dorm-Adzobu *et al.*, 1991).

2.5.2 Strong local religious beliefs

The pocket of forest that comprises Malshegu's sacred grove is protected primarily because it is the sanctuary of the *Kpalevorgu* god. Indeed, it is difficult to isolate any forest-related activity from the traditional religious beliefs and practices surrounding the *Kpalevorgu* god. In the people's minds, the defacement of the forest would dishonor the god and bring misfortune to the offending individual and the entire community (Dorm-Adzobu *et al.*, 1991).

The authors discovered that in Malshegu, more than in many nearby villages, the traditional religious practices have survived nearly three centuries of "development" including Christianity, Islam and education. They argue that Catholic churches and schools have operated for nearly 100 years in both Tamale and Malshegu, but most residents (65%) of Malshegu remain committed to their traditional religious beliefs. Even the converted minority, who no longer openly practice the traditional faith, still believe in the local gods, maintains compound and individual gods, and participates in fetish rituals in the privacy of family compounds (Dorm-Adzobu *et al.*, 1991). This

implies that although the urban center (Tamale) and its ways have significantly influenced many aspects of life in Malshegu but have had limited impact on the resilient local traditional practices.

2.5.3 Significance and benefits of the sacred grove

2.5.3.1 Socio-cultural significance and benefits

By protecting the grove, the people of Malshegu derive many benefits in addition to the spiritual rewards of serving their faith. The medicinal plants and herbs collected by the *Kpalna*, for example, serve important health needs for the community of Malshegu. The few hoe handles made from wood collected in the grove, and the few animals hunted in the forest during *Kpalevorgu* festival, are important from a sociocultural perspective if not significant in economic or nutritional terms. In addition, the forest serves important ecological functions for the community (some perhaps not locally recognized), however, none of these benefits appear to be among the primary reasons why the community protects the forest (Dorm-Adzobu *et al.*, 1991).

2.5.3.2 Ecological significance and benefits

Several significant ecological importance are associated to the grove which constitutes a critical habitat for the area's fauna and flora and serves critical environmental functions for the people of Malshegu (Dorm-Adzobu *et al.*, 1991). The authors also noted that the forest has become a small refuge for a large variety of fauna and flora and a repository of numerous native species found nowhere else in the region in such large concentrations and probably maintains a higher biodiversity than the original open-canopy forest. The grove is an important source of both seeds and seed dispersers vital to traditional shifting cultivation practices, and of herbs for local medicinal, social, and religious purposes.

Again, they observed that the grove is small to be a primary watershed, its presence ensures that the water table remains high in the immediate area (the presence of the original baobab in the grove indicates a localized high water table). It also protects the village from wind and rain storms, bushfires, and other climatic hazards from the south.

In addition, the authors noted that the sacred grove in Malshegu has been protected and managed by villagers for nearly three centuries. When it was first demarcated, unwritten regulations were put in place by the fetish priest and other village leaders regarding land use in and around the grove. Over time, some of these rules have been amended to ensure their continued relevance and effectiveness.

Today, they protect the fetish lands and the original grove by regulating the behavior of the people of Malshegu and, to some extent, of the residents of neighboring communities. All forms of farming and grazing in the sacred grove *and* the fetish lands are prohibited (Dorm-Adzobu *et al.*, 1991).

2.5.4 Traditional religion and effective environmental protection practices

Traditional religious leaders, institutions, beliefs, and practices have deeply influenced the lives of the people of Malshegu (Dorm-Adzobu *et al.*, 1991). When the community was first established, families came together under the leadership of an elder believed to be a fetish priest. According to elders living in Malshegu today, the founding families collectively routed the Arab slave raiders in their first battles. It is believed that a fetish god, *Kpalevorgu* - in the form of a boulder under a large baobab tree helped these families and protected them from the invaders. The early victories encountered encouraged the families to move to Malshegu and increased the power and importance of the *Kpalevorgu* god. Approximately 0.8 hectares of existing open-canopy forest surrounding

the boulder and baobab tree was demarcated by the fetish priest/village leader as the god's sanctuary and dwelling place (Dorm-Adzobu *et. al.*, 1991).

Again, the authors recorded that the forest is located on flat slightly elevated land on the outskirts of the settlements. It provides the fetish god a peaceful and quiet abode as well as an overview of the village that it protects from enemies and evil spirits.

In addition, they noted that to enable the *kpalna* (fetish priest) of Malshegu, an elderly man to perform his functions, a special house was built for him near the grove about 100 meters away from the original Malshegu community. According to village elders, the house was named *Kumbuyili* - "rain never destroys" - because it survived a severe rainstorm immediately after being constructed.

2.5.4.1 Locally accepted protection guidelines for the sacred grove

The establishment and preservation of the Malshegu sacred grove trace its roots to informal regulations and practices founded on the traditional worship of the *Kpalevorgu* god, and for centuries, local people have adhered to specific guidelines that restrict land use in and around the grove and have performed activities to secure the forest from human interferences (Dorm-Adzobu *et. al.*, 1991).

The authors also observed that by respecting the *Kpalna's* privilege in entering the grove, keeping their compounds, farms, and livestock out of the grove and buffer fetish area, protecting the holy site from bushfires, and other measures, residents have a stake in local adherence to these rules.

They also argued that in guiding residents' use of the grove, the rules have also encouraged the development of other resources to limit pressure on the grove and that recently, Malshegu leaders have sought alternative responses to local shortages of such vital forest products as fuel wood and

construction poles. Their efforts to develop woodlots indirectly eased any pressure on the grove for forest resources and ensured its long-term survival.

2.5.4.2 The Kpalevorgu festival as platform for the management of the grove

Dorm-Adzobu et al. (1991) observed the following as true account of the *Kpalevorgu* festival;

Twice each year, the Kpalna, aided by the village chief and other local leaders, organizes a grand durbar (village-wide meeting) and leads the community in prayer and in various rituals in honor of the Kpalevorgu god. These religious festivals mark the beginning (May) and end (October) of the agricultural season and are designed to give thanks to the Kpalevorgu god for the community's prosperity and to solicit such continued blessings as adequate rainfall, bumper harvests, and health for the community. Residents from Malshegu and neighboring communities participate in the festivals.

During these festivals villagers are permitted to hunt and collect some forest resources. Hunting is restricted to various species of rodents and birds; the catch is closely supervised and controlled by the Kpalna and village elders. The feathers, skins, and bones of animals from the grove are proudly displayed by the hunters during these ceremonies. This temporary lifting of the hunting ban does not extend to reptiles. All reptiles are believed to be harmless; and the African python is considered the sacred symbol (or representative) of the Kpalevorgu god.

The branches of certain hardwood tree species may also be cut at this time for use as handles for hoes and axes. Custom requires that branches cut from the grove be used only for this purpose. These handles constitute only a small percentage of agricultural tool handles, but they are particularly important from a sociocultural perspective. Young adults embarking on independent lives are encouraged to acquire a handle for their main farming tool from the grove to ensure agricultural prosperity.

At the conclusion of the ceremonies marking the end of the farming season, a three-meter wide fire-belt is cleared around the sacred grove and fetish lands by the young men of Malshegu and neighboring communities under the direction of the Kpalna to protect the sacred grove from annual dry-season bushfires.

The people of Malshegu and neighboring communities believe that failure to comply with the rules protecting the grove, or to participate in the biannual festivals, will offend and dishonor the *Kpalevorgu* god and may bring misfortune to the offender, his or her family, and perhaps even the whole community. There are stories of people (including one American) who, despite warnings from the villagers, violated the sanctity of the god and established residency in the grazing zone, fetish lands, or sacred grove and soon fell ill and went mad or died.

Therefore, from all indications given in this festive celebration, I support the notion that the *Kpalevorgu* festival help promote forest resource management. However, more can be done to improve upon plant species management if the socio-cultural perspective aspect of the festival is revised as scarce plant species may be harvested to make farm tools (hoe handles).

CHAPTER THREE

3.0 MATERIALS AND METHODS

This chapter describes the research methods and materials used to collect relevant data. It also covers the location and description of the study area in the Sagnarigu District, criteria for the selection of community sections as well as the research design for data collection and analysis.

3.1 Study Area

The people of Malshegu are structured into common groups based on shared background, religion and interests. Major aspects of their economic activities hinge on natural resources via primary production activities such as farming and Shea butter extraction showing a great dependence on environmental resources. Thus, the study is conducted in a rural community (Malshegu) where the local people generally have high esteem for the natural environment and its resources. The chief and elders in the community use taboos or traditional practices and regulations to restrain encroachers; the youth and women serve as watchdogs over the sacred grove and the spiritual leaders (chief priest and his entourage) provide guidance on spiritual issues. Some of the domestic fruit trees and plants that constitute major food crops in the area include shea, mango, dawadawa (*Parkia clappertoniana*), millet and yam.

Historically, Imoro (a hunter) founded Malshegu over three centuries ago after clearing out some wild beasts from attacking the *shegu* trees and the people hence the name “Malshegu”, meaning to clear for *shegu*.

3.1.1 Location and Size

The Sagnarigu district is located in the central part of the Northern Region of Ghana. It falls between Longitudes 0057”N and 00 57”W and Latitudes 9016” N and 9034”N. The district has an estimated total land size of 114.29 km² – representing 26% of the landmass of the region. It shares

boundaries to the North with Savelugu-Nanton Municipality, to the South and East with Tamale Metropolis, to the West with West Tolon District, and to North-West with Kumbungu District (SDP, 2013).

Malshegu is about 3 Km away from Sagnarigu, the district capital. To the south of Malshegu is Tampe-Yepalsi, to the North is Daboeshee, to the East is Katariga and to the West is Kukuo-Yepalsi. According to the Gundana (chief linguist) the total area of the grove together is about 12 plots or 1.2 acres (SDP, 2013). The sacred grove was chosen as a study area because there is little research and information about the state and management of the sacred grove, making the area suitable for the study.

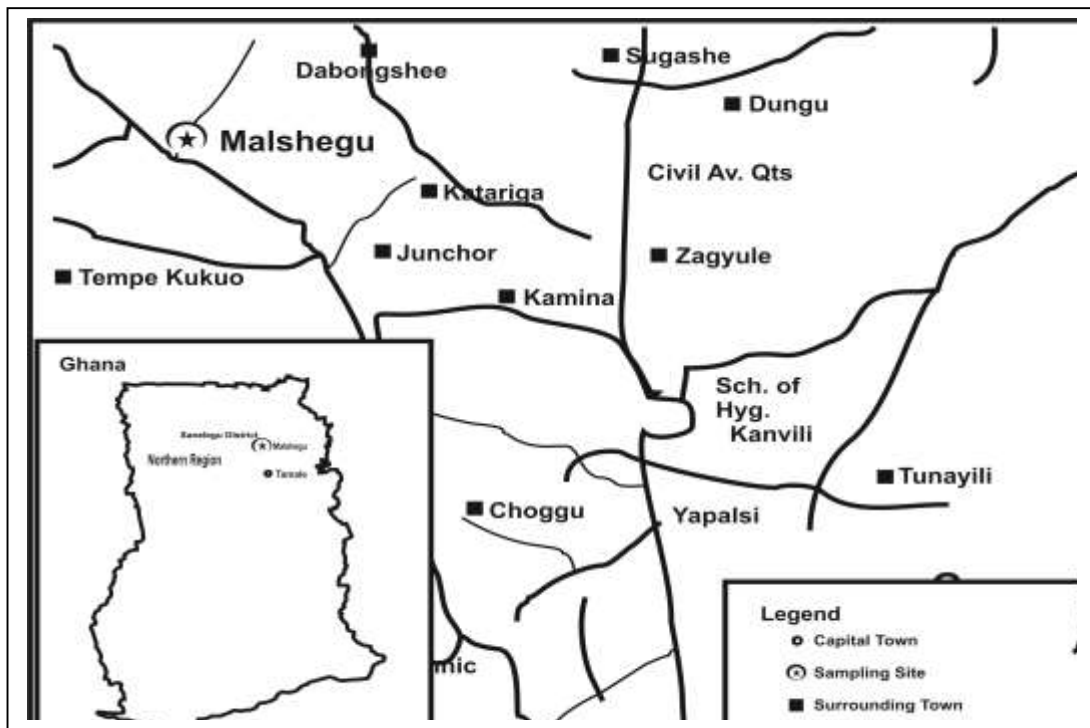


Figure 3.1: Map showing Malshegu and the sacred grove (Map not drawn to scale)

Source Field survey, 2015

3.1.2 Population and Occupation

The population of people in the community is about 1693 comprising 792 males representing 46.8% and 901 females representing 53.2%. The average household size is about 6 people per house and are basically farmers engaged in the cultivation of yam, millet, groundnut and guinea corn (SDP, 2013). Nevertheless, few individuals are involved in informal jobs such as shea butter extraction, petty trading, mat weaving etc. (SDP, 2013).

3.1.3 Relief and Drainage

The landscape of the district is slightly undulating. In general, it is branded by gentle latitudes lying between 310m and 350m (SDP, 2013). Generally, the area is approximately 180 meters above sea level with rare isolated hills. The relative plain topography is suitable for distribution of utility lines, road and general construction works. On the contrary, the district is poorly endowed with water bodies; this is due to low level of the underground water table in the area. However, there are a few interconnected streams and a number of dams and dugouts including the Sagnarigu, Kpene and Kanvilli-Kpawumo dams (SDP, 2013).

3.1.4 Climate and Vegetation

Climatically, the area is tropical continental throughout the year, and temperatures ranges between 23° C at night and a maximum of 42° C during the day. Averagely, monthly temperature ranges between 21° C and 32° C (SDP, 2013).

Due to the single maximum rainfall prevailing in the area all year round, farming is done during the wet season (May to September/October). The district falls within the Guinea Savannah vegetation belt and consists of grasses with scattered fire resistant or deciduous trees such as shea, baobab, dawadawa and mango. The vegetation is suitable for the cultivation of crops such as

groundnut, millet, Guinea corn and rice and influences the rearing of farm animals such as cattle, sheep, goat, pigs and poultry.

3.2 Data Collection

The process adopted for the study comprised of: preliminary literature search; reconnaissance survey to the study area, design of questionnaires; pre-test of questionnaires and main field survey (data collection).

3.2.1 Preliminary Literature Search

Initial literature search was done on traditional forest management practices in the World, Africa and Ghana, the effectiveness of traditional practices, traditional authorities and gender roles or management responsibilities in the local set up. Literature search was also done on sacred groves around the globe, in Ghana and some forest management programs implemented in the past in Ghana.

3.2.2 Reconnaissance Survey

Reconnaissance survey was conducted at the initial stage of the research at the study area which offered the opportunity to have for knowledge about the precise location of the sacred grove, the community sections and also contact with the opinion leaders in the community. The survey was also done to gather information on the following: population and number of households in the community, map of the study area, institutions involved in forest management and environmental protection, and local authorities involved in traditional forest management in the community. During the survey, there was a familiarization visit to introduce the essence of the research on the traditional practices and the sacred grove and to establish trust with the local people. Visits were also made to the institutions involved in forest management in the study area to solicit information

regarding their respective roles in the protection of the Malshegu sacred grove. These institutions were the Forestry Service Division (Regional) and the Environmental Protection Agency (EPA).

3.2.3 Sampling Procedure

In this research, two sampling techniques were used for the study. Simple random sampling technique was used to select individuals for the administration of household questionnaires. Since all six sections of the community are farming oriented and a number of them involved in informal sector businesses (mat weavers, masonry, motor mechanics etc.), it was difficult to get the participants to become actively involved in the study. This was because they set out early in the morning to clear their farms for the rainy season while the rest go to their workplace and return in the evening. Hence, the simple random sampling did not yield much information; so purposive sampling method was also adopted for effective research outcome. Purposive sampling technique was used to select respondents knowledgeable in the subject matter. Again, the choice of purposeful selection was because the community has established traditional practices already though with little literature documentation, hence, the need for purposeful selection of some of the respondents. Purposive sampling was also used to select key informants for interview particularly from FSD and EPA while traditional authorities were selected through snowball sampling. Yin (1993) asserted that purposive sampling may be used based on sample criteria such as demographic characteristics, behaviors or attitudes and other characteristics built on the researcher's judgment.

The simple random sampling technique was used to select households for questionnaire administration based on the formula developed by Yamane, (1967) as cited in Polonia (2013):

$$n = \frac{N}{1 + N * (e)^2}$$

Where n is the sample size, N is the total household size (population size) and e is the level of precision (acceptable sampling error).

A total population size of 1693 was obtained from the population and housing census (GSS, 2010), from which samples were taken for households' questionnaire administration. Based on the formula and the household data acquired from the Ghana Statistical Service, a sample size of 94 was calculated for the research. This constituted the following number of respondents from the six sections of the community as presented in a table below:

Table 3.1: Showing various sections (suburbs) of Malshegu

Community Section	Number of Respondents
Naayili	17
Naakwagu	16
Juguyii	16
Zogbe/Tono	15
Naadramanyili	15
Yilishegu	15
Total	94

Source: Field survey, 2015

Furthermore, the following traditional authorities were interviewed due to their expertise in the protection of the sacred grove, availability and willingness to share their view. This is shown in the table below.

Table 3.2: Number of traditional leaders selected in Malshegu

Community Section	Number of Respondents
Naayili	2
Naakwagu	2
Juguyii	1
Zogbe/Tono	1
Naadramanyili	1
Yilishegu	1
Total	8

Source: Field survey, 2015

Questionnaires were administered to 8 traditional authorities to find out their expertise on traditional practices on the sacred grove as shown in table 3.2.

3.2.4 Design of Research Questionnaires

The research design for the study was a survey, however, it failed to consider how trends advanced. Therefore, trend analyses (generational) study was used to explore how the sacred grove has been protected through the traditional practices over the past 20 years. Millar and Bonye (2003) cited in Bonye (2007) used a three generational studies (a Participatory Rural Appraisal (PRA) tool to study the trend analysis or changes that have occurred in traditional institutions.

Three sets of research questionnaires were developed. These were based on the research objectives and the critical questions highlighted in the study. The three sets of questionnaires included: household questionnaire (for men, women and youth), one for traditional authorities and another for two institutions (FSD and EPA) and focus group discussion guide for women and youth.

3.2.5 Pre-test of Research Questionnaires

This was used to solicit opinions from the field to come out with well-planned and designed focus group discussion guide and questionnaires for the traditional authorities, household respondents (men, women and youth) and the two institutions for the purpose of gathering appropriate data for the study. The pre-test was used to restructure the various questionnaires to be administered in the community.

3.3 Main Field Survey (Data Collection)

The following Participatory Rural Appraisal (PRA) techniques or data collection instruments were used to collect data from the field:

3.3.1 Questionnaire Administration

Questionnaires were administered to a total of 105 respondents comprising of 94 household individuals, 8 traditional authorities and 3 key informants consisting of the Malshegu land priest (*Gundana* who represented the chief and elders) and 2 officials each from EPA and FSD. Majority of the questions for interviews were open-ended with few close-ended questions. This allowed participants to freely express their views than in a structured questionnaire. All questionnaires covered issues regarding knowledge in traditional practices, reasons for adherence to traditions, rules and sanctions in community forest management, and challenges in the implementation of these traditional practices in the protection of the sacred grove. However, field observations were used to augment the survey and interviews in order to acquire data which were not covered by the questionnaire.

3.3.2 Focus Group Discussion

Focus group discussion was held for women and youth within the community to express their views on the subject matter in greater detail since they constituted the most marginalized group in the study community. It created a conducive condition for in-depth sharing of knowledge and insights for better decision making. The focus group discussion helped to identify gender roles in traditional forest management, the rules and regulations governing forest management in the community and provided the means for collecting necessary relevant qualitative data.

3.3.3 Key Informant Interview

Four key informant interviews were conducted in the study to solicit expertise views on the protection of the sacred grove and its associated traditional practices, adherence reasons and support base for the sacred grove, biodiversity in the sacred grove and as well as the challenges facing these practices . One was conducted for the traditional authorities (Gundana/chief linguist and the Community Secretary) and three conducted for the institutions involved in forest management.



Plate 3.1: Key informant interviews with the Malshegu secretary and EPA Programs’ officer

3.4 Data Analysis

Qualitative and quantitative data analysis techniques were used. The quantitative data analyses were done in two phases: community level comprising responses from the household individuals and traditional authorities; and the two institutions (FSD and EPA) interviewed. The analyses were done based on descriptive statistical analysis using frequencies, percentages and bar graphs especially data gathered on the socio-demographic characteristics of respondents. Generational or time lines study were used to analyze the process of change in the traditional practices and its associated benefits, access, control, management decisions and resource mobilization over the past twenty years (1995-2015), while the pairwise ranking was used to analyze the effectiveness of these practices. Statistical software that were used included the Statistical Package for Social Scientists (SPSS) version 16.0 by Pearson Prentice Hall (2008) and Microsoft Excel 2010.

3.5 Limitations

The study area was very far from my residence and cost of transportation high. Language barrier was a challenge, hence the need for an interpreter at a point in time. Moreover, most of the respondents interviewed were widely dispersed geographically and therefore demanded a great deal of effort to meet them since there was no other means of transport than walking under the “scorch” sun. This prolonged the days stipulated for data collection from the field and delayed the research.

Finally, there were some instances where respondents felt intimidated due to the presence of the interviewer. This was because some respondents were not familiar with the process of being interviewed. In such instances, respondents were told to calm down and further explanations were given to them.

CHAPTER FOUR

4.0 RESULTS

4.1 Introduction

This chapter is focused on the results from the field survey. The results are presented in four major categories; socio-demographic characteristics of respondents, the extent to which identified traditional practices and its effectiveness are perceived amongst the local people through three generational/time lines' studies, taboos adherence reasons and challenges affecting these traditional practices in the protection of the sacred grove. Institutions were also asked to compare the effectiveness of traditional and conventional forest management practices.

4.2 Socio-demographic Characteristics of Respondents

4.2.1 Gender distribution

Table 4.1 shows the gender distribution of respondents interviewed throughout the community. A total of 102 respondents were interviewed and out of this 69 (representing 68%) were males and 33 (representing 34%) were females. The highest number of males interviewed were in Naayili 14 (representing 74%) and the lowest in Juguyili 9 (representing 53%). However, the highest number of females interviewed were in Juguyili 8 (representing 47%) and the lowest in Naadramanyili 3 (representing 19%).

Table 4.1: Gender distribution of respondents in the six sections of the community

Community section	Gender		Percentage of Respondents
	Male	Female	
Naayili	14	5	18%
Naakwagu	12	6	17%
Juguyili	9	8	17%
Zogbe/Tono	11	5	16%
Naadramanyili	13	3	16%
Yilishegu	10	6	16%
Total	69	33	100

Source: Field survey, 2015

4.2.2 Age distribution of respondents

Table 4.2 indicates the age distribution of respondents in the community. Out of the total 102 respondents interviewed, majority of the respondents (25%) were in the age group 46-55 while the least 13% were in the age group of 18-25 and 66+ respectively. This gave a pyramidal age pattern shown in figure 4.1.

Table 4.2: Age distribution of respondents in the six sections of the community

Community Section	Age Percentage of Respondents						Total Percentage
	18-25	26-35	36-45	46-55	56-65	66+	
Naayili	31%	13%	12%	20%	16%	23%	18%
Naakwagu	0	20%	18%	20%	21%	23%	17%
Juguyili	15%	27%	18%	16%	10%	15%	17%
Zogbe/Tono	0	20%	23%	12%	21%	15%	16%
Naadramanyili	31%	0	11%	16%	16%	23%	16%
Yilishegu	23%	20%	18%	16%	16%	0	16%
Total	100	100	100	100	100	100	100

Source: Field Survey, 2015

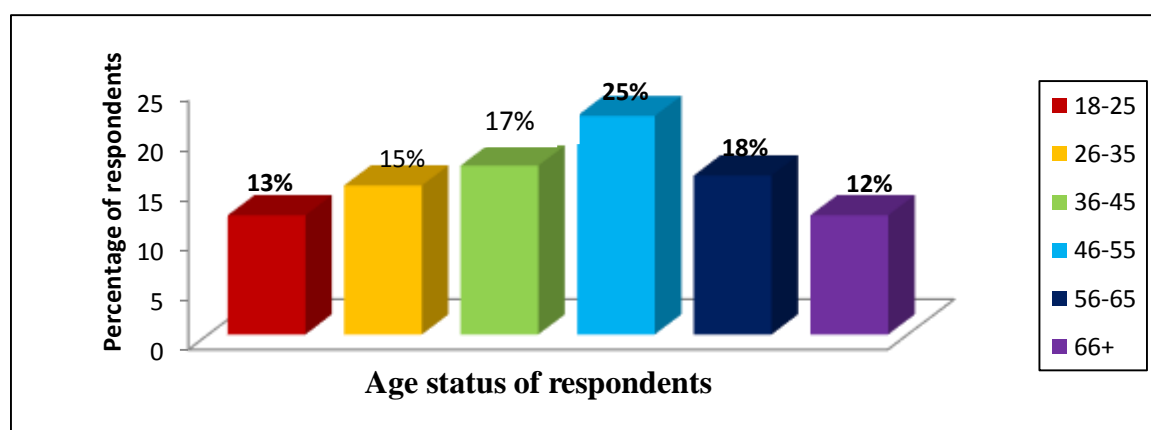


Figure 4.1: Pattern of age distribution (Source: Field survey, 2015)

Figure 4.2 illustrates the educational status of respondents in the community. Of the 102 respondents interviewed, 73% have no formal education whilst 27% had formal education. The figure shows that all the six sections of the community have majority of respondents without any formal education. However, Naayili has 5% respondents with tertiary education whilst the rest of the sections have none of the respondents with tertiary education.

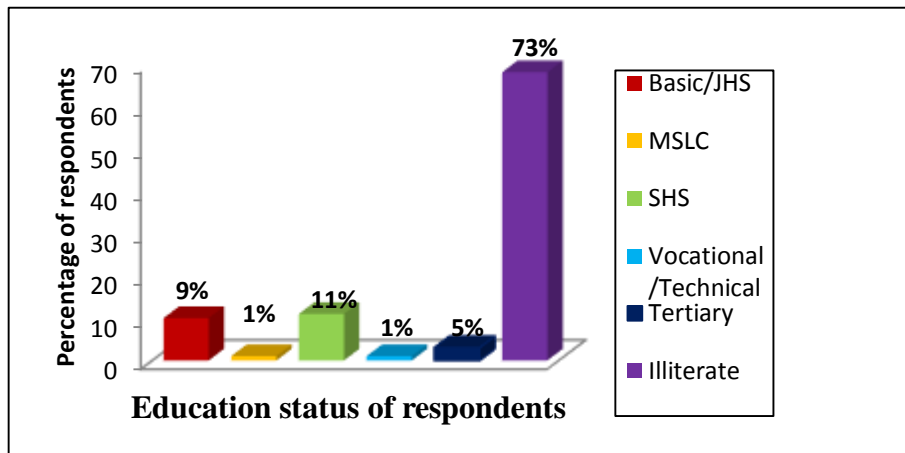


Figure 4.2: Educational status of respondents (Source: Field survey, 2015)

4.2.3 Occupation of respondents

Figure 4.3 illustrates that of the 102 respondents, 39% respondents were farmers and 21% were shea butter extractors, these are the predominant occupation of the respondents in the community. Also, 8% of the respondents were engaged in service provision such as teaching, 12% were petty traders while 5% and 15% of the respondents were students and informal sector workers (mechanics, masonry etc.) respectively.

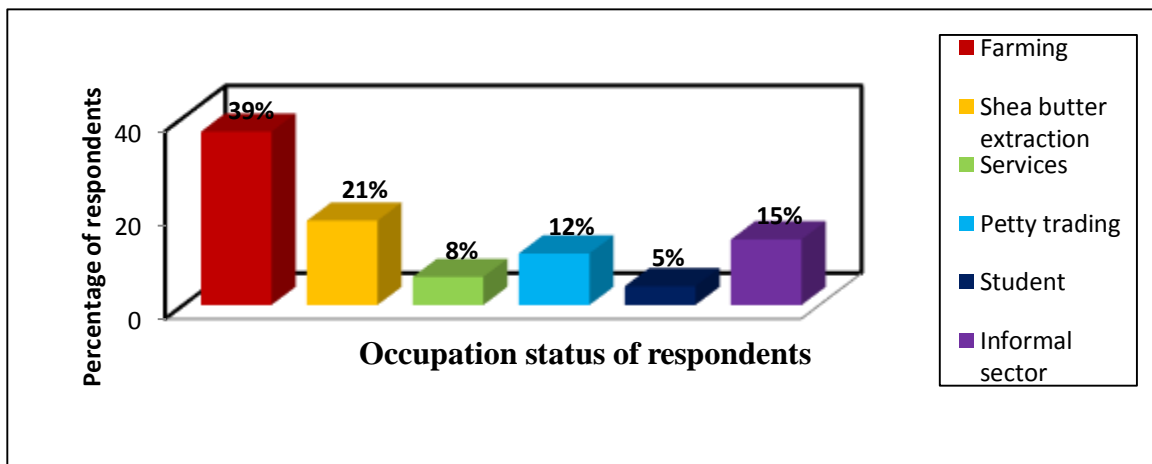


Figure 4.3: Occupational distribution of respondents (Source: Field survey, 2015)

4.2.4 Religious orientation of respondents

Table 4.3 indicates that of the 102 respondents interviewed, 25% of the respondents were Christians, 38% were Muslims and 37% were African Traditional Practitioners (ATR).

Table 4.3: Religious status of respondents

Religion	Frequency	Percentage
Christianity	25	25%
Islam	39	38%
ATR	38	37%
Total	102	100

Source: Field survey, 2015

4.3 Identified Traditional Management Practices

Three generational or time line studies were conducted for all the 102 respondents irrespective of their religious background based on the following age categories; 18-30, 40-50 and 60+ to identify the traditional practices in the community over the past 20 years. The basics for the age stratification is to gain a fair representation of the various generations or time lines; young generation (18-30), middle generation (40-50) and the older generation (60+).

Table 4.4 illustrates that five main traditional practices were identified by the respondents. Of the 102 respondents interviewed, 36% respondents were of the view that traditional practice was a restriction to Traditional Protected Area (TPA) or the sacred grove. Again, 20% respondents identified prohibition from felling certain tree or plant species within the community as a traditional practice in the community. In addition, the table shows that 20% respondents identified adherence to traditional practices as a traditional practice in the study area. Again, 17% respondents indicated that general rules and regulations were the traditional practice in Malshegu,

while 7% respondents identified sanctions and fines as the traditional practice in the community over the past 20 years. Here, general rules and regulations refer to the codes of behavior that guides the daily socio-cultural life of the people and includes prohibition from having sex in the bush.

Table 4.4: Identified traditional practices over the past 20 years

Traditional Practices	Age category of respondents			Total
	60+	40-50	18-30	Percentage
Prevention/restriction to TPA (sacred grove)	17	12	8	36%
Prohibition from felling certain plant species	6	9	6	20%
Adherence to taboos/practices	4	9	7	20%
General rules and regulations	3	5	9	17%
Sanctions and fines	3	4	-	7%
Total (Frequency)	33	39	30	100

Source: Questionnaire survey, 2015

4.3.1 Effectiveness of traditional practices over the past 20 years

Table 4.5 illustrates the views of respondents on the effectiveness of the traditional practices over the past 20 years and its ability to sustain the protection of the sacred grove. Of the 102 respondents interviewed, 72% of the respondents agreed to the assertion that, traditional practices have been effective in protecting the sacred grove and can sustain the grove's future compared to 15% respondents who disagreed. However, 13% respondents neither agreed nor disagreed to the assertion.

Table 4.5: Effectiveness and sustainability of the traditional management practices

Community	Neither agree			Total
Section	Disagree	nor disagree	Agree	Percentages
Naayili	0	2	17	18%
Naakwagu	2	2	14	17%
Juguyili	2	1	14	17%
Zogbe/Tono	3	3	9	16%
Naadramanyili	2	4	10	16%
Yilishegu	4	2	10	16%
Total	15	13	74	100

Source: Field survey, 2015

4.3.2 The level of effectiveness interventions in protecting the sacred grove

Table 4.6 illustrates the views of focus group discussants on the ranking order of the effectiveness of the five identified traditional management practices in the community using the pairwise ranking method. Participants in the discussion ranked restrictions to the TPA (sacred grove) as the first most effective management practice in protecting the sacred grove. This was followed by prohibition from felling certain tree species considered as taboo. Adherence to traditional practices, general rules and regulations as well as sanctions and rules were respectively ranked third, fourth and fifth in the effective protection of the sacred grove.

Table 4.6: Pairwise ranking of the effectiveness of traditional forest management practices

SN	Traditional forest management practices	1	2	3	4	5	Pairwise ranking
1	General rules and regulations	X					4TH
2	Restrictions to TPA (the grove)	2	X				1ST
3	Prohibition from felling certain tree species	3	2	X			
4	Sanctions and fines	1	2	3	X		2ND
5	Adherence to traditional practices	5	2	3	5	X	5TH 3RD
Frequency		1	4	3	0	2	

Source: Field Survey, 2015

4.3.3 Plant species available in the sacred grove

Table 4.7 shows the results of key informant interview with the FSD Director (Retired). The interview revealed some major or specific plant species that could be found in the sacred grove.

Table 4.7: Some major scarce trees/plant species available in the sacred grove

Available tree/plant species	
• <i>Butrespermum parkii</i> (Shea tree)	• <i>Cassia siederiana</i>
• <i>Adansonia digitata</i> (Baobab tree)	• <i>Fadogia agretis</i> (shrub tree)
• <i>Parkia clappertoniana</i> (Dawadawa)	• <i>Securidacea longepedunculata</i>
• <i>Azadirachta indica</i> (Neem tree)	• <i>Bombax ceiba</i> (Cotton tree)
• <i>Tectona grandis</i> (teak)	• <i>Asteromyrtus symphyocara</i>

Source: Field Survey, 2015



Plate 4.1: A fenced *Bombax ceiba* near the Malshegu Palace (Source: Field survey, 2015)

4.4 Reasons for Adherence to Traditional Forest Management Practices

Table 4.8 shows that out of 102 respondents interviewed, 43% were of the view that local people adhere to traditional forest management practices because of the fear in the ascribed supernatural powers in the sacred grove. Again, 33% of the respondents were of the view that the people adhere to traditional management practices due to the benefits they derive from the natural resource (sacred grove).

Furthermore, 24% of the respondents also indicated that the use of community members as enforcement agents or officers has been the pillar for adherence to the traditional management practices. It must be noted that in all cases each percentage constituted respondents in the various age group (60+, 40-50 and 18-30) as presented in Table 4.8 below.

Table 4.8: Reasons for adherence to traditional forest management practices

Adherence Reasons	Age Category of Respondents			Total Percentage
	60+	40-50	18-30	
Ascription of supernatural/psychic powers	18	19	7	43%
Benefits derived from the sacred grove	10	11	13	33%
The use of community members as enforcement agents/officers	5	9	10	24%
Total	33	39	30	100

Source: Field survey, 2015

4.4.1 Benefits of the natural resource to the local people

Table 4.9 illustrates that from the time lines perspective, 102 respondents were interviewed, out of which 42% of the respondents indicated that economic benefits is the major benefit they obtain from the sacred grove. This is dominated by the age groups 60+ (42%) and 40-50 (39%) whilst age group 18-30 recorded the lowest (19%). In addition, 26% of the respondents were of the view that spiritual benefit is the main benefit they derive from the sacred grove; of which age group 40-50 were the majority with 12 (44%) respondents, followed by 9 (33%) respondents in the age group 60+ whilst 6 (22%) respondents in the age group 18-30 were the lowest. Furthermore, 13% and 19% of the respondents respectively were of the view that cultural and ecological/environmental benefits were the benefits they derive from the sacred grove. The cultural benefits were dominated by the age group 40-50 with 6 (46%) and respondents in age group 18-30 dominated the ecological/environmental benefits with 13 (68%). Age group 60+ were the lowest in both cases with 4 (31%) and 2 (11%) respondents, whilst age group 40-50 had relatively an average record of 4 (21%) in ecological/environmental benefits.

Table 4.9: Benefits of the natural resource to local people (based on the time line study)

Benefits of natural resource	Category of Respondents			Total Percentage
	60+	40-50	18-30	
Economic	18	17	8	42%
Spiritual/Medicinal	9	12	6	26%
Cultural	4	6	3	13%
Ecological/environmental	2	4	13	19%
Total	33	39	30	100

Source: Field survey, 2015

4.4.2 Traditional forest management responsibilities

4.4.2.1 Stakeholder participation in management decisions, access and control

Table 4.10 indicates that 29 out of 102 respondents interviewed within the entire age group 18-60+ participates in decision-making regarding the natural resource, its management and other matters in the community. This represents 28% of the entire respondents with the majority (72%) not having the right to participate in decisions or the decision-making process about the sacred grove.

Again, the table illustrates that of 102 respondents interviewed, only 16 respondents within age group 18-60+ have access only and only 12 respondents within age group 40-60+ have both access and control over the sacred grove. These number represents about 16% and 12% respectively of the 102 respondents.

Table 4.10: Level of access, control and participation in decisions (based on time line study)

Level of access, control and participation in decisions over natural resource (sacred grove)	Category of respondents			Total Percentage
	60+	40-50	18-30	
Participate in decisions	21	8	-	28%
Don't participate in decisions	12	31	30	72%
Don't have access and control	-	-	-	-
Have access but don't control	8	4	4	16%
Total control and access	8	4	-	12%

Source: Field Survey, 2015

4.4.3 Resource mobilization for traditional forest management over the past 20 years

Table 4.11 illustrates how traditional authorities mobilized resources for forest management 20 years ago. The table shows that there were four main sources of resource mobilization towards the protection of the sacred grove. Of the 102 respondents interviewed, 55% indicated that community contributions were the source of resources for protecting the sacred grove; of which 17 (30%) respondents were in the age group 60+, 21 (38%) respondents were in the age group 40-50 and 18 (32%) respondents were in the age group 18-30. Also, 24% were of the view that the Environmental Protection Agency's (EPA) annual support was the source of resource for the sacred grove's protection; of which 7 (28%) respondents were in the age group 60+, 9 (36%) respondents and 9 (36%) respondents were respectively in the age groups 40-50 and 18-30. In addition, 13% identified fine from offenders as source of resource for protecting the sacred grove. This lower percentage constituted 6 (46%) respondents, 5 (38%) respondents and 2 (15%) respondents respectively for the age groups 60+, 40-50 and 18-30. Furthermore, 8% also indicated that support from CIPSEG was the source of resource for protecting the sacred grove. This lowest

percentage constituted 3 (38%) respondents, 4 (50%) respondents and 1 (12%) respondent respectively for the age groups 60+, 40-50 and 18-30.

Table 4.11: Resource mobilization for traditional forest management

Source of resources	Category of Respondents			Total Percentage
	60+	40-50	18-30	
Community contributions	17	21	18	55%
EPA annual support	7	9	9	24%
Fine from offenders	6	5	2	13%
Support from CIPSEG	3	4	1	8%
Total	33	39	30	100

Source: Field survey, 2015

4.4.3.1 Results of the overview of the Cooperative Integrated Project on Savannah Ecosystems in Ghana (CIPSEG) initiative in Malshegu

The Cooperative Integrated Project on Savannah Ecosystems in Ghana (CIPSEG) was international project which span from 1996-1999 spearheaded by UNESCO. The main objective of the project was to introduce plant species into sacred groves in the three Northern regions of Ghana and inculcate tree planting exercise in the infringed communities. Three main communities were selected, which included Malshegu.

Again, the project instilled bushfire prevention skills into the local people. As a result, bushfire is totally ban in Malshegu up to date and this has greatly promoted the long term protection of the sacred grove. Also, CIPSEG setup a Facility Centre which now serves as store room for farm produce. Therefore, the community is able to store food against rainy days.

Furthermore, the tree planting exercise embarked by the project helped introduced new breed of tree species in addition to the original ones such as the Baobab, the Shea and the Dawadawa tree.

4.4.4 Willingness to contribute (WTC) towards protection of the sacred grove

Figure 4.4 shows that out of 102 respondents interviewed, 13 (13%) respondents mainly from the age group 60+ were willing to offer themselves as organizers, 26 (25%) respondents mainly within the age group 18-30 were willing to offer themselves for labor as night patrol guards and 14 (14%) respondents dominated by age group 60+ were willing to offer free technical support or expertise. Furthermore, 35 (34%) respondents mainly within age group 40-50 were willing to contribute cash and logistical support whilst 14 (14%) respondents indicated that they might not be able to contribute anything.

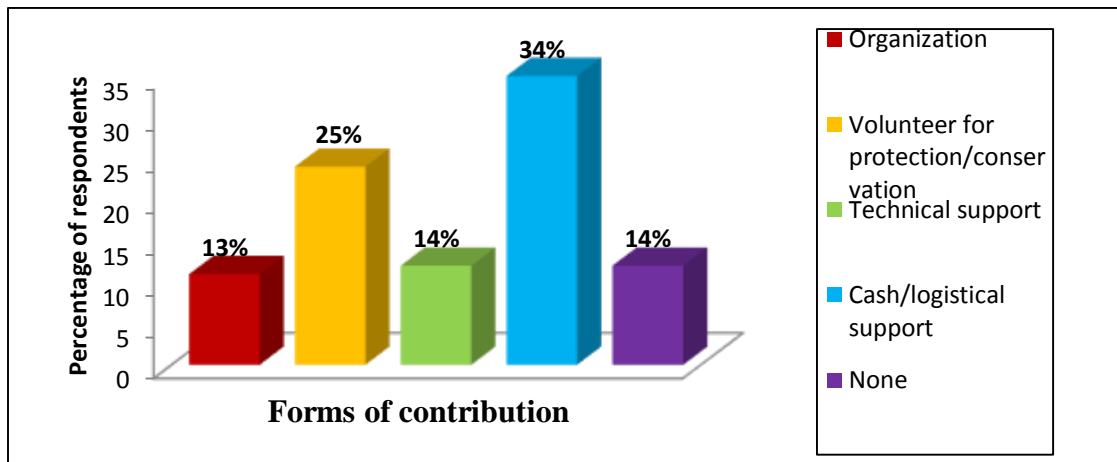


Figure 4.4: Forms of contribution respondents are willing to give (Source: Field survey, 2015)

4.4.4.1 Reasons for inability to contribute

The 14 respondents who indicated that they might not be able to contribute anything were also interviewed to know their reasons. Table 4.12 illustrates that of the 14 respondents, 6 (43%)

respondents were of the view that their inability to contribute was due to the fear of being stigmatized as idol worshippers. In addition, 5 (36%) respondents also indicated that they do not have any access to the sacred grove or get tangible benefits from it whilst other 3 (21%) respondents were of the view that they were too poor to contribute in any form and too old to organize or volunteer themselves.

Table 4.12: Reasons for inability to contribute

Reason for inability to contribute	Frequency	Percentage
Tag of idolatry (stigmatization)	6	43%
Intangible benefits/Inaccessibility	5	36%
Poverty and old age	3	21%
Total	14	100

Source: Field survey, 2015

4.5 Challenges and Threats to Traditional Management Practices

4.5.1 Challenges to traditional forest management practices

Table 4.13 depicts that out of 102 respondents interviewed on the challenges to traditional forest management practices, 20% respondents indicated that difficulty in getting support to fence the sacred grove was a challenge while 25% respondents were of the view that encroachments in the night for the harvest of some trees was the challenge to forest management in Malshegu. Again, 22% respondents also indicated that disrespect and poor interest in the traditional practices was a challenge. Furthermore, 18% respondents declared that the influx of Islam and Christianity and its tag of idolatry on the traditional practices was the challenge to effective forest management in the community. Furthermore, 15% respondents were of the opinion that the lack of incentives to encourage local patrol at night was the challenge to forest management.

Table 4.13: Challenges to traditional practices

Challenges	Frequency	Percentage
Difficulty in getting financial support for fencing the grove	20	20%
Encroachments in the night (intruders for trees)	26	25%
Poor interest/disrespect for traditional NRM practices	23	22%
The influx of foreign religion and its tag of idolatry	18	18%
Lack of incentives to encourage local patrol at night	15	15%
Total	102	100

Source: Field survey, 2015

4.5.2 Threats on the sacred grove arising from land use dynamics

Table 4.14 illustrates that out of 102 respondents interviewed; 13% respondents indicated that farming is a potential threat to the sacred grove while the majority 64% respondents were of the view that population/urban growth is a great threat to the future survival of the sacred grove. Again, 23% respondents were also of the view that land sale/tenure is a threat to the future of the sacred grove.

Table 4.14 Threats on the sacred grove arising from land use dynamics

Land use dynamic/change	Percentage
Farming	13%
Population/urban growth	64%
Land sale/tenure	23%
Total	100

Source: Field survey, 2015

4.5.3 Suggestions on how the sacred grove could be managed sustainably

Table 4.15 illustrates the views of respondents on how the sacred grove could be managed sustainably. Of 102 respondents, 21% suggested that traditional practices should be recognized and integrate into formal management and governance policies. This percentage constituted 8 (36%) respondents, 9 (41%) respondents and 5 (23%) respondents respectively for age groups 60+, 40-50 and 18-30 respectively. In addition, 40% of the respondents were of the view that resources could be allocated to traditional authorities by the central government for forest management purposes; of which 15 (37%) respondents, 17 (41%) respondents and 9 (22%) respondents respectively represented age groups 60+, 40-50 and 18-30. Furthermore, 19% also recommended attitudinal change as a way to improve sustainable protection. This percentage comprised of 6 (32%) respondents, 8 (42%) respondents, and 5 (26%) respondents who were respectively in the age groups 60+, 40-50 and 18-30. Again, 20% also suggested the need to strengthen the capacity of traditional authorities to promote effective forest management; this percentage included 4 (20%) respondents in the age group 60+, 5 (25%) respondents in the age group 40-50, and 11 (55%) respondents in the age group 18-30.

Table 4.15: Suggestions on how the sacred grove could be managed sustainably

Suggestions	Category of respondents			Total Percentage
	60+	40-50	18-30	
Recognizing and integrating traditional forest management practices into formal management systems and policies.	8	9	5	21%
Resource allocation to traditional leaders for forest management.	15	17	9	40%
Attitudinal change.	6	8	5	19%
Capacity building for traditional authorities for effective management.	4	5	11	20%
Total	33	39	30	100

Source: Field survey, 2015

CHAPTER FIVE

5.0 DISCUSSION

5.1 Socio-demographic Characteristics of Respondents

5.1.1 Gender and age distribution of respondents

The results on gender (Table 4.1) showed that males dominate the study area as males recorded 68% compared to females with only 32%. This is consistent with the report that the Ghanaian society is traditionally male-dominated (Ardayfio, 2007). Also, the results confirm the District profile report that the area is male-dominated (SDP, 2013). Results on age indicated that the aged are associated with knowledge because they are seen as experienced personalities. Hence, they are cherished and occupy remarkable positions in Malshegu through inheritance or by succession.

Furthermore, results (Table 4.2) illustrated that age groups 60+ and 18-30 had the same frequency and were lower than age group 40-50 making age category 46-55 the modal age category. This trend could be attributed to deaths in the situation of age group 60+ and migration in search for jobs, training and probably marriage in the situation of age group 18-30.

5.1.2 Gender and traditional leadership

The customary authority structures in the community do not allow women to occupy positions of chieftaincy or being part of council of elders, clan heads and so on. Consequently, their concerns and interest in decisions usually are relegated as confirmed by the findings of Apusigah (2004) and Millar (2004 b). However, field interview revealed that women indirectly have significant effect in the decision making process in their own style as aged women and elderly wives in Malshegu are sometimes consulted on some issues. Therefore, women can be seen as parts of decision makers to some extent or when needed though this excludes matters of discussion relating to the sacred grove and its protection. This issue of women exclusion can be attributed to

insufficient empirical evidence and analysis about the role that gender relations play in collective action particularly in forest management (Pandolfelli *et al.*, 2007). The implication here is that resource governance and protection is not effectively harnessed since there is no equity and transparency in the governance structure and decision-making processes.

5.1.3 Educational level of respondents

It is obvious from the results (Figure 4.2) that, generally, there is low level of education amongst the local people as 73% of the 102 respondents interviewed were illiterate. This confirms the notion that high percentage of adults in rural areas have pass through the formal educational system per the findings of Bonye (2007). High rate of illiteracy among the local people in the study area might be due to the fact that majority of parents cannot afford their wards to school because of poverty. This could also be attributed to the absence of constant awareness and sensitization of the rural community on the importance of education. Again, these outcome backs recent call for traditional authorities in rural areas to get educated to some extent in order to efficiently master natural resource management and protection in their various jurisdiction. Therefore, I do agree with the assertion that traditional authorities in Ghana need some level of education for effective natural resource management (Dankwa, 2004; Apusigah, 2006). This is very essential because NRM requires certain level of ideas to effectively promote its sustainability.

5.1.4 Occupation distribution of respondents

Farming is the major economic activity in the study area and accounts for almost 40% of all the occupational activities, this calls for alarm. The implication of this on the sustainability of the sacred grove is that farmers require vast forest vegetation or farmlands especially for major staple food crops in the area such as yam, maize and millet cultivation, which may threaten the size of the sacred grove and its related resources. This situation may arise from increasing demand for

fresh farmlands by migrant farmers which can result in steady encroachment on the sacred grove if precautions are not taken. It must be noted here that, the agricultural and natural resource sectors among and within regions are changing rapidly in many parts of the world due to economic and social forces which comes along with its adverse effects on the available natural resource (Barre and Grant, 2009). Again, the emergence of contract farming and modern supply chains for high-value agricultural products present different forms of challenges (Amissah, 2008).

However, the fact that shea butter extraction is seen as the major work for women in the community can be seen as a plus since this can lead to proper care for shea trees (*Butrespermum parkii*). This again confirms why the shea tree is highly protected aside the fact that it is getting threatened.

5.1.5 Religious status of respondents

The results (Table 4.3) show that Malshegu is religiously diverse and Islam constitutes the majority (38%), followed by the African Traditional Religion (ATR, 37%) and Christianity (25%). Also, the results indicate that the people of Malshegu belong to the Dagbani ethnic group and there are few other ethnic groups including Gonjas, Mamprusi and Bimobas living in the community as recorded in the District profile report (SDP, 2013). This means there is religious tolerance and peaceful co-existence among the diverse ethnic groups in Malshegu. This is a plus for communal unity. This is not the same story as compared to other rural communities in Northern Ghana where civil or ethnic conflict is the order of the day. Therefore, Sheridan and Nyamweru (2007) argued that local groups and belief systems should be made inclusive part of the natural resource base, for the simple reason that the local populace can relate themselves to it without bearing grudges. This also focus on the harmony and wellbeing of the entire community (Leroy, 2009).

5.2 Identified Traditional Practices

From the results (Table 4.4) of the generational studies conducted for the 102 respondents interviewed, it is clear that most of them were well abreast with the traditional forest management practices irrespective of the religious background. This is consistent with the assertion that general participation and acceptance of natural resource governance principles has positive impact on land, natural resource and economic growth (Ormsby and Edelman, 2010).

It is evident from the results (Table 4.4) that there are five main modes of traditional forest management of which restriction to the TPA (sacred grove) is the most predominant practice in the community. Hence, 52% of respondents (age group 60+) identified this practice. This may be due the fact that the aged are seen as receptor of traditional knowledge and therefore knows much about the sacred grove as compared to the age group 18-30 which recorded the lowest (27%) and none for sanctions and fines. This may be partly attributed to the influence of foreign religion (Islam and Christianity) on the age group 18-30 in the community. This is consistent with the arguments of Appiah-Opoku (2007) that the influx of foreign religion is a threat to traditional management practices.

However, age group 18-30 acknowledged that traditional forest management is dependent on the rules and regulations set out in the community as shown in the same table (Table 4.4), therefore, they ensure that offenders are detained and sanctioned. The strength of these practices have been tested and proofed in forest management through the application of taboos over the past years. This agree with the findings of Dorm-Adzobu *et al.*, (1991) and Millar (2004) that traditional management practices have survived several threats over several decades of years. It is evident that effectiveness of these practices has resulted in the prolonged survival of the sacred grove over

the years and still serving as reservoir for biodiversity. This is confirmed by the findings of Manikandan *et al.*, (2011) on sacred groves in India.

Available literature (Dorm-Adzobu et al, 1991, Ntiamoah-Baidu 1995 and Manikandan *et al.*, 2011) similarly indicated that initial guidelines in the local management of the Malshegu sacred grove were administered by practices and rules inherited by the natives under the tutelage of the local authorities particularly the *kpalna* (the fetish priest) and the *Tindana* (land overseer).

5.2.1 Effectiveness of traditional practices

The results show that traditional management practices has been useful in protecting the sacred grove for the past 20 years and over. From respondents' viewpoint, traditional management practices in general were successful in protecting the sacred grove because community members revered their traditional authorities and feared the anger of the gods (which may arise from unlawful entry into the sacred grove). As a result, they abide by the traditional rules and regulations associated with the use of the sacred grove and its management practices. This assertion from the respondents do confirm previous findings by Ntiamoah-Baidu (1995) and Abayie-Boateng (1998) that in Ghana traditional forest management is shaped around local rules and regulations. These local rules and regulations instituted by traditional leaders are usually in the form of taboos or bylaws and sanctions. Offenders were made to make atonement to the gods for disobedience to authority and for bringing the name of their clan and the community into shame. This is comparable to what pertains in communities such as Kalbeon and Wulugu where traditional management practices triumph through the use of taboos and sanctions given to culprits (Millar *et al.*, 2004a).

Sacrifices are made to the gods to pacify them for protection from any calamity that might occur as a result of disobedience by unlawful entry (Millar, 2004a). Such rules and regulations are most often enshrined in religious or cultural beliefs and superstitions and enforced by prohibitions which have no legal backing, but takes its efficacy from customary beliefs which are strong enough, hence commands strict adherence (Ntiamo-Baidu 1995). Millar's (2003a) argument that the spirituality of local people serves as the basis for all human activities and is echoed in their worldview perhaps offers a certifiable reason for the crucial role of these beliefs.

5.2.2 The level of effectiveness intervention of traditional practices

Results indicate that focus group discussion made up of 12 participants (2 from each section of the community) ranked restrictions to the TPA (sacred grove) as the most effective in protecting the sacred grove over the years. The rationale was that the sacred grove is the most cherished heritage to the local people. This confirms the assertion that sacred groves defines the cultural identity and heritage of local people per the finding of Manikandan *et al.*, (2011). Again, prohibition from felling certain tree species was ranked the next most significant due the fact that these trees are scarce economic species and undergoing threats while some are endangered. This confirms earlier findings of Otsyina *et al.*, (2008) that traditional management practices shields scarce tree and plant species though socioeconomic pressures in the 21st Century puts undue demands on forest resources.

In addition, participants' pair wisely ranked adherence to the traditional forest management practices as the third most relevant management practice in the community. This was because participants view adherence or loyalty to traditional management practices as pillars of conformity to rules and regulations governing the protection of the sacred grove. This is consistent with the

findings of Bonye (2007), that adherence reasons is the underpinning factor for indigenous NRM in the Northern parts of Ghana.

Furthermore, participant viewed general rules and regulations as the next relevant management practice and then followed by sanctions and fines. From the participants' view, until local people adhere to rules and regulations, these cannot enforce itself, hence, why the people serve as law enforcement agents. However, going contrary to these rules and regulations attracts sanctions and fines. Osemeobo (1994), observed that cultural perceptions, customs, and superstitious beliefs are frequently related to rules and regulations. Campbell (2004) strongly believed that rules, regulations and sanctions plays an active role in nature conservation and management. This, implies that traditional management practices promotes NRM and governance.

5.2.3 Plant species available in the sacred grove

The results (Table 4.7) show that the sacred grove contains some scarce tree species. This confirms the viewpoint of the FSD official that scarce plant species can easily be found in sacred groves as compared to on reserve areas. Singh (2010) and Manikandan *et al.*, (2011) noted that sacred groves are the workshop of scarce plant species.

5.3 Reasons for Adherence to Traditional Practices

The results (Table 4.8) clearly indicate that majority (43%) of the respondents attributed reasons for adherence to the presence of supernatural/psychic powers within the sacred grove. However, age group 18-30 recorded very low percentage (16%), this can equally be associated with the tag of idolatry on traditional sympathizers due to the presence of Islam and Christianity in the community. Henshey (2011) and Eneji *et al.*, (2012) confirmed that in most African societies, most natives believe that natural objects like rocks, trees and streams are the expression of the supreme

being's power and hence adhere strongly to their beliefs. Appiah-Opoku (2007) observed that the attribution of supernatural powers to some natural objects as experienced in traditional societies is gradually losing its effectiveness and worth as earlier revealed by Wilson (2002) and the World Conservation Union (1994). However, Ntiamoah-Baidu 1995; Abayie Boateng, 1998; Manikandan *et al.*, 2011, agree with the respondents who still believe that traditional management practices can still be used to protect forests.

Furthermore, average number of all age group respondents summing up to 33%, were of the view that they adhere to traditional practices because of the benefits derived from the sacred grove. This supports the assertion of Eneji *et al.*, 2009, that traditional practices is of numerous benefits and enhances NRM conservation. In addition, 24% respondents indicated that the use of use of community members as enforcement agents has been the reason for adherence to the traditional practices. It must be noted here that the age group 60+ recorded low percentage (21%) as compared to the high percentage (42%) for age group 18-30. Thus, whereas majority of the respondents in age group 60+ viewed the presence of supernatural power as reason for adherence, most respondents in age group 18-30 indicated the use of community members as enforcement agents to be the reason for adherence. Udgaonkar (2002) and Mkendi (2010) argued that the use of community members as bylaw enforcement agents implies a hands-on management approach where local people are conscious of the traditional practices and enforce adherence to these practices on their own will.

5.3.1 Benefits of the natural resource to the people

Results from table 4.9 show that 42% of the 102 respondents were of the view that they obtain economic benefits from the sacred grove. Here, the respondents indicated that the gods in the sacred aids rainfall for agricultural or farming activities in the community. This explains why

annual sacrifices are made to appease the gods before the farming season (April/May) begins. This supports the argument of Sarfo-Mensah and Oduro (2010), that traditional practices is of numerous agricultural benefits and promotes farming in Ghana. This also confirms the findings of Dorm-Adzobu *et al.*, (1991). In addition, 26% of the respondents identified spiritual and medicinal benefits as what they gain from the sacred grove. They explained that spiritual protection and comfort from chronic diseases, financial issues, bareness and fertility as well as other felt needs related to their welfare and social wellbeing are sort from the superpowers in the sacred grove. Here, the *kpalna* (chief priest) serves as the mediator between the people, the gods as well as the ancestral spirits. Medicinal values are also derived for the treatment of sicknesses. For instance, from field observation it was found that Neem tree leaves were being boiled to treat malaria. Gadgil (2005) and (Sarfo-Mensah and Oduro, 2007) argued that sacred tree leaves, bark and roots are very vital in treating various ailments.

Furthermore, 13% of the respondents recognized that they obtain cultural benefits from the natural resource. Findings unveil that the people of Malshegu see themselves as duty-bearers over the continuous protection and sustainability of the sacred grove. Therefore, current and future generations deem it a duty-call to ensure the sustainability of the cultural heritage (sacred grove) as it identifies with their ancestors and culture. Nold (2000) and Paula (2004) noted that cultural heritage is a bonding factor in sustaining natural resources in traditional societies. Again, interview shows that for the Dagomba Traditional Area to successfully enskin the paramount chief, custom demands that some rituals be performed in the sacred grove before the chief is fully accepted by the local people to rule over them. This enhances the chieftaincy system in the traditional area, hence, a reason to protect it at all cost. This confirms the claim that respect for traditional institutions contribute to conservation and ecological perspectives in rural areas (Colding and

Folke, 2001). However, age group 18-30 recorded low percentage in cultural benefits, this probably indicates poor interest amongst the young generation to know the cultural aspect of Malshegu.

Again, 19% of the respondents were of the view that ecological and environmental benefits are obtained from the sacred grove. They explained that climatic conditions of the area characterized by the harmattan (dust and dry air) is usually regulated by the trees within and outside the sacred grove so that the people are protected from wind and rain storms and other climatic hazards. This in line with the argument of Colding and Folke (2001) that traditional practices promotes ecological perspectives. From field observations, due to the prolonged hot weather conditions, it was common to find the local people take shelter from the trees around, some of which included the baobab, shea, neem as well as the dawadawa. These support and confirm the earlier findings of Dorm-Adzobu *et al.*, (1991).

5.3.2 Traditional forest management responsibilities

5.3.2.1 Stakeholder participation in forest management decisions, access and control

Results (Table 4.10) show that only a few people (28%) of the 102 respondents interviewed could participate in the decision-making process about the natural resource. However, this was limited to only the elderly men since they are perceived to be the embodiment of knowledge of the traditional practices in the community. Hence, it was discovered that every Monday and Friday was setup as meeting days to deliberate on matters arising on the sacred grove as well as issues concerning the general welfare of the community and its members. It was observed that women were totally excluded from such meetings and decisions. The gender bias process confirms the arguments of Apusigah (2004) and Millar *et al.*, (2004b) that women in rural communities in Northern Ghana are excluded from major decisions. Agrawal *et al.*, (2006) argued that women

often face gender-specific challenges to full participation in decisions that axes on their welfare. However, Apusigah (2004), points out that, the role of women in the natural resource sector is as important as men, therefore, women should be encouraged to fully participate in decisions.

Furthermore, the survey show that the forest (sacred grove) is owned by the entire community since it's a Traditional Protected Area but is entrusted in the custody of the Chief, *Gundana* and the chief priest (*kpalna*). Overall, 16% of respondents had access only whilst 12% had access and total control which includes few selected royals and elders. The selected few together with the chief, Tindana and the chief priest perform sacrifices and rituals to appease and thank the gods for their favour and protection. It can be realized that very low percentage (13%) of age group 18-30 could access the grove and this could have adverse implications on the future sustainability of the resource. This is in line with the findings of Dankwa (2004) and Bonye (2007) that only the selected few of elders and royals can have access and control over sacred forests.

5.3.3 Resource mobilization for traditional forest management (over the past 20 years)

The results (Table 4.11) indicate that 55% of respondents were of the view that resources for management over the past 20 years has been through community contributions. This was hailed by all age groups as majority identified this as the main source of resource. This probably shows their sense of ownership and why the sacred grove has tarry for long. Hence, Marsh (2002) and Christian and Marcussen (1994) noted that community self-support is the best way to promote forest management and conservation even though they should be given the help needed. However, it must be noted here that most of the contributions from the local people are non-monetary (food items, drinks and other donations).

In addition, 24% and 13% of the respondents respectively indicated that the EPA's annual support and fine from lawbreakers were the avenues of resource for managing the grove. They asserted that EPA's support is also in kind gestures. Again, 8% of the respondents identified that support from CIPSEG was the source of resource for management. The issue of CIPSEG was not known by most age group 18-30 clarifying why there was very low response. However, age groups 40-50 and 60+ were much aware about CIPSEG since it was a past initiative. The good thing about CIPSEG was that it supplemented the traditional practices to totally ban bushfire in Malshegu.

5.3.4 Willingness to contribute (WTC) towards sustainable management of the sacred grove

Results from figure 4.4 show that 13% of the 102 respondents interviewed were of the view that they were willing to offer themselves as organizers, 26% indicated they were willing to serve as volunteers or night patrol. In addition, 14% pinpoint they were willing to give technical support, 35% were willing to contribute cash or logistical support whilst 14% indicated they could give nothing. It can be recognized that whereas age group 60+ were willing to offer organization and technical support, age group 40-50 were eager to contribute cash or logistical support and age group 18-30 were keen to offer volunteer services or night patrol on the grove. Therefore, Steiner and Oviedo (2004) argued that most rural folks can be estimated as well to do if their wellbeing are assessed on the basis of livestock possessions, farmlands and food stuffs and not necessarily on monetary values.

5.3.4.1 Reasons for inability to contribute

Results (Table 4.12) depict that the tag of idolatry (religious sentiments) on traditional sympathizers, lack of access or the restriction to harvest fruits and bush meat (tangible benefits) as well as poverty and old age were the reasons for which 14% of the respondents would be unable

to contribute towards the sustainability of the grove. This, therefore verifies earlier findings by Appiah-Opoku (2007) that foreign religion and poverty amongst a lot are the main hindrance to vital traditional management practices. Accordingly, Sarfo-Mensah (2001) in his dissertation observed that foreign religion creates barriers to local knowledge in NRM.

5.4 Challenges and Threats to Traditional Practices

5.4.1 Challenges to traditional forest management

Results (Table 4.13) indicate that 20% of the 102 respondents interviewed, were of the view that difficulty in getting financial support for fencing the sacred grove was a challenge. This supports the notice of Campbell (2004). 25% respondents were of the view that encroachments in the night for the harvest of some trees was the challenge to forest management in Malshegu. This confirms the earlier findings of Sarfo-Mensah and Oduro (2010) that sacred grove depletion is increasingly becoming alarming and causing adverse effects on climate change. Again, 22% respondents also indicated that disrespect and poor interest in the traditional practices amongst the youth was a challenge. Hence, Sarfo-Mensah and Oduro (2007) argued that rapid change in the belief systems among rural folks (notably the youth) is indeed a major hindrance to effective traditional practices.

Furthermore, 18% respondents declared that the influx of Islam and Christianity with its tag of idolatry on the traditional practices was a challenge to effective forest management in the community. Also, 15% respondents were of the opinion that the lack of incentives to encourage local patrol at night was a challenge to traditional forest management. To this effect, studies conducted by Alvarado *et al.*, (2003); Nanda and Sutar (2003) and Mukherjee *et al.*, (2006), in separate places revealed that the underlying reason for local communities and their inhabitant's failure to control NRM is not lack of awareness or carelessness but rather lack of incentives to protect forest resources.

5.4.2 Threats on the sacred grove arising from land use dynamics

In finding out the threats to the sustainability of the sacred grove (as indicated in Table 4.14), of the 102 respondents interviewed; 13% saw farming as potential threat to the natural resource. However, Abayie-Boateng (1998) and (Sarfo-Mensah and Oduro, (2007) noted in their findings that farming in rural areas can be regulated and effectively managed with traditional management practices. Also, the majority (64%) of respondents identified population/urban growth as threat to the sustainability of the sacred grove. This confirms the findings of Manikandan *et al.*, (2011) in their studies on the 32 sacred groves in the Theni District of India that rapid population growth creates high socioeconomic demands on the available natural resources. Furthermore, 23% were of the view that land sale/tenure was a threat to sustainability. Hence, Awuah-Nyamekye and Sarfo-Mensah (2011) in their journal on '*Ensuring Equitable Distribution of Land In Ghana: Spirituality Or Policy?*' asserted that land tenure and distribution plays major role in forest management in the Savannah zones of Ghana.

5.4.3 Suggestions on how the sacred grove could be managed sustainably

Results (Table 4.15) indicate that of the 102 respondents interviewed, 21% suggested that traditional management practices should be recognized and integrated into traditional forest management practices into formal management systems and policies. In the light of this, Svedberg (1990) debated that the application of traditional structures and institutions in forest management has attained less effect because formal laws and policies usually don't recognize nor integrate traditional practices. However, AZTREC (1997) argued that some governments in developing states have recognized and making efforts to including them in the design of NRM programmes, though, these policies are sluggish in application and are rather decentralized in responsibility and not the accruing benefits. Gausset (2003) also observed that the main contending issue is that

traditional institutions are ignorant of government policies in NRM and therefore are not able to grab available opportunities.

Again, 40% of respondents proposed that there should be resource allocation to local authorities for efficient protection of the sacred grove. Fairhead and Leach (2004) argue that government structures have alienated resource control from local people and this has accounted for NRM failures. Hence, Kassanga (1994) and Cox (2000) debated that if traditional institutions are provided the needed assistance to advance their own management systems could be advantageous for their growth.

Furthermore, 19% were of the view that attitudinal change towards the forest should be stimulated in the community to discourage people from sneaking into the grove at night whilst 20% suggested capacity building for traditional authorities for effective management. In this regard, Awedora (2002) in his survey, unveiled that if traditional authorities are given the needed resources and prospects to develop their managing skills could perform well.

CHAPTER SIX

6.0 CONCLUSIONS AND RECOMMENDATIONS

This chapter focuses on conclusions from the research findings and the implications for effective forest management. It also highlights on key recommendations that would assist policy makers and natural resource managers to promulgate forest laws and policies that benefit local people in forest resources management.

6.1 Traditional forest management practices

The study reveals that traditional management practices have enhanced the protection of the Malshegu sacred grove not only for the past twenty (20) years but for almost three centuries as seen from the generation/time lines approach. It was found that traditional forest management practices are as effective as the conventional management system though it is beset with some challenges. This is because the traditional forest management practices have functioned effectively and sustainably through the application of traditional management practices being enforced by both traditional authorities and natives.

Most of the respondents interviewed (especially age group 18-30) were of the opinion that traditional leaders are not able to exercise authority over their constituents because of the influx of Islam and Christianity. According to them, this occurrence is the root cause of the persistent encroachment into the sacred grove. Hence, the study deduces that traditional forest management practices can still play key role in forest management if integrated into modern forestry management policies and intervention.

Therefore, it is recommended that community members as enforcement agents should be educated to know the need to treasure their traditional practices to ginger them preserve it whiles the volunteers are being trained in the protection of the sacred grove by liaising with the FSD and the

EPA to ensure sustainability. Furthermore, government and NRM based NGOs could equip traditional leaders with skills to exercise their authority in the enforcement of bylaws and management practices used to protect the resource. For instance, traditional authorities can be given seminars on effective handling of forest resource conflict (encroachment). They can be encouraged to hand over culprits to the police for further sanctions or summon them to the court, this can deter people from further encroachment and limit interference for justice.

6.2 Reasons for adherence to traditional management practices

Majority of the respondents attributed reasons for adherence to supernatural powers in the sacred grove. This is a sign that they still revere the traditional practices. However, in reality this belief is underpinned by the economic, medicinal, cultural and ecological benefits they gain from the sacred grove. These benefits in disguise serve as the bedrock for adherence, especially given the fact that it sustains the major economic activity (farming) of the local people. Hence, it is recommended that traditional leaders collaborate with the people to ensure the constant protection of the grove since its depletion may mean the collapse of their livelihood and vice versa. For this cause, majority of local folks indicated their willingness to contribute towards the sacred grove's sustainability. This avenue can be harnessed by the leaders to initiate a project geared towards fencing the sacred grove or give morale support for night patrol volunteers.

6.2.1 Stakeholder/gender participation in forest management decisions, access and control

Empirical evidence from the result clearly indicates that forest protection issues can be positively handled by experienced local folks if the scope of participation is widened particularly at the grass-root level to include females and age group (18-30) and not only the aged (40-60+). Therefore, it is recommended that prudent measures are taken by the traditional authorities to ensure all-inclusive participation in forest management decisions. The results revealed that women were

willing to participate in forest management in the community. They have a lot of knowledge which can be tapped to have a holistic representation of ideas in forest management which was earlier dominated by men.

Therefore, traditional authorities and forest management agencies should try hard to endorse gender mainstream and analysis approach into the formulation and implementation of forest management laws and policies. This step will guarantee a wider based stakeholder participation in forest management, leading to diverse ideas and consensus both in Malshegu and Ghana at large.

6.3 Challenges and threats to traditional management practices

Most respondents were of the view that secret encroachments at night into the sacred grove and poor interest/disrespect for traditional practices (amongst the youth or age group 18-30) due to the stigmatization from the influx of Islam and Christianity are major challenges which have limited the control of traditional leaders over their subjects. These incidences according to the local people are the main reasons for the decline in adherence to the management practices.

Furthermore, it was realized from the findings that the community were worried about the inability to fence the grove or provide the morale support needed for effective protection of the sacred grove. This denotes that the traditional leaders are not efficient enough in improving the protection system of the grove. This can be attributed to the low level of education and ignorance of the opportunities these leaders could access to better protect the natural resource. The implications are that the protection system must be revised, amend and maintained in the community to ensure that the sacred grove is protected from encroachment. Hence, it is recommended that a cautious appraisal of traditional NRM practices be undertaken to ensure that inadvertently, the useful ones are not relegated to the detriment of conservation, sustainable ecosystem and livelihoods. In

addition, the skills and capabilities of traditional authorities should be empowered to enforce forest management laws. Furthermore, a multi-stakeholder engagement process (involving the local people, FSD, EPA, NGOs and the Sagnarigu District Assembly) should be initiated by the traditional authorities to inspire morale and logistical/financial support to boost effective protection of the grove. If these recommendations are duly considered, then the threat from population or urban growth shall be drastically reduced.

REFERENCES

- Abayie-Boateng, A. (1998).** 'Traditional conservation practices: Ghana's example'. *Institute of African Studies Research Review*, Vol. 14. No. 1, 42 - 51. In Sarfo-Mensah P. and Oduro W. (2007). *Traditional Natural Resources Management Practices and Biodiversity Conservation in Ghana: A Review of local Concepts and Issues on Change and Sustainability*. Fondazione Eni Enrico Mattei. Paper 149.
- Abu, A. and Millar, D. (2004),** Land, Natural Resources and Spirituality; Policy Implication on Rural Livelihood in Northern Ghana, CECIK, Bolgatanga, Ghana.
- Achim, S. and Gonzalo, O. (2004),** Indigenous Knowledge and Natural resource Management: Local Pathways to Global Development. World Bank Report.
- Adomako E.F., Adomako J.K. and Bayliss-Smith T.P (1998),** Conservation by Tradition: The case of the Guako Sacred Grove in Amlalo D.S., L.D. Atsiatorme and C. Fiati (eds.), *Proceedings of the third UNESCO MAB Regional Seminar on Biodiversity Conservation and Sustainable Development n Anglophone Africa (BRAAF), Cape Coast, 9th -12th March, 1997*. Accra: Environmental Protection Agency (EPA).
- Agrawal A., Yadama G., Andrade R. and Bhattacharya A., (2006).** Decentralization and Environment Conservation: Gender Effects from Participation in Joint Forest Management. CAPRI Working Paper No 53 July 2006
- Agrawal, B. (2001).** "Participatory Exclusions, Community Forestry, and Gender: An Analysis for South Asia and a Conceptual Framework". *World Development*, 29(10) 1623-1648.
- Alvarado A. C., Rosales E. S., and Aguilar S. A. M (2003):** Management Forest Fires and the Participation of Local Communities. RAP Publication 2003/08. Forest Resources Development

Service, Working Paper FFM/2. FAO Regional Office for Asia and the Pacific, Bangkok, Thailand, 2003

Amissah, L. (2008). Indigenous Fire Management Practices in Ghana. Traditional Forest-Related Knowledge and Sustainable Forest Management in Africa. IUFRO World Series Volume 23

Anane, M. (1997). ‘Religion and Conservation in Ghana’, in Alyanak, L. and A. Cruz (eds.), *Implementing Agenda 21: NGO Experiences from around the World*. New York: United Nations Non Liaison Services.

Anizoba, M. A. (2005). *Exploitation and management of natural resources: A sustainable approach*. Awka: Scoa Heritage Systems.

Anthwala, A., N. Guptab, A. Sharmac, S. Anthwald and K. Kima (2010). Conserving biodiversity through traditional beliefs in sacred groves in uttarakhand himalaya, india. *Resources, Conservation and Recycling*, 54: 962-971.

Appiah-Opoku, S. (2007). Indigenous beliefs and environmental stewardship: a rural Ghana experience. *Journal of Cultural Geography*, 22, 79-88.<http://dx.doi.org>

Appiah-Opoku, S. and Hyma, B. (1999), Indigenous Institutions and Resource Management in Ghana: Indigenous Knowledge and Development Monitor, Vol.7: issue. 3

Apusigah A. A., (2004). Women in sustainable bushfire management promotion in Northern Ghana. In Millar D., Apusigah A. A. and Berienyuu A. (Eds.). *The harmattan series. Occasional Paper 1 UDS-Ghana/DANIDA*

Apusigah A. A., (2007). Promoting Sustainable Wildfire Management in Northern Ghana: Learning from History. *European Journal of Social Sciences – Vol 5, No 1, 2007*, pp. 61 - 67

Ardayfio-Schandorf, E (2007). “Gender Mainstreaming In Forestry in Africa”: Ghana. Food and Agriculture Organization of the United Nations, Rome, 2007, pp. 1-33.

- Asia CFMs Project (2005).** Community Integrated Natural Resource Management Projects, Japan. Project Document OEF/World Bank.
- Awedora, A. K. (2002),** Culture and Development in African with special reference to Ghana. Institute of African Studies, University of Ghana, Lagon, Accra.
- Awuah-Nyamekye, S. (2009).** Salvaging nature: The Akan religio-cultural perspective. *World Views: Global Religious, Culture, and Ecology*, 13(3), 251-282.
- Awuah-Nyamekye, S., and Sarfo-Mensah, P. (2011).** Ensuring Equitable Distribution of Land in Ghana: Spirituality or Policy? A Case Study from the Forest-Savanna Agro-ecological Zone of Ghana. *The International Indigenous Policy Journal*, 2(4) Retrieved from: <http://ir.lib.uwo.ca/iipj/vol2/iss4/9>
- AZTREC (1997),** Capacity Building of Traditional Institutions for the use of Indigenous Knowledge System in Natural Resource Management, Southern African Mission.
- Baland and Platteau (1996).** Halting degradation of natural resources, is there a role for rural communities. Retrieved from <https://www.fao.org/docrep>
- Barre R.Y., Grant M. & Draper, D. (2009).** The role of taboos in conservation of sacred groves in Ghana's Talensi-Nabdam District, *Social and Cultural Geography*. 10(1): 25-39
- Berkes, F. (2009).** Community conserved areas: policy issues in historic and contemporary context. *Conservation Letters* 2: 19–24.
- Bhagwat, S. A. and Ormsby, A., (2010).** Sacred forests of India: a strong tradition of community-based natural resource management. *Environmental Conservation*, 37(3) pp. 320-326.
- Bonye, S. (2007).** The role of Traditional Institutions in Natural Resource Management: The case of Talensi Nabdam District.

- Bonye, S. and Millar, D. (2004)**, Traditional Institutions: Entry Points for endogenous Development. *Compass Magazine for Endogenous Development*, No. 7.
- Brookfield, H. (1996)**, Indigenous Knowledge: A long History and an Uncertain Future. *PLEC News and Views*, No. 6, March, 1996, 23-25
- Campbell, M. (2004)**, Traditional Forest Protection and Woodlots in the Coastal Savannah of Ghana. *Environmental Conservation* 31(3): 225-230
- Cardelús, S, Gorjestani, N, Singh, G. (Eds.), Gadgil, S.M., (2013)**. Role of sacred groves in biodiversity conservation of tropical dry evergreen forests. In: *Strategy for conservation of sacred groves*, pp. 40-46.
- Catterson, T.M. (1988)**, Mechanisms to enhance popular participation, in Falloux, F. and A. Mukendi (eds), *Desertification Control and Renewable Resource Management in the Sahelian Zones of West Africa*. World Bank Technical Paper Number 70, Washington, D.C.
- Chayanov, A.V. (1966)**, Peasant farm Organization, in Thorner, D., Kerbly, B., and Smith, R.A.F (eds.), *The Theory of Peasant Economy*. Homewood, III: R.D Irwin.
- Christian, L. and Marcussen, H(ed) (1994)**, Access, Control and Management of Natural Resources in Sub-Sahara Africa- Methodological Considerations, IDS, Occasional paper No 13 Roskilde University, Denmark.
- Colding, J. and Folke, C. (2001)**. Social taboos: ‘invisible’ systems of local resource management and biological conservation. *Ecological Applications* 11: 584-600. Conservation Activities to Carbon Offsets in Shinyanga.
- Cox, P. A (2000)**. Will tribal knowledge survive the millennium? *Science* 287: 44-45.
- Dankwa, III, A. (2004)**. The Institution of Chieftaincy in Ghana: The Future. Konrad Adenauer Foundation, Accra, Ghana.

- Decher, J. (1997).** Conservation, small mammals, and the future of sacred groves in West Africa. *Biodiversity and Ecology*, 6, 1007-1026.
- Dorm–Adzobu, C., Ampadu-Agyei O. and Veit P.G. (1991),** Religious Beliefs and Environmental Protection: The Malshegu sacred grove in Northern Ghana, CID and World Resource Institute (WRI), Washington. DC, USA and Act Press, Africa Centre for Technology Studies, Kenya.
- Dwomoh D. (1990).** Forest Conservation: The contribution of sacred groves (A study of Sekyere West District, Ashanti Region). B.A (Hons) Dissertation, Geography Dept., University of Ghana, Legon.
- Ejizu, E.I. (2000),** African Traditional Religions and the Promotion of Community-Living in Africa, in Isizoh, CD (ed.). African Traditional Religion: Special Tropical Issues. Africa world.
- Eneji, C. V. O., Gubo, Q., Jian, X., Oden, S. N., & Okpiliya, F. I. (2009).** A Review of the Dynamics of Forest Resources Valuation and Community Livelihood: Issues, Arguments and concerns. *Journal of Agriculture, biotechnology and ecology, China*, 2(2), 210-231.
- Eneji, C.V., Ntamu G.U, Ajor J.O, Ben C.B, Bassey J.E, James J.W (2012).** Ethical Basis of African Traditional Religion and Sociocultural Practices in Natural Resources Conservation and Management in Cross River State, Nigeria. *Journal of Research in Peace, Gender and Development*, Vol. 2(2) pp. 034-043, February, 2012.
- Fairhead, J. and Leach M. (1994),** ‘Contested forest’: Modern conservation and historical land use in Guinea’s Ziama Reserve. *The Journal of the Royal African Society*, vol. 93, no 373.
- Falconer, J. (1992),** Non-timber Forest Products in Ghana, Main Report, ODA.
- FAO, (1981),** Food and Agriculture Organization -Environment Programme.
- Fargey, P.J. (1991).** Assessment of the conservation status of the Buabeng Fiema Monkey Sanctuary, Report submitted to the Flora and Fauna Preservation Society.

- Gadgil, S. M. (1998).** Traditional Resource Management Systems' in Saraswati, B. (ed.), Lifestyle and Ecology. New Delhi: India Gandhi National Centre for Arts.
- Gadgil, S. M. (2005).** Sacred groves and sacred trees of Uhara, Kannada, New Delhi, India.
- Gausset, Q. (2003),** Land Tenure, Forest Policies and forest Practices in Burkina faso. Some Preliminary findings. Sahel-Sudan Environmental Research Initiative. Occasional Paper Nos 15, Copenhagen.
- Ghai, D. (ed.), (1994),** Environment Livelihood and Empowerment. Development and Environment: Sustaining People and Nature. Oxford: UNRISD/Blackwell Publishers.
- Ghana Statistical Service (2010),** Population and Housing Census.
- Ghana's Constitution (1992), Article 11(3);** Definition of traditional or customary practices in Ghana.
- Haverkort, B. and Millar, D. (2004),** Alternative Logic for Development Intervention CECK, Bolgatanga, Ghana.
- Hens, L. (2006),** Indigenous knowledge and Biodiversity Conservation and Management in Ghana. J. Hum. Ecol., 2 (1):<http://www.joe.org/joe/1999april/tt3.html>.
- Henshey L. (2011).** Religious and Spiritual Mysteries Examiner, International Institute for Environment and Development (1992). Environmental Synopsis of Ghana. Overseas Development Administration. 28pp.
- Hoogenbosch, L. (2010).** Forest plantation and livelihoods in Ghana's high forest zone. MSc thesis submitted to the University of Amsterdam.
- Kasanga, K. (1994),** Land Tenure System and Ecological Degradation in Northern Ghana: What Role for Local Authority, UST, Kumasi, Ghana.

- Khan, M.L., Khumbongmayum, A. S. & Tripathi, R.S. (2008).** The sacred groves and their significance in conserving biodiversity: an overview. *International Journal of Ecology and Environmental Sciences* 34(3): 277–291.
- Lebbie, A.R and M.S. Freudenberg (1996),** ‘Sacred Groves in Africa: Forest Patches in Transition’, in Schelhas, J. and R. Greenberg (eds.), *Forest Patches in Tropical Landscapes*. Washington, D.C: Island Press.
- Leff, E. (1985).** ‘Ethnography and Anthropology as tools for Cultural Conservation’, in McNeeley, J.A and D. Pitt (eds.), *Culture and Conservation: The Human Dimension in Environmental Planning*. The International Union of Conservation of Nature and Natural Resources. England: Groom Helm Ltd.
- Leroy, M. (2009).** Introduction. Environment and conflict in Africa: Reflections on Darfur. In M. Leroy (Ed.), *University for peace, Africa programme Ltd*. Addis Ababa: Ethiopia
- Malhotra, K.C., Gokhale, Y., Chatterjee, S. & Srivastava, S. (2007).** *Sacred Groves in India*. New Delhi, India: Aryan Books International.
- Manikandan, P. (2007).** Conservation of sacred groves in Theni district, Tamilnadu: strategies for sustainable management. M.Phil. Thesis, Annamalai University, Chidambaram.
- Manikandan, P., D.R. Venkatesh and K. Muthuchelian (2011).** Conservation and Management of Sacred groves in Theni District, Tamil Nadu, India. Centre for Biodiversity and Forest Studies, School of Energy, Environment and Natural Resources, Madurai Kamaraj University, Madurai – 625 021, India.
- Manwa, H.A. (2007).** Is Zimbabwe ready to venture into the cultural tourism market? Development Southern Africa., 24(3): 465-474.

- Marsh, R. (2002)**, Working with Local Institutions to Support Sustainable Livelihoods. University of California, Berkeley, USA.
- McCammom B.P (2003)**. USDA- Forest Service, Pacific Northwest Region.
- McNeely, J.A (1996)**, Forward in Furze, B. T. de Lace and Birckhead L. (eds), Culture Conservation and Biodiversity: The social Dimension of Linking Local Development and Conservation through Protected Areas. Chichester, England: John Wiley and Sons Ltd.
- Millar, D. (2003a)**, Improve Farming with Ancestral Support; Ancient Roots, New Shoots; Endogenous Development in Practice, zed Books, London.
- Millar, D. (2003b)**, Forest in northern Ghana: Local Knowledge and Local Use of Forest Sahel-Sudan Environmental Research Initiative. Occasional Paper no. 15.Copenhagen.
- Millar, D. (2004)**, Shrines and Groves: Bio-cultural Diversity and Potential Environment Management. Communication and Media for Development, Cantonments, Accra, Ghana.
- Millar, D. (2004b)**, Shrines and Groves: Bio-cultural Diversity and Potential Environment Management. Communication and Media for Development, Cantonments, Accra.
- Millar, D. Bonye, S. and Agbenyo,F. (2004b)**, Methodologies for the Empowerment of Rural People in Northern Ghana. GILLBT Printing Press, Tamale, Ghana.
- Millar, D.; Apusigah, A. A. and Berinyuu, A. (2004a)**. The Chief, The Forester and the Fireman: Proceedings of the Bushfire Workshop of February 2004. (7 - 13). Tamale, Ghana: UDS/Care International.
- Mkenda, B. (2010)**. Environmental Conservation anchored in African cultural heritage, Ecology New People Magazine.
- Mukherjee N., Jayaswal M., and Parihari M., (2006)**. Forests as Safety Net: Listening to the Voices of the Poor. A Field Study of 15 Forest Villages in India. Proceedings of REFOFTC

2007, Poverty Reduction and Forests: Tenure, Markets and Policy Reforms, Bangkok, September 3–7, <http://recoftc.org/site/index.php?id=445>. 11/01/10.

Murck, B. (2005). *Environmental science: A self-teaching guide*. Ho-boken, NJ: John Wiley & Sons.

Nanda K. P. and Sutar C. P., (2003): Management of Forest through Local Communities: A Study in the Bolangir, Deogarh and Sundergarh Districts of Orissa, India. RAP Publication 2003/08. Forest Resources Development Service, Working Paper FFM/2. FAO Regional Office for Asia and the Pacific, Bangkok, Thailand, 2003

Ngoma, R (2001), African People and Culture: Southern African, Oceanic Publications.

Nold, E (2000), The Fishermen's New Year's festival on the Isle of the Gods. Geta-Matburi Publication, India.

North, D.C. (1990), Institutions, Institutional Change, and Economic Performance. Cambridge University Press.

Ntiemoa-Baidu, Y. (1991). Conservation of coastal lagoons in Ghana: the traditional approach'. Landscape and Urban Planning, Vol. 20, 41-46. Amsterdam: Elsevier Science Publishers B.V.

Ntiemoa-Baidu, Y. (1995). Indigenous verses Introduced Biodiversity Conservation Strategies: The case of protected areas systems in Ghana. Africa Biodiversity Series, Number 1, May, 1995. Washington: The Biodiversity Support Program.

Nukunya, G.K. (2003), Tradition and Change in Ghana, an Introduction to Sociology. Ghana University Press, Accra, Ghana.

Ormsby, A. & Edelman, C. (2010). Tafi Atome Monkey Sanctuary, Ghana: community-based ecotourism at a sacred site. In: *Sacred Natural Sites: Conserving Nature and Culture*, ed. R. Wild & B. Verschuren (in press). London, UK: Earthscan

- Ormsby, A. (2011).** Cultural and conservation values of sacred forests in Ghana. In: *Sacred Species and Sites: Advances in Biocultural Conservation*, ed. G. Pungetti, G. Oviedo & D. Hooke (in press). Cambridge, UK: Cambridge University Press.
- Osemeobo, G. J. (1994).** ‘The role of folklore in environmental conservation: Evidence from Edo State, Nigeria’. *International Journal of Sustainable Development and World Ecology*, 1 (1994), 48-55.
- Ostrom, E. (1992).** The rudiments of the theory of origins, survival and performance of common property institutions.
- Otsyina, R., C. Rubanza and E. Zahabu (2008).** Contribution of Tree Planting and
- Pandolfelli L., Meinzen-Dick R. and Dohrn S., (2007).** Gender and collective action: a conceptual framework for analysis. CAPRI; Working paper No. 64. May 2007. International food policy research institute. www.capri.cgiar.org/pdf/capriwp64.pdf 1/05/09.
- Paula, D. (2004),** Indigenous Knowledge Systems in sub-Saharan Africa: An Overview. Indigenous Knowledge, Local Pathway to Global Development, the World Bank, African Region.
- Polonia, G.F.K, (2013).** Analysis of sample size in consumer surveys.
- Ramakrishnan, P. S. (2003).** Conserving the sacred: the protective impulse and the origins of modern protected areas. In: *The Full Value of Parks: from economics to the intangible*, ed. D. Harmon & A.D. Putney, pp. 27-41. Lanham, MD, USA: Rowman & Littlefield Publishers.
- Sagnarigu District Profile (2013).** Ministry of Local Government and Rural Development, Updated Profile of Sagnarigu District Assembly.
- Sarfo-Mensah, P. (2001).** *The spirituality of forests and conservation: The dynamics of change and sustainability of Sacred Groves in the Transitional zone of Ghana* (Doctoral dissertation). University of Greenwich, UK.

- Sarfo-Mensah, P., and Oduro, W (2010).** Changes in Beliefs and Perceptions about the Natural Environment in the Forest-Savana Transitional Zone of Ghana: The Influence of Religion. Global challenges series. Retrieved from Fondazione Eni Enrico Mattei website: <http://www.feem.it>
- Sarfo-Mensah, P., and Oduro, W. (2007).** *Traditional natural resources management practices and biodiversity conservation in Ghana: A review of local concepts and issues on change and sustainability.* Retrieved from Nota di Lavoro website: <http://www.feem.it/Feem/Pub/Publications/WPapers/default.htm>
- Shastri, C. M., Bhat, D. M., Nagaraja, B. C., Murali, K. S., & Ravindranath, N. H. (2002).** Tree species diversity in a village ecosystem in Uttara Kannada district in Western Ghats, Karnataka. *Current Science*, 82, 1080-1084.
- Sheridan, M.J. & Nyamweru, C., eds (2007)** *African Sacred Groves: Ecological Dynamics and Social Change.* Athens, OH, USA: Ohio University Press.
- Singh J. S (2002).** The biodiversity crisis: a multifaceted review. *Current Science* 82: 638-647.
- Smith E. A, Wishnie M (2000).** Conservation and subsistence in small-scale societies. *Annual Reviews Anthropology* 29: 493-524.
- Sriniva, H. (2005).** The concept of accountability implications for NGO's. Texas Education Agency.
- State Forest Survey Service (2007).** The sustainable role of trees in environmental protection. Retrieved from <https://books.google.com.gh/3319254774>
- Steiner, A and Oviedo, G. (2004),**Indigenous Knowledge and Natural Resource Management; Indigenous Knowledge, Local Pathway to Global Development, the World Bank, African Region.

- Sugumaran, S. and Jeeva, S. (2008).** A floristic study on miniature sacred forests at Agastheeshwaram, southern peninsular India. *Asian J. Bio. Sc.* 2: 66- 72.
- Suzanne, O. (2001),** Advocating for your Transit System. Nation Transit Resource Centre.
- Svedberg, R. (1990),** Economics and Sociology: Redefining Their Boundaries, Conversations with Economists and Sociologists. Princeton University Press.
- Tupper M. (2002).** Marine reserves and fisheries management. *Science* 295: 1233.
- Udgaonkar, S. (2002).** The recording of traditional knowledge: Will it prevent “bio-piracy?” *Current Science*, 82, 413-419.
- UDS/CARE, (2004).**The Chief, the Forester and Fireman; Proceeding on Bushfire Workshop, GILLBT, Tamale, Ghana. UNCED (June 1992).
- UNCED (1992).** The Rio De Jenario Declaration of Brazil.
- UNESCO (2006).** UN Decade for Education for Sustainable Development (2005-2014). Retrieved from <http://www.unesco.org/education/tlsf/index.htm>.
- Utkarsh, G., Gadgil, M., & Rao, P. R. S. (1999).** Intellectual property rights on biological resources: Benefiting from biodiversity and people's knowledge. *Current Science*, 77, 14181425
- Vayda, A.P. and Rappaport, R.A. (1968).** ‘Ecology, cultural and noncultural’ in Clifton, J. (ed), *Introduction to Cultural Anthropology: Essays in the Scope and Methods of Man*. Bouston: Houghton Mifflin.
- Vivian, J.M. (1991),** Greening at the Grassroots: People’s Participation in Sustainable Development. UNRISD Distribution Paper 22. Geneva, Switzerland.
- Warren, D.M and J. Pinkston (1997).** ‘Indigenous African Resource Management of a Tropical Rain Forest Ecosystem: A Case Study of Ara, Nigeria’, in Berkes, F. and C. Folke (eds.),

Linking Social and Ecological Systems: Institutional Learning for Resilience. Cambridge: Cambridge University Press.

Williamson, O.E (1999). The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting. New York: Free Press.

World Bank, (1997). Taking Action to Reduce Poverty in Sub-Saharan Africa. World Bank Publication.

Yin, R.K. (1993). Case study research, design and methods. Beverly Hill: SAGE.

APPENDIX I

Questionnaire Survey

Questionnaire for youth, women & men

Research on the role of African traditional practices in sustainable forest management and conservation; A case study of Malshegu sacred grove in the Northern Region of Ghana.

This questionnaire for youth, women and men is intended to generate relevant information from Malshegu dwellers for academic analysis towards preparation of a dissertation.

Questionnaire No. _____ Date: _____ Name of researcher: _____

Name of community: _____

Instructions: Please select/tick a box to each of the questions below.

Section A: Demographic Characteristic of Respondent (please tick the appropriate box)

1. Gender a. Male b. Female

2. Age: a. 18-25 b. 26-35 c. 36-45 d. 46-55 e. 56-65 f. 66+

3. Level of education

a. Basic/JHS b. MSLC c. SHS d. Vocational/technical e. Tertiary
f. Post graduate (MA, MSc, MPhil, PhD etc) g. Never went to school

4. What is your occupation? a. Farming b. Shea better extraction c. Hunting
d. Petty trading e. Student f. Any other, please specify.....

5. Marital status a. Single b. Married c. Separated d. Divorce

6. How long have you lived around the sacred grove/Malshegu?

a. Less than 5 years
b. 5 to 10 years
c. 11 to 20 years
d. Longer than 20 years
e. Born here

7. Which religion do you belong? a. Christianity b. Islam c. ATR d. Atheist

Section B: Please tick when necessary and fill the provided spaces with your views or answers.

You can tick more than one option if necessary.

I. Traditional forest management practices, taboos/totems or systems available and used in the community to manage the sacred groves.

(a) Historical background and traditional beliefs

8. (a) What is the name of your tribe?

(b) How long has your tribe lived in this area?

9. (a) If you look at the sacred grove today, will you it is the same one that your parents lived around when they were children? i) Yes ii) No

(b) Give reason(s) for your answer?.....
.....

10. (a) Do you think there is the need to protect the sacred grove? i) Yes ii) No

(b) Give reason(s) for your choice.
1.
2.

11. If yes, identify some of your tribal practices/systems and approaches used to enhance the protection of the sacred grove with examples (if possible).

1.
2.

12. Is there any spiritual, cultural or religious connections or relation of the plants, animals, and trees in the sacred grove to you and your tribe? i) Yes ii) No

13. If yes, can you describe the kind of connection or relation it has on you and your tribe?
.....
.....

14. (a) Do these beliefs influence your attitudes towards the environment or the sacred grove?

i) Yes ii) No

(b) If yes, please indicate with reason(s) the relevance/effectiveness of each belief/practice.

Traditional belief/practices	Relevance/Effectiveness	Reason(s)
Use of certain plant/animal species as objects of worship		
Prohibition from felling certain trees		
Prevention of entry into sacred groves through taboos		
Designation of certain animals as totem/family emblems		
Ban on eating/killing certain animal species		

15. Which of the traditional practices/beliefs are still in force today?

- a) Totem b) Taboos on prevention of entry c) Prohibition from felling certain trees
d) Ban on eating/killing certain animals e) Use of certain plants/animals for worship

16. (a) Do you know other tribal beliefs about the sacred grove? a) Yes b) No

(b) If “Yes”, can you describe or give some examples to that effect?

.....
.....

(b) Land use change

17. (a) Which of the following has contributed to land use change in Malshegu?

- a) Farming b) Population/urban growth c) Land sale/tenure d) Pollution/solid waste
e) Others, please specify.....

(b) Which of the above stated land use change is/are a threat to traditional management practices on the grove?.....

II. Underlying reasons for adherence to the traditional practices, systems and taboos/totem

a. Management responsibilities of the groves

18. (a) Who enforces adherence to traditional practices about the sacred grove's protection?

- a) Chief/Elders b) All community leaders c) Forest-dependent community

d) Others, please specify.....

(b) Are there sanctions for failure to adhere to traditional practices used to protect the sacred grove? i) Yes ii) No

19. (a) If "Yes", what are the current sanctions for failure to adhere to traditional practices used to protect the sacred grove?

- a) Imprisonment b) Fine c) Calamity (such as bad luck, death etc)

d) Banishment e) Any other sanction, please specify.....

(b) Please indicate with reason(s) the relevance/effectiveness of the sanctions used.

Sanction/Punishment	Relevance/Effectiveness	Reason(s)
Imprisonment		
Fine		
Calamity (death, disease outbreak, bad luck etc)		
Banishment/Excommunication		
Any other.....		

20. (a) Which of the sanctions are still in force today?

- a) Imprisonment b) Fine c) Calamity (such as bad luck, death etc)
 d) Banishment e) Any other, please specify..... f) None

(b) Were there different sanctions in the past for culprits as compared to current days?

i) Yes ii) No

21. Who enforces sanctions for failure to adhere to traditional practices used to protect the sacred grove?

- a) Chief/Elders b) All community leaders c) Forest-dependent community
d) Others, please specify.....

22 (a) What strategies/ mediums are used to motivate adherence to traditional practices around the sacred grove?

- a) Strengthening of local beliefs b) Increase access to forest products in the groves
c) Sensitization and awareness creation d) Provision of livelihood alternatives
e) Others, please specify.....

(b) Pick the identified stakeholders involved in the control and protection of the groves?

- a) All stakeholders involved, including forestry officers b) All community leaders
c) Forest-dependent communities alone d) The chiefs and fetish priest/elders
e) Special volunteers f) Youth environmental clubs g) Don't know

b. Decision-making process about management of the groves

23. (a) Are there any decision-making or forest management meetings about the sacred grove?

i) Yes ii) No

(b) If "Yes", do you participate in the forest management meetings or decision-making process concerning the sacred grove? i) Yes ii) No

If "No" why?

24. What is the nature of the decision-making process? a) Round-table discussion b) Open forum c) Close door meetings d) Any other..... e) Don't know

25. (a) How is the representation of the youth in decision-making and protection of the grove?

a) Excellent b) Average c) Weak d) Very weak or poor

(b) How is the representation of women in decision-making on the protection of the grove?

a) Excellent b) Average c) Weak d) Very weak or poor

(c) How is the representation of men in decision-making in the protection of the grove?

a) Excellent b) Average c) Weak d) Very weak or poor

26. (a) How regular do all stakeholders participate in decisions about the sacred grove?

a) Always b) Occasionally c) Rarely d) Never

(b) What are the challenges in dealing with the stakeholders?

a) Foot dragging b) Dissimulation c) Slander/sabotage d) Feigned ignorance

27. (a) Are you willing to contribute to the protection of the sacred grove?

i) Yes ii) No

(b) If no, why?

(c) If "Yes", mention the form of contribution you will be willing to give.

a) Organization b) Labour for management and conservation

c) Technical support d) Cash/logistical support

e) Others, please specify.....

III. Current and potential challenges that militate against the enforcement of traditional practices, systems and taboos/totems used to manage the sacred grove.

a. Challenges in enforcing the traditional practices, taboos/totems for effective mgt.

28. (a) What are the challenges the community face in using traditional practices to protect the sacred grove?

a) Civilization b) Western culture/education c) Foreign religion (Islam and

Christianity) d) Others please specify.....

29. Are the leadership able to deal with any of the challenges mentioned above?

i) Yes ii) No

Give reason for your answer

30. (a) Do traditional customs allow bush burning in the community? i) Yes ii) No

(b) Justify your answer.....

31. (a) Are there systems to ensure sustainable usage of the grove? i) Yes ii) No

(b) If yes, can you identify some of the systems and why you use them?.....

.....

If no, what has been the reason?.....

.....

b. Other current/potential challenges and stakeholders' involvement in providing solutions

32. (a) Which of the following is/are known challenge(s) on the sacred grove?

a) Population growth b) Socio-economic demands c) Civilization d) Foreign Religion e) Others please specify..... f) Don't know

(b) Which of the following is a/are potential challenge(s) to the protection of the sacred grove?

a) Organization b) Technical support c) Cash/logistical support
d) Volunteers for protection/conservation e) Lack/inadequate government support e)

Others, please specify.....

33. Are stakeholders involved in providing financial/logistical support for the protection of the grove?

a) Yes b) No c) Don't know d) If no, why?

34. Are stakeholders involved in seeking/providing labour or volunteers for the protection of the sacred grove?

a) Yes b) No c) Don't know d) If no, why?

35. Are stakeholders involved in seeking/providing technical support for protecting the sacred grove?

a) Yes b) No c) Don't know

d) If no, why?

36. (a) Do stakeholders receive any form of incentives or motivation for seeking/providing support for the protection of the grove? a) Yes b) No c) Don't know

d) If yes, what kind of incentives/motivation do they receive?

37. If no, do you think it is the reason why stakeholders do not give their possible best in protecting the sacred grove? i) Yes i) No

APPENDIX II

Key Informant Interviews

A. Checklist for key informants (District FSD & EPA Officials)

Objective: To solicit stakeholders (key informants) views on the role of African traditional practices in forest management and conservation: A case study of Malshegu sacred grove in the Northern Region of Ghana.

1. What are the major challenges confronting the influence of the concept of community participation in traditional forest resource management in Malshegu and how does the Forest Service Division (FSD) handle such issues?
2. What strategies do you suggest to enhance local participation in traditional forest management in the area?
3. How can the design and implementation of a community forest management (CFM) committee be improved to achieve core objectives of the Malshegu sacred groves?
4. How effectively can traditional NRM systems be fused into forest resource management policies both in the District and the Region as a whole?
5. How can the government and the FSD support traditional institutions to ensure the sustainability of traditional natural resource management practices in the face of daunting challenges of the 21st Century?

B. Checklist for key informants (Chief, Fetish priest and Elders)

1. How does the chief, fetish priest and the entire elders of Malshegu corporate in ensuring the protection of the sacred grove?
2. How has the leadership of Malshegu preserve the traditional practices and systems of Malshegu amidst modern day cultural influences over the years?
3. How do you derive punishment or sanctions for culprits against the bye laws or traditions that governs the sacred grove?
4. What are your major challenges in promoting the protection of the sacred grove, and how do you intend to address them?

Biophysical characteristics of the groves and sustainability

5. Has the total area or size of the sacred grove diminished or increased, comparing its current size to how it used to be twenty (20) years ago, and what factors account for the change?
6. Does the sacred grove still have scarce economic plants/trees and biodiversity species existing in them as it used to be twenty (20) years ago?
7. Mention some of the scarce plant/tree and biodiversity species still existing in the grove today.
8. What are the most extinct or depleting plant/tree and biodiversity species and what can be done to sustain them?

APPENDIX III

Focus Group Discussion

A. Focus group discussion guide for women

1. What local activities do men perform that enhances the protection of the sacred grove?

2. Why do men engage in such activities to protect the sacred grove?
3. Do women fetch firewood from the sacred grove? a) Yes b) No
If yes, do they pick or cut them from the groves and why? If no, why?
4. What are the major benefits the community derive from the sacred grove?
5. What challenges do men face in undertaking activities to protect the sacred grove?
6. In your own opinion, how do you think these challenges can be solved?

B. Focus group discussion guide for men

1. Do you have an explanation or heard stories about how the sacred grove came into existence in the community?
2. How important are the plants, animals, and trees in the sacred grove to you and your tribe?
3. What are your beliefs about the use of plants/animals in the sacred grove?
4. What are the significance of these traditional practices or beliefs in relation to the protection of the sacred grove?
5. What activities or rituals do you normally perform to protect the sacred grove?
6. Why do you engage in such activities or rituals to protect the sacred grove?
7. What are the socio-economic and ecological benefits you derive from the sacred grove?
8. What are the duties or roles of the youth, women or men in decision-making process or meetings about the sacred grove?
9. What are the challenges the community face in using traditional practices to protect the sacred grove? Please mention/state them.
10. What strategies or measures do you suggest/think can be put in place to effectively address the challenges identified above to ensure sustainable management of the sacred grove?