

**ST JOHN'S UNIVERSITY OF TANZANIA**



**INSTITUTE OF DEVELOPMENT STUDIES**

**COMMUNITY PARTICIPATION IN SUSTAINABLE FOREST MANAGEMENT: A  
CASE OF KIBORIANI MOUNTAIN FOREST IN MPWAPWA AND KONGWA  
DISTRICTS**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE  
REQUIREMENT FOR THE MASTER OF ARTS DEGREE IN COMMUNITY  
DEVELOPMENT OF ST JOHN'S UNIVERSITY OF TANZANIA**

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I, ELIYA SIMON CHIWANGA the undersigned, certify that I have read and hereby recommend for acceptance by St. John's University of Tanzania a dissertation entitled Community Participation in Sustainable Forest Management: A Case of Kiboriani Mountain Forest in Mpwapwa and Kongwa Districts in fulfilment of the requirement for the degree of Master of Arts in Community Development.

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**DECLARATION**

I, Eliya Simon Chiwanga, declare that this dissertation is my work. It has not been and will not be presented for any other course of study. I confirm that appropriate credit has been given where references has been made to the work of others.

**STUDENT:** Eliya Simon Chiwanga

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## **DEDICATION**

To my beloved daughters, Malewo Gladys and Bertha Hagulwa.

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## ABSTRACT

The Kiboriani Mountain Forest which is shared by the two districts of Kongwa and Mpwapwa in Dodoma region is facing a problem of high rate of deforestation and biodiversity loss. Many studies which have been conducted highlights failure by the central and local government as forest managers to sustainably manage forest resources in Tanzania. Some of these studies have recommended for empowerment and effective participation of the local communities found within and adjacent to the forest resources. Community participation in sustainable forest management is very crucial for achieving conservation and livelihoods benefits. There is a knowledge gap in both Kongwa and Mpwapwa districts concerning how community members have been participating in managing sustainably the forest resources. The main objective of this research was to assess Community Participation in Sustainable Forest Management for Kiboriani Mountain Forest in Kongwa and Mpwapwa districts. This research was conducted in six out of the 30 villages found within and adjacent to Kiboriani Mountain Forest in Kongwa and Mpwapwa districts. The research deployed an exploratory cross sectional qualitative research design and used a phenomenology approach. Interviews, focus group discussions, direct observations and photographs were the tools used to collect primary data from the field. The research engaged 60 respondents and 6 study sites all of them purposively selected. A content and thematic analysis process was used for analysing the collected data. The research findings revealed that the level of awareness, knowledge and skills about community participation in sustainable forest management among all key stakeholders is very low in both districts. The research concludes that there is very limited Community Participation in Sustainable Forest Management for Kiboriani Mountain Forest in both Kongwa and Mpwapwa districts. This is also attributed to the ongoing high rate of deforestation and biodiversity loss in the study area. It is recommended that a comprehensive, integrated, multi-sectoral and multi-stakeholder sustainable forest management plan and strategy should be developed and effectively executed in both Kongwa and Mpwapwa districts for achieving sustainable management of the Kiboriani Mountain Forest.

**Key words:** Community, community participation, sustainable forest management, participatory forest management, Kiboriani Mountain Forest

# CHAPTER ONE

## INTRODUCTION

### 1.1 Chapter overview

This chapter presents the introductory part of the research. It highlights the background to the research subject matter, statement of the research problem, objectives of the research, research questions, purpose and significance of the research.

### 1.2 Background to the study

Tanzania mainland is estimated to have a total of 48 million hectares of forest, which is about 51 per cent of the total area (United Nation Environment Programme [UNEP], 2015). The predominant forest types are the miombo woodlands found in lowland areas across central and southern parts of the country, the acacia woodlands found in the northern regions and the mangrove forests found along the coast of Indian Ocean. About 14.3 million hectares of these various forest types are gazetted Forest Reserves, 2.5 million hectares are proposed forest reserves and 2 million hectares are in Game Reserves or National Parks (Ministry of Natural Resources and Tourism [MNRT], 2008a).

All the Forest Reserves falls under the legal authority of the Central Government, District Councils and Village Government. The remaining 16.5 million hectares of forests are unreserved forests found in village and general land. Poor forest management is happening in most of these unreserved forests countrywide (MNRT, 2008a). However, traditional and customary management practices which rely on community members' participation have been in place since the pre-colonial era and supported the conservation and management of some patches of these unreserved forests in many communities across the country (Adom, 2016).

Apart from providing ecosystem services, all these types of forest contributes tremendously to the communities found within, adjacent as well as those distant from the forest areas by supporting livelihood activities as well as a source of revenues to the Government of Tanzania (MNRT, 2008a). The annual value of forest goods and services is estimated at U\$2.2 million which is equivalent to 20.1% of Gross Domestic Product (GDP) based on 2006 prices. The forest sector

has provided about 3 million employments (MNRT, 2008a). The employment has been through forest industries, government forest administration and self-employment in forest related activities both formally and informally.

The forest sector in Tanzania mainland faces many challenges the major one being deforestation which was estimated at 372 816 hectares per annum between 1995 and 2010 (National Forest Monitoring and Assessment [NAFORMA], 2014). It is estimated that this extent of deforestation is equivalent to 1.1% of the country's total forest area (Food and Agriculture Organisation [FAO], 2010). The underlying direct causes of deforestation include the rapid population growth, clearing forest areas for agricultural expansion, overgrazing, wildfires, charcoal making, firewood, building materials, poor natural resources governance and lack of land use plans or non adherence to existing ones. Other factors contributing to deforestation in Tanzania includes law and policy failures, lack of financial incentives and government inability to enforce effective forest management as result of inadequate resources. Deforestation is taking place in both reserved and unreserved forests country wide (MNRT, 2008a).

The Global paradigm shift based on Participatory Forest Management which suggests for the devolution and decentralization of power and authority to communities in managing forest resources, has witnessed many forest management stakeholders and Governments worldwide adopting to this new approach and abandon the previous top down approaches by the central governments of managing all types of forests (Campbell *et al.*, 1999). Tanzania is believed to be one of the countries in the world which has made significant steps in improving the management of its forest resources (Kajembe & Mgoo, 1999). These steps included the formulation and passing of the new Forest Policy of 1998, the National Forest Programme of 2001, the Guidelines for Community Based Forest Management of 2001 and the enactment of the Forest Act of 2002 (Danish International Development Agency [DANIDA], 2002). Other steps were the introduction, promotion and implementation of the Participatory Forest Management (PFM) practices which has two approaches namely; Community Based Forest Management (CBFM) and Joint Forest Management (JFM) which are both stipulated in the new Forest Policy of 1998 and the Forest Act of 2002 (MNRT, 2008b). According to these two instruments, the local communities have been empowered to own, co-own and manage all types of forests within their villages

through establishing and ultimately gazetting individual, group, institution, community and village forest reserves (Blomley & Ramadhani, 2007).

Some commendable efforts and progress have been made by the Government of Tanzania, Non Governmental Organisations, Development Partners and Community Based Organisations to introduce, promote and implement the Participatory Forest Management (PFM) approaches in many parts of the country. However, the problem of deforestation has been escalating countrywide. For more than a decade now, there has been some vivid evidence of unsustainable use of forest resources in the Kiboriani Mountain Forest Ecosystem which is shared by the two Districts of Kongwa and Mpwapwa in Dodoma region (LEAD Foundation [LF], 2012). Timber and non-timber forest resources are currently being unsustainably exploited. This situation requires a thorough understanding of the current existing community participation process and its outcomes to the sustainable management of the Kiboriani Mountain Forest.

### **1.3 Problem Statement**

Community participation in sustainable forest management in Tanzania has a rich history and adequate evidences from many parts of the country since pre colonial era. Furthermore, in early 1990s, the Government of Tanzania adopted the Participatory Forest Management approaches. It also revised and passed the Forest Policy of 1998 and enacted the Forest Act of 2002 as legal instruments to facilitate and advocate for community participation in sustainable forest management through Participatory Forest Management all over the country (Iddi & Blomey, 2009).

Despite of all these remarkable efforts, the rate of deforestation in the Kiboriani Mountain Forest Ecosystem has been at an alarming speed for the past two decades in Kongwa and Mpwapwa Districts (LF, 2012). There is a knowledge gap concerning the extent on how the communities within and adjacent to the Kiboriani Mountain Forest have been involved and engaged for its sustainable management in the two Districts. This situation has induced the researcher to undertake this study for coming up with a detailed and clear understanding concerning the process of community participation and its outcomes on the sustainable management for the Kiboriani Mountain Forest.

## **1.4 Research Objectives**

### **1.4.1 Overall Objective**

The main objective of this research was to assess community participation in sustainable forest management for Kiboriani Mountain Forest in Kongwa and Mpwapwa Districts.

### **1.4.2 Specific Objectives**

To achieve the above objective, the following specific objectives were addressed;

1. To examine the nature of community participation in sustainable forest management for Kiboriani Mountain Forest.
2. To determine the levels of community participation in sustainable forest management for Kiboriani Mountain Forest.
3. To identify the existing local structures for supporting community participation in sustainable forest management for Kiboriani Mountain Forest.
4. To explore challenges and opportunities for community participation in sustainable forest management for Kiboriani Mountain Forest.

## **1.5 Research Questions**

The following research questions were formulated to guide the study in an attempt to answer them;

1. What is the nature of community participation in sustainable forest management for Kiboriani Mountain Forest?
2. At which level is community participation in sustainable forest management for Kiboriani Mountain Forest takes place?
3. Which are the existing local structures that support community participation in sustainable forest management for Kiboriani Mountain Forest?
4. What are the challenges and opportunities for community participation in sustainable forest management for Kiboriani Mountain Forest?

## **1.6 Purpose and significance of the study**

The purpose of this research was to generate new knowledge for informing the community members, sustainable forest management stakeholders, decision, policy and law makers about the outcomes of community participation process on sustainable management of the Kiboriani Mountain Forest as well as to explore its link to the ongoing high rate of deforestation and biodiversity loss.

The research has provided a very crucial and detailed information on how communities within and adjacent to Kiboriani Mountain Forest have been involved and engaged in its sustainable management. Furthermore, this research has contributed in filling the current existing knowledge gap in Kongwa and Mpwapwa districts concerning the nature, levels, existing local structures, challenges and opportunities for community participation in the sustainable management of the Kiboriani Mountain Forest.

The research findings have laid a basis for coming up with the recommendations on how to improve the identified areas of weaknesses which have acted as barriers for community participation in sustainable forest management for Kiboriani Mountain Forest. The recommendations have provided some best and effective options for promoting and supporting community participation in sustainable forest management for Kiboriani Mountain Forest. These will also assist community members and other sustainable forest management stakeholders to address the ongoing problem of high rate of deforestation by rehabilitating the already degraded forest sites through the use of a recommended rapid, simple and cost effective reforestation method known as Farmer Managed Natural Regeneration (FMNR). Finally, the research findings have laid a foundation for other interested scholars to undertake further studies on community participation in sustainable forest management for the Kiboriani Mountain Forest in Kongwa and Mpwapwa districts.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Chapter overview**

This chapter presents the definitions and clarifications of key terms, operational definitions and a review of general literature on community participation in sustainable forest management. The chapter concisely highlights the importance, process and best practices of community participation in sustainable forest management in the Tanzanian and global contexts. The supportive legal and policy frameworks in Tanzania have also been highlighted in this chapter.

#### **2.2 Definitions and clarifications of key terms**

##### **2.2.1 Community**

The term community has varied definitions according to a particular context it is used and the experiences of those who define it. MacQueen et al. (2001) defined the term community as a group of people having different characteristics, socially connected and jointly participate in some activities within a specific place. In this research, the term community is referred to the members of each village which was under this study.

##### **2.2.2 Participation**

Westergaard (1986, p. 14) has defined participation as “collective efforts to increase and exercise control over resources and institutions on the part of groups and movements of those hitherto excluded from control”. This definition laid a fundamental foundation for ‘community participation’ as one of the key concepts of this research. Lucky (2016, p. 1) has put more emphasis on this term by stating that “Participation is the heart that pumps the community’s life blood”. Participation in this research implied to the active involvement and engagement of community members in sustainable management practices for the Kiboriani Mountain Forest.

##### **2.2.3 Community Participation**

Community participation has been defined as “a readiness on the part of both local governments and the citizens to accept equal responsibilities and activities in managing their surroundings. It also means a commitment to bring to the table resources, skills and knowledge for this purpose, and a respect for the capabilities

and capacities of all partners” (United Nations Environment Programme-International Environmental Technology Centre [UNEP-IETC], 2005, p. 8). For the purpose of this research, community participation implied to the readiness of the communities within and adjacent to Kiboriani Mountain Forest to actively get involved and engaged in Sustainable Forest Management practices in their respective villages.

#### **2.2.4 Sustainable Forest Management**

Sustainable Forest Management has been defined as the environmentally appropriate, socially beneficial, and economically viable management of forests for the present and future generations (Programme for the Endorsement of Forest Certification [PEFC], 2017).

In this research, Sustainable Forest Management was referred to the adherence by the Kiboriani Mountain Forest communities and other forest management stakeholders on the practices that reflect the global, national and local context; the specific ecosystem conditions; social; economic; political; cultural and spiritual aspects in the management of the forest for the present and future generations.

#### **2.2.5 Kiboriani Mountain Forest**

Refers to an area of 54 000 hectares of forest on the Kiboriani Mountain Ranges which are shared by Kongwa and Mpwapwa Districts. The area consists of a dynamic complex of interaction among living organisms and their associated non living organisms.

### **2.3 Operational definitions**

#### **2.3.1 Community Participation**

The United Nation Development Programmes’ 1993 Human Development Report has emphasized the importance of making people’s participation to be a key objective in all aspect of human life (United Nation Development Programme [UNDP], 1993). In this research, community participation implied to the readiness of the communities within and adjacent to Kiboriani Mountain Forest to actively get involved and engaged in Sustainable Forest Management practices. This research assessed two main issues concerning community participation which were ‘involvement’ and ‘engagement’ of the communities in Sustainable Forest Management Practices.

#### *2.3.1.1 Involvement of communities*

The involvement of communities in sustainable forest management refers to communities within and adjacent to Kiboriani Mountain Forest being aware and informed about issues pertaining to community participation and sustainable forest management in their respective villages. In this research, involvement of communities in sustainable forest management was assessed by examining various existing channels of communication and the way community members understood or were knowledgeable about those issues. The channels of communication which were assessed included village or other forest management authority's announcements, meetings, regulations, instructions or guidelines about particular issues concerning sustainable forest management.

#### *2.3.1.2 Engagement of communities*

The engagement of communities in sustainable forest management implied to how active community members undertook their responsibilities in all activities concerning sustainable forest management in their respective villages. The activities which were assessed in this research included their attendance in meetings, their contribution of ideas which influenced certain decisions in those meetings and how they arrived in making decisions when they wanted to agree or disagree with some issues related to sustainable forest management during those meetings. Other activities included participating in developing village by-laws, plans and strategies for sustainable forest management; implementing, monitoring and evaluating them; reinforcing laws, by-laws, policies and regulations; and participation in trainings or seminars on sustainable forest management.

### **2.3.2 Sustainable Forest Management**

For the purpose of this research, Sustainable Forest Management referred to the existence of plans, strategies, guidelines, regulations, set of activities, laws and by-laws for the implementation of sustainable forest management in Kiboriani Mountain Forest and there adherence. Other important aspects of Sustainable Forest Management included the existence of supportive Global and National policies; legal frameworks; institutions and local structures for facilitating community participation in Sustainable Forest Management; and finally but very important aspect, the existence of sustainably managed forest reserves or other forest areas in all the six sampled villages in the study area.

## **2.4 History of Community Participation in Sustainable Forest Management in Africa and Tanzania**

Since time in memorial, Africans have been living by depending on forests adjacent to their respective communities to satisfy their various needs (MNRT, 2006). These needs comprised of food supplies and medicines from trees in terms of wild fruits, flowers, tree saps, leaves, barks and roots. Other needs were firewood, building materials, furniture, equipments and facilities made out of tree branches and stems such as poles, beehives, granaries, stools, chairs and various domestic utensils. These forests were also used as sacred places for different types of traditional rituals and a habitat for various wild animals, birds and insects which were hunted as food sources. For that case, it was inevitable for Africans to live without having some form or system of control to ensure the sustainable management of their forest resources (Shoenbrun, 1998).

According to Kwashirai (2010, p. 6) “For several centuries Africans environmental management had been enhanced by the sacred grove tradition in which communities were forbidden or excluded from cutting vegetation – a prototype of modern national parks”. Kwashirai has pointed out that most of these forest resources were managed either as a community or ethnic property. This is evidence which portrays a model of African community participation in sustainable forest management. Issues concerning local climate and climate change which impacted forest resources were dealt through traditional management practices based on indigenous knowledge (Fairhead & Leach, 1996). In Tanzania, community participation in sustainable forest management was practiced in various communities across the country during the pre colonial time, colonial time and post colonial time.

Although there are many other underlying factors for forest depletion in Tanzania, the major one is deforestation (FAO, 2010). The trend of deforestation in the country is one of the evidence which confirms that community participation contributed positively in the sustainable management of the forest resources. It is estimated that Tanzania had 50% of its total land covered with forests before independence in 1961, which was reduced to 45% after independence in 1970s and reduced further to 41% in mid 1990s (Luoga et al., 2002). Currently, the country’s total land under forest cover is estimated at 42% (NAFOMA, 2015).

#### **2.4.1 Pre colonial time**

According to the World Agroforestry Centre (2009, p. 2) “Tanzania is home to several traditional agroforestry systems that have been in practice for hundreds of years”. During the pre colonial time, Tanzania had many best practices of community participation in sustainable forest management across the country such as the traditional forest reserves in Handeni District (MNRT, 2009) and “*Mpungi*” or “*Mshitu*” clan forest reserves in North Pare Mountains (MNRT, 2006), the Duru-Haitemba traditional forest reserve in Babati District (MNRT, 2008b) and the agro forestry approaches based on mixing trees and crops in home garden farming system which were practiced before 1880 in Kilimanjaro (Mahoo, Habibu & Mzirai, n.d.), the Sambia people in Tanga (Baranyi, 2001) and the “*Obohochere*” home garden systems in Mara (World Agroforestry Centre, 2009). One of the elders in Mpwapwa District, M. Mkunda (personal communication, October 5, 2011) explained that there is a patch of traditional forest reserve on Kiboriani Mountain Ranges known as “*Kumbiko*” which was conserved and protected by the native Gogos and Kagurus before colonial time for traditional rituals and as a sole water source at higher altitude.

Other best practices were by the pastoralists as well as the agro-pastoralists communities such as the Maasai, Gogo and Sukuma. The Maasai have practiced transhumance for centuries by alternating wet and dry seasons grazing areas in the forests of the central Serengeti ecosystem before they were evicted by the German colonial rule to pave way for the establishment of Serengeti National Park (Chiwanga, 2015). For many years before colonial rule, the Gogo people in Dodoma have practiced a sustainable silvo-pastoral agroforestry through a traditional fallowing system known as “*Malale*”. This practice allowed the reclamation of degraded land, lost soil fertility and regeneration of previous deforested farm and grazing lands. The Sukuma of Shinyanga and Mwanza have practiced “*Ngitill*”, a traditional natural forest enclosure system which preserved grass growing under trees to be used for grazing during the dry season (MNRT, 2006). “One outstanding aspect of these traditional methods is the use of multi-layered systems with a mixture of annual and perennial plants, which imitate natural ecosystem” (World Agroforestry Centre, p. 2, 2009).

#### **2.4.2 Colonial time**

Between the year 1880 and 1920 Tanzania (then Tanganyika) was under the German colonial rule. The German colonial administration imposed restriction for local communities to access some of the traditionally protected forests. The main aim for such restrictions was to protect water catchment areas (Mahoo, Habibu & Mzirai, n.d.). All forest administration was under the Local Forest Bureau “*Forstverwaltung*” established in 1889 (MNRT, 2014).

Between the year 1920 up to 1961, Tanzania (then Tanganyika) was under the British protectorate after the First World War 1914-1918. More protection measures were taken to promote the work which was started by the German colonial rule by re-establishing the forest administration in 1920 (MNRT, 2014). Such measures included the restriction to cultivate on steep slopes, protection of water sources and control of bush fires (Mahoo, Habibu & Mzirai, n.d.). It was during this period when the British administration in “Tanganyika” formulated the Forest Ordinance of 1953 (Kajembe & Kessy, 1999). According to Kajembe and Kessy, most of this customary and traditional forest management practices were discouraged and in many parts disrupted by the introduction of a “*top down*” forest management practices. This was made possible by the establishment of the forest ordinance of 1953 which vested all forest management responsibilities under the Forest Department of the British colonial government.

#### **2.4.3 Post colonial time**

The period after independence 1961 up to late 1980s, Tanzania witnessed an escalating problem of deforestation in many parts of the country. This was a result of declining government capacity to protect and manage forest resources as a result of shortage of funds and personnel (DANIDA, 2002). In early 1970s, the Government of Tanzania in collaboration with Development Partners took some measures to address the problem of land degradation and deforestation. A number of projects addressing land degradation and afforestation in different regions were initiated including; Hifadhi Ardhi Dodoma - HADO (Soil conservation in Dodoma Region), Hifadhi Ardhi Shinyanga - HASHI (Soil conservation in Shinyanga Region), Soil Erosion Control and Agroforestry Project (SECAP) in Lushoto, Tanga, Soil Conservation and Agroforestry Project (SCAPA) in Arusha Region and Land Management Programme in Babati, Arusha (Mahoo, Habibu & Mzirai, n.d.). To some extent, these initiatives involved the local communities.

The early 1990s were also the time when some Non Governmental Organisation in collaboration with the Government of Tanzania, started to implement pilot projects on participatory forest management and later on the government passed the Forest Policy of 1998 which advocated for sustainable forest management through community participation (MNRT, 2008b). However, it was until the passing of the Forest Act of 2002 when those projects were formally recognized due to the fact that it was a legal mechanism for implementing the Forest Policy of 1998 (MNRT, 2008a). The current increasing trend of deforestation in the country has been attributed to colonial administration and the Government of Tanzania failure to encourage and support community participation in sustainable forest management (Mwembezi, 1994).

## **2.5 Policy and Legal Framework for supporting Community Participation in Sustainable Forest Management**

Although there are many other policies and laws which facilitate community participation in sustainable forest management such as the Local Government Acts and the National Environment Act, the most important ones are the land and forestry Policies and Acts.

### **2.5.1 Land Policy, Land Act and Village Land Act**

The issue of land tenure is very crucial for facilitating community participation in sustainable forest management. The Tanzania Land Policy of 1995, the Land Act of 1999 and the Village Land Act of 1999 have granted a right for an individual, group of people, institutions or villages to own and manage land including forest areas (DANIDA, 2002).

The Land Act of 1999 has also addressed the issue of gender equality by stating “The right of every woman to acquire, hold, use and deal with land shall to the same extent and subject to the same restriction to be treated as the right of any man” (URT, 1999, p. 26). Both the Land Act of 1999 and the Village Land Act of 1999 have recognized the customary rights in land ownership and provides for a legal mechanism for the registration of such rights (URT, 1999).

### **2.5.2 The National Forest Policy of 1998 and the Forest Act of 2002**

In late 1980s up to 1990s the problem of deforestation in the country was escalating. The Government of Tanzania realised that it ambitiously estimated its capacity for forest management as well as overlooked the place of local governance through community participation in managing forest resources sustainably (Kajembe, 1994). At this particular time, there was a need to conduct an analysis of human institutions at all levels in order to understand the underlying factors for the high rate of deforestation (Ascher, 1995). Therefore, the government started to review some of the policies, laws and regulations concerning forest management. According to Kihyo (1998, p. 8) "Sustainability of forests depends on local rules, use patterns, and incentives created by international, regional, national and local institution".

The issue of escalation of deforestation in many parts of the country was due to the fact that community members were demoralized and demotivated to take active role in sustainable forest management. This was a result of tough government and forest authority's restrictions for community members to access and use forest resources and the disruption of the traditional forest management systems (Kihyo, 1998). Deforestation usually occurs when there is a gap on balancing the needs of forest adjacent communities and the needs for sustainable forest management and its only solution is to balance the two (Leach et al., 1997).

The process of formulating a new forest policy in Tanzania was the outcome of the discussions by the Intergovernmental Panel on Forest (IPF) during the 1992 United Nations Conference on Environment and Development in Rio de Janeiro and then followed by involvement of in-country relevant stakeholders (MNRT, 1998). The overall goal of the Forest Policy of 1998 is to improve rural livelihood and reduce poverty through sustainable development, conservation and management of natural resources for the present and future generations (Hamza, 2007).

The Forest Policy of 1998 (see Box 1) advocates for community participation in sustainable forest management through Participatory Forest Management strategy. The Policy statement number one, has clearly stipulates about conserving all types of forests based on sustainable management. (MNRT, 1998). The Forest Act of 2002 was passed in order to be a legal mechanism for implementation of the Forest Policy of 1998 (MNRT, 2008a).

The main aim of the Forest Act of 2002 and its stipulated objectives is to delegate responsibility for the management of forest resources to the lowest possible level of local management consistent with the furtherance of national policies (MNRT, 2002). Both the Forest Policy of 1998 and the Forest Act of 2002 provides a framework for enabling villages, community members, group, institutions and individuals to own, manage and benefits from all types of forests (University of Dar es Salaam, 2009).

**Box 1: Forest Policy Statements supporting Participatory Forest Management**

PS 3: To enable participation of all stakeholders in forest management and conservation, joint management agreements, with appropriate user rights and benefits, will be established. The agreement will be between the central government, specialised executive agencies, private sector or local governments as appropriate in each case and organised local communities or other organisations of people living adjacent to the forest.

PS 5: To enable sustainable management of forest on public lands, clear ownership for all forest and trees on those lands will be defined. The allocation of forests and their management responsibility to villages, private individuals or to the government will be promoted. Central, local and village government may demarcate and establish new forest reserves.

PS 6: Village forest reserves will be managed by the village governments or other entities designated by village governments for this purpose. They will be managed for production and/or protection based on sustainable management objectives defined for each forest reserve. The management will be based on forest management plans.

PS 7: Private and community forestry will be supported through harmonised extension service and financial incentives. The extension package and incentives will be designed in a gender sensitive manner. Extension services and financial incentives will be provided in support of “forestry activities” *per se*.

Source: Adopted and modified from the Forest Policy 1998 (URT, 1998)

## 2.6 Participatory Forest Management

Participatory Forest Management has no straight forward meaning or definition. DANIDA has described Participatory Forest Management as a strategy to achieve sustainable forest management by promoting the management or co-management of forest and woodland resources by communities living closest to the resources (DANIDA, 2002). The main reason for introduction of Participatory Forest Management in Tanzania was a failure by central government and its relevant institutions to oversee forest resources in the country (Blomey & Iddi, 2009).

### **Box 2: Objectives of the Forest Act of 2002**

- Encourage and facilitate the active citizen involvement in the sustainable planning, management, use and conservation of forest resources through the development of individual and community rights;
- Ensure ecosystem stability through conservation of forest biodiversity, water catchments and soil fertility;
- Delegate responsibility for the management of forest resources to the lowest possible level of local management consistent with national policies;
- Ensure the sustainable supply of forest products and services by maintaining sufficient forest area under efficient, effective and economical management;
- Enhance the quality and improve the marketability of forest products and regulate their export;
- Promote coordination and cooperation between the forest sector and other agencies and bodies in the public and private sectors;
- Facilitate greater public awareness of the cultural, economic and social benefits of conserving and increasing sustainable forest cover by developing programs in training, research and public education; and
- Enable Tanzania to play a full part in contributing towards and benefiting from international efforts and measures to protect and enhance global biodiversity.

Source: Forest Act 2002 (URT, 2002)

Participatory Forest Management is recognized into the law after the passing of the Forest Act No. 14 of 2002, its stipulated objectives (See Box 2) provide a basis for communities, groups, organisations, institutions or individuals in Tanzania mainland to own, manage or co-manage forest resources through two different approaches; the first one is Community Based Forest Management and the second one; Joint Forest Management (MNRT, 2006). Despite of various measures which have been taken since early 1990s to promote and implement Participatory Forest Management in Tanzania, the rate of community participation is 7% which is still very low (NAFOMA, 2015). This has been attributed to limited available resources, little knowledge among community members, forest officers and other forest management stakeholders.

To a large extent, there has been a reluctance of forest officers and local government authorities to share or delegate management authority to communities for fear of losing power, control and authority as well as direct revenues from forest resources (UD, 2009). Such a situation has been very common in Eastern Arc Mountains chain of East Africa in which the Kiboriani Mountain Ranges are part of it (Newmark, 2006).

### **2.6.1 Community Based Forest Management**

This type of Participatory Forest Management approach provides a ground for villages, communities, groups, institutions or individuals to declare, establish and gazette Village, Community, Group, Institution or individual (private) forest reserve (MNRT, 2006).

The village council is the legal organ vested with the responsibilities of the process for ownership, allocation, management and registration of the forest reserve (MNRT, 2009). The Community Forest Reserve is established from the Village land forest reserve or from forest on village lands which is not reserved but managed by the village council (Vihemaki, 2006). In most cases the promotion and establishment of Village Forest Reserves under Community Based Forest Management approach has been through the support of International, National and local Non Governmental Organisations and projects or programmes supported by Development Partners (Vihemaki & Leonard, 2010).

### **2.6.2 Joint Forest Management**

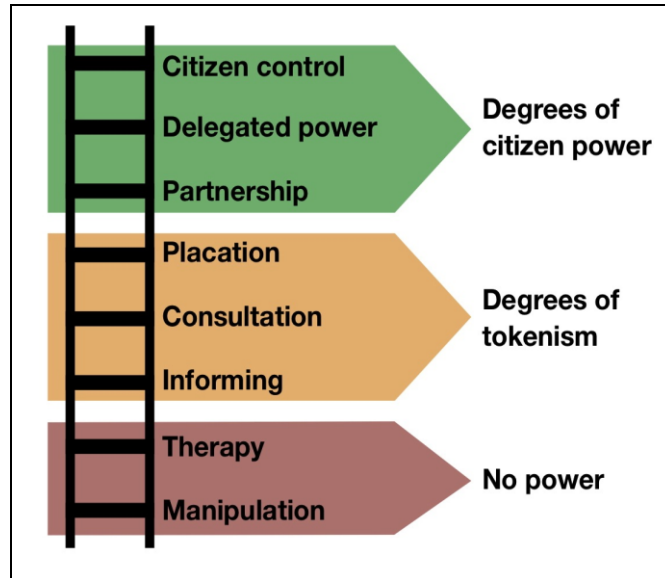
This is a provision that allows community members to sign Joint Forest Management Agreement (JFA) with the government or other forest owners (MNRT, 2006). Joint Forest Management has been largely promoted by the government of Tanzania in forest of high biodiversity value and catchment areas (Vihemaki, 2006). The ownership of the forest is under the government of Tanzania and joint forest management agreement can be made in all types of forests. In Joint Forest Management, communities become co-managers and beneficiaries of the government owned forests.

### **2.7 Community Participation**

Rotdgers et al. (2002) have ascertained that, community participation in sustainable forest management is attributed to the motivation by community members after they have clearly understood the benefits, rights and ownership of the forest resource adjacent to their respective communities. Mwanyoka (2006) has elaborated further that, the issue of perceived benefits by the community members has a significant effect on their participation in sustainable forest management. Other factors which contribute positively to sustainable forest management include community members' socio-economic status, institutional support and existing local structures which support community participation in sustainable forest management (Kangalawe, 2012); others are, effective and appropriate information, education and communication regarding sustainable forest management to community members (Mpokigwa et al., 2011).

Community participation is a fundamental element for ensuring the sustainability of forest resources. Kotwal et al. (2008, p.1) have emphasized that "There should be a bottom-up approach in micro-planning, which requires mobilization of the community to participate in all forestry related interventions and also continuous monitoring". This entails that there must be a deliberate, full and effective involvement and engagement of community members at every step towards sustainable forest management intervention, project or programme.

**Figure 2.1. Amstein (1969) ladder of citizen participation**



Source: Adopted from Juliana (2017).

As shown in Figure 2.1, Amstein (1969) has elaborated eight levels in the theory of citizen participation namely; manipulation, therapy, informing, consulting, placation, partnership, delegated power and citizen control. In this theory, manipulation and therapy are considered as non participation levels due to the reason that people are educated by power holders instead of participating in an action. In these levels, the power holders use participation as an avenue to get information and support for their intended plans or projects and thus people have no power. The informing level is when people are informed about their rights and obligations. This is one of the very crucial levels in participation because it requires giving people a provision for their feedbacks. A consulting level is where people are invited to give their opinions about a plan or project. Placation is a level whereby people begin to have some degree of influence towards a project or a plan. At this level, the power holder may receive opinion but retain the power to decide about the validity of those opinions. These three levels are referred to as tokenism because people can only hear and be heard. Partnership level is when power from the power holders is redistributed to the people. Delegated power is a level where people get a big chance of making decision in a plan or project. Citizen control is a level by whereby people have the biggest chance of making decision. Levels from 6 up to 8 are the levels referred to

as citizen power due to the empowerment process they have experienced. Different communities may experience different levels of citizen participation along the ladder of citizen participation theory. Due to lack of understanding, many communities which have ended in the first four levels are satisfied that they have participated in a plan or project. An ideal active participation in this ladder occurs at the last three levels. It is at this point whereby people or communities have a great control over the fate of their resources based on the freedom of decisions they make. From this theory, community participation is very important for people to get mobilised for a collective action and empowerment. However, in order for communities to attain the last levels, they need to be aware and knowledgeable about their rights and obligation in the whole process. For that case, it is the duty of the power holders to build the capacity of the community members.

## **2.8 Sustainable Forest Management**

A concept of Sustainable Forest Management was coined during the United Nations Conference on Environment and Development (The Earth Summit Rio de Janeiro, 1992) and adopted in the Agenda 21 which specifically focused on forestry for economic development (Kotwal et al., 2008). According to Kotwal et al., the main previous concept under Agenda 21 was “sustainable yield” as its main objective but was later changed to “Sustainable Forest Management” in order to accommodate broad issues in forestry management for reducing poverty and promote environmental conservation worldwide. The key issue under Sustainable Forest Management is the maintenance of balance between communities’ needs and the needs for conservation, protection and management of the forest resources (Hamza, 2007). In 2002, the World Bank developed forest strategy which aimed at improving forest governance and promoting sustainable forest management among its member countries (Kishor & de Rijk, 2014).

On the global context, Nepal is a country which has been accredited for having best practices in sustainable forest management through participatory processes (Gardner et al., 2001). According to Gardner et al., “Progress towards sustainability is still limited and there is a need, therefore, to increase sustainable forest management and reforestation and forest restoration and to deploy agroforestry systems and other sustainable land management measures in a holistic approach”. This call for all forest managers and other sustainable forest management and conservation stakeholders to design and develop comprehensive multi sectoral and multi stakeholder conservation and management plans and strategies.

## CHAPTER THREE

### METHODOLOGY

#### 3.1 Chapter overview

This chapter elaborates the process used in gathering and analysing data from the study area. It presents the description of the study area, research design, the study population, sample, sample size, sampling procedures, data collection methods, methods for ensuring validity and reliability, data analysis methods and plan, ethical considerations, plan for dissemination of results and the overall limitation of the study.

#### 3.2 Research Design

This research used an exploratory cross-sectional qualitative research method which applied a phenomenology approach. Neuman (2014, p. 44) state the purpose of cross-sectional exploratory researches is “to examine a little understood issue or phenomenon and develop preliminary ideas about it and move toward refined research questions”. Creswell (2013, p.184) state “Qualitative research is usually conducted in a natural setting, where researchers become the key instruments of data collection and analysis”. According to Cal and Tehmarn (2016) in undertaking phenomenology one set aside his or her personal assumptions to derive understanding or description of a specific phenomenon. The reason for the choice of this method was relative to the main purpose for this research which was to come up with a detailed understanding concerning the existing link between community participation and sustainable forest management for the Kiboriani Mountain Forest.

In fulfilling the purpose of this research, data about individual’s opinions, attitudes, perceptions, beliefs, values, norms and practices were collected from the sampled respondents. Qualitative research methods are very useful in collecting data from a wide range of individuals with diverse knowledge, skills and experiences concerning the study objectives (CARE, 2010). Kothari (2004, p. 36) clarified the importance of the qualitative research methods by state “the major emphasis in such studies is on the discovery of ideas and insights”. Building from these explanation and clarification, a qualitative research method was suitable for this research for overcoming a time and budget constraints which faced the researcher in undertaking it while at the same time providing an opportunity for getting detailed

information from the respondents (Topp et al., 2004). This method was less costly and more convenient for obtaining required data from the sampled study respondents because it gave the researcher flexibility during the process of formulating research questions, data collection, data analysis and reporting of the research results (Rubin and Rubin, 2005). Finally, the use of this research method enabled the researcher to establish an existing link between community participation as a process and its outcomes in sustainable forest management for the Kiboriani Mountain Forest (Shaw, 2003).

### **3.3 Study Site**

The study site for this research was 6 selected villages out of the population of 30 villages located within and adjacent to Kiboriani Mountain Forest in both Kongwa and Mpwapwa districts. Located between Latitude 6.28° and Longitude 36.48°, the Kiboriani Mountain Forest is found on the Kiboriani mountain ranges spreading along the border of Kongwa and Mpwapwa districts, in Dodoma region. These mountain ranges have one of the highest peaks in Dodoma region with approximately 1 900 metres above sea level.

Each district has 15 villages from which one village is located within the mountain forest and 14 others adjacent to it for both districts. The Kiboriani Mountain Forest has an estimated area of about 54 000 hectares that includes the woodland of Eastern Arc Forest and grass habitats at higher altitudes (EAMCEF, 2016). The vegetation of the area consists of thickets of *Acacia*, *Cassia*, *Grewia*, *Commiphora* and *Lannea* tree species. At the altitude of 1 200 metres above sea level, there is *Brachystegia* woodland with grass. The area is classified as semi-arid land with unimodal rainfall. The average rainfall is 500 to 800mm with 90% of the rainfall occurring between the months of November to April. The coldest month is August with minimum average temperature of 15.6°C and the warmest month is November with a maximum temperature of 27.6°C (LF, 2012).

The Kiboriani mountain ranges are part of the Eastern Arc Mountains of East Africa renowned for their rich biodiversity and ecosystem services. The Kiboriani Mountain Forest serves as the sole reliable catchment area sourcing water for more than 100,000 people living in Kongwa and Mpwapwa towns and the villages found within and adjacent to the forest. The importance of this mountain forest has been recognised by the International Union for Conservation of Nature (IUCN)

because of being a habitat for an endemic and endangered Rubeho Akalat – *Sheppardia aurantiithorax* bird species (IUCN, 2016).

### **3.4 Study Population and Sample**

#### **3.4.1 The Study Population**

The population for this research was 109,240 people who reside in all the 30 villages found within and adjacent to Kiboriani Mountain Forest in Kongwa and Mpwapwa districts.

#### **3.4.2 The Study Sample**

The sample for this research was villages, forest sites and individuals (male and female) between the ages 18 years old up to 65 years old. The study sample comprised of individuals who were knowledgeable, experienced as well as those who had authority concerning the research topics. The sample for individual respondents in this study was drawn from the 6 sampled villages namely Nguji, Ibwaga and Kongwa Maji selected in Kongwa district and Lupeta, Idilo and Mwana Kianga villages selected in Mpwapwa district. From the six sampled villages, 6 forest sites, one from each village were selected for direct field observation.

#### **3.4.3 Sample size**

The sample size for this research was 60 respondents whereby 48 respondents were selected from each of the 6 sampled villages, 5 respondents from each of the two districts and 2 respondents from Dodoma urban. Most of the qualitative research methods study a few individuals or a few cases (Open University of Tanzania, 2012). The main reason for that is attributed to the ability of a researcher to draw a clear picture of the data collected which is lessened when more respondents or sites increases after a certain level of diffusion. According to Anderson (2010, p. 4) “Qualitative research necessitates having a small sample because of the detailed and intensive work required for the study”.

Sample size is a “relative matter” as it does not matter if the sample size is large or small, what matters most is the nature of the study, its purpose, time and resources for undertaking it (Krishnaswami, 2003, p. 144). The sample size for this research was relevant as a fair representation of the study population. In many cases, large samples in qualitative researches have not only been cumbersome in data

collection, analysis and interpretation but have also produced unrealistic results (Creswell, 2002).

The respondents selected for this research were “information rich” a reason that made them qualified for a fair representation of the total study population as they adequately provided relevant required data for addressing the research questions of this study (Patton, 1990, p. 169).

#### **3.4.4 Sampling method**

A non probability purposive or judgmental sampling method was used in this research. Ghoshal (2011, p.48) state “Purposive or judgemental sampling is concerned with the choice of a sample explicitly because of particularly interesting features of each element”. This research applied a heterogeneous or “maximal variation” technique (Creswell, 2002, p. 210) to ensure adherence to inclusive criteria for the sample selection. The respondents were selected based on the criteria of their different characteristics in terms of their sex, age, marital status, literacy level and occupation (Anderson, 2010). This method had proved to work similar and even better than other random sampling methods (Topp et al., 2004). According to Creswell (2002, p. 209) “One characteristic of qualitative research is to present multiple perspectives of individuals to represent the complexity of our world”. Building on these observations, the sampling method for this research was appropriate and adequate for providing required information for answering the research questions.

#### **3.4.5 Recruitment procedures for the study sample**

Recruitment of the respondents for the study sample was conducted through a consultation process with village leaders (Figure 3.1) and other people who had prior knowledge, experience and connection with the relevant individuals who were selected as sample for this study from their respective sampled villages. The bases for their recruitment were the exclusion and inclusion criteria set for serving the purpose of this study. The researcher spent ample time to screen and recruit respondents for the key informant interviews who were well informed, knowledgeable and experienced with the study topics (Babbie, 2001). The selected study sample participated in individual (face to face) interviews and in Focus Group Discussions. The respondents for in-depth interviews were recruited based on the criteria for their authorities and professions relevant to the objectives of this study (Moriarty, 2011).

**Figure 3.1. The researcher in a consultation with a traditional leader for selecting appropriate respondents at Nguji village in Kongwa district**



The selection of 6 villages as a study sample for this research was based on the criteria of extremism in the problem of deforestation. For both districts of Kongwa and Mpwapwa, one village was selected based on its rated status for having highest incidences of deforestation, the other one for being moderately rated and the last one for being rated with a low rate of deforestation incidences. The main reasons for choosing these criteria were to ensure an equal representation of the three scenarios of the rate of deforestation in the study area. From each of the six sampled villages, one forest site was identified and selected for the direct field observation.

The sampling distribution for this study was as follows; 8 respondents, 4 males and 4 females from each of the six sampled villages which made a total of 48 respondents whereby 32 respondents participated in key informant interviews, 16 participated in Focus Group Discussion and 12 in In-depth interviews. All the recruited respondents were from the two age group categories of between 18 and 35 years of age and those between 36 and 65 years of age.

The respondents for in-depth interviews were recruited as follows, 5 respondents from Mpwapwa district, 5 respondents from Kongwa district and 2 respondents

from Dodoma urban. Their list comprised of professionals, local government authorities staff, central government staffs, government agencies staffs, politicians, private sector staffs, research and academic institutions staffs, non-governmental and faith based organisation staff, traditional leaders, and other key influential community members.

### **3.5 Study Procedures**

The carrying out of this study complied with all the ethical issues stipulated in the St. John's University of Tanzania "Ethics in Research" policy. Initially, ethical clearance form and a letter of introduction to the research sites were requested from the relevant authorities and later on, prior and informed consent from the respondents was also sought. The researcher was granted with an ethical clearance certificate and a letter of introduction to the research sites before conducting this study. Furthermore, the researcher designed and developed data collection tools which were submitted to the research supervisor for approval before being used in the field. The researcher recruited and trained one female research assistant and two enumerators one male and one female for serving the purpose of conducting focus group discussions based on sex category separation. The researcher conducted a pre test for the designed data collection tools in two villages, Chimlata in Kongwa district and Kisokwe in Mpwapwa district in early April, 2017. The results of the pre test were analysed and their interpretation enabled the researcher to refine the data collection tools. The process of analysing data from the pre test and refining of the data collection tools involved a team of experienced researchers who were invited to provide their valuable input before the beginning of the data collection process for this study.

### **3.6 Data Collection Methods**

The data collection process for this research was undertaken between April and May 2017 in Kongwa and Mpwapwa districts and in April 2017 in Dodoma urban. Both primary and secondary data were collected by using the most common methods for data collection in qualitative researches namely interviews, focus group discussion, direct observation and document analysis (Robson, 2002). Free and prior informed consent was sought from all the respondents before they agreed to take part in this research. Permission from relevant village authorities, organisations and institutions was granted to the researcher and the research team to collect data from the study area.

### **3.6.1 Primary data**

According to Moriaty (2011, p. 2), qualitative research uses “data collection methods which usually involve close contact between the researcher and the research participants, which are interactive and developmental and allow emergent issues to be explored”. In this study primary data were collected from individuals and forest sites in the six sampled villages through the following methods; direct field observation and photographs (Anderson, 2010), In-depth interviews, Focus Group Discussions and Key Informant Interviews. The choice of these data collection methods was based on their appropriateness to the qualitative nature of the study.

#### *3.6.1.1 Direct observation*

Direct observation in research is a process of data collection by seeing or checking what people are doing and what is real happening or has already happened in a particular environment or setting in connection with the research objectives (OUT, 2012). Krishnaswami (2003, p. 204) has defined observation as “A systematic viewing of a specific phenomenon in its proper setting for specific purpose of gathering data for a particular study”. The researcher designed a structured direct observation schedule or “Observationnaire” which was used to capture information recorded from the direct field observation in all the six forest sites which were selected from each of the six sampled villages (Krishnaswami, 2003, p. 263). Structured observation is useful when a researcher “has an insight” on what is going to be observed (OUT, 2012, p. 102).

The research applied a forest transect walk which covered a distance of about one and a half kilometre from the selected starting point in each forest site. The researcher tried as much as possible to maintain a straight line during the forest transect walk while making observation for approximately 50 metres of both sides of the transect walk line. In areas where major barrier were encountered, the researcher manoeuvred and returned back to the sight of a straight line and continued with the observation up to the end point. A note book was used to record the field notes of all the observed issues and events based on the listed items in the observation schedule as a guideline. The items listed in the observation schedule included the existence of forest reserve or forest area in the sampled villages, the current status of the existing forest reserve or forest area in terms of its physical appearance and whether there were evidences or incidences of

deforestation, fragmentation, encroachment, bushfire and other unsustainable legal and illegal activities such as mining, tree felling, charcoal making, honey mongering and hunting. Other items which were observed included presence of sustainable forest management activities such as pruning of planted trees and for management of natural regeneration, tree planting and presence of forest fire break paths for confirming community members' participation in sustainable forest management. Some more items for observation were evidence of forest demarcations and sign posts related to the forest reserves or forest areas for communicating warnings, instructions and for identification purpose.

#### *3.6.1.2 Key Informant Interviews*

The other data collection method which was used in this research was key informant interviews. Krishnaswami (2003, p. 222) has defined interview as “a two way systematic conversation between an investigator and an informant, initiated for obtaining information relevant to a specific study”. In this research, a semi structured interview schedule was designed for collecting data from respondents. Interview is a popular and powerful method of collecting detailed and wide range of data from respondent (Ghoshal, 2011). Fontana and Frey (as cited in Creswell, 2002, p. 645) described this method as “one of the most powerful ways in which we try to understand our fellow human beings”. In this study, the method was very useful in obtaining data from respondents concerning their knowledge, experiences and attitudes as many people were comfortable in talking than in writing due to their low literacy levels (Krishnaswami, 2003). This could not have been easy by the use of other methods such as administering questionnaires to the respondents.

#### *3.6.1.3 Focus Group Discussion*

The researcher designed a semi structured question guide which was used in conducting focus group discussions. Neuman (2014, p. 471) has defined Focus Group Discussion as “a special qualitative research technique in which people are informally interviewed in a group discussion setting”. Two focus group discussions with 8 participants for each group were conducted in two villages. One village had female group and the other village had male group with respondents from formal and informal forest user groups comprised of pastoralists, fodder and firewood collectors, honey mongers and traditional beekeepers, traditional healers, artisan miners, farmers and charcoal makers.

The researcher facilitated the focus group discussions which had male participants with the assistance of a male enumerator and a female research assistant facilitated focus group discussions which had female participants with the assistance of a female enumerator in capturing the discussion process (Krishnaswami, 2003).

#### *3.6.1.4 In-depth Interviews*

In this research, intensive probing interviews which focused on obtaining informant's opinion, perception, emotion and convictions concerning the study objectives were conducted with 5 informants in Mpwapwa district, 2 informants in Dodoma urban and 5 informants in Kongwa district. In-depth interviews offers a best opportunity for collecting detailed information from respondents because of a face to face encounter which give room for recording of verbal and non verbal communication clues (Ghoshal, 2011). The researcher designed a semi structured question guide to facilitate data collection by using this method. The main objectives of these interviews were to get a thorough understanding and their positions concerning issues which were relevant to the study objectives (Bernard, 2000).

#### **3.6.2 Secondary data**

The secondary data were collected through a content analysis of published and unpublished documents from different relevant sources through a desk research process. The researcher identified and prepared a list of all relevant documents to be analysed and requested permission from the relevant authorities to use them (Creswell, 2002). The researcher examined the documents for accuracy, completeness and usefulness in answering the research questions. The research recorded the information by hand and then transferred it to a computer data sheet for storage and easy access for retrieval during the data analysis phase. Only relevant information from document analysis were selected and recorded in the data sheet. The researcher also sought permission to reproduce some of the identified and selected useful documents by making photocopies of some parts as well as for the whole documents as records for future references during the data analysis process. The list of the reviewed documents comprised of meeting minutes, meeting reports, journals, papers, workshop reports, project progress and evaluation reports, project documents, laws, policies, by-laws, guidelines and regulations from various organisations and institutions.

### **3.7 Data Analysis Methods and Plan**

#### **3.7.1 Primary data**

In this research, primary data were analysed by using a plan referred to as a six step process (Creswell, 2002). In the first step, the researcher organised all data in separate folders according to each data collection tool used to make them ready for the analysis process. In the second step, the researcher and the research team explored the data which were organised in folders to draw a meaning out of them. In the third step, the researcher and the research team read the transcripts and made line-by-line coding in order to identify, develop and relate the emergent concepts. This step enabled the researcher to categorise coded data after naming them with descriptive codes which were a short phrases expressing the meaning of the responses. In the fourth step, the researcher developed themes out of the coded data by identifying the most recurring concepts. Respondents' quotes which were relevant with the developed themes were selected. In the fifth step, the researcher and the research team validated the data and prepared a data analysis report. In the sixth and the last step, the researcher interpreted the findings after the completion of the data analysis process. All the descriptive data were presented by the aid of the computer through the use of Microsoft excel program and the rest were presented in a narrative form.

#### **3.7.1 Secondary data**

The secondary data from published and unpublished documents were analysed through a content analysis method (Creswell, 2013). The researcher prepared a hand written journal with records of all the relevant information and their respective sources from the reviewed documents. The researcher transferred the information written on the journal to a computerised data sheet for easy storage and retrieval during the analysis phase. The researcher analysed the data sheet to pick up all appropriate information which were included in the data analysis report. This information were use for enriching the study results either as sole source of information or as references which complemented the data obtained from the primary sources.

### **3.8 Ethical considerations**

Throughout the process, the researcher adhered, observed and maintained a highest degree of practice on ethical issues related with this research including avoiding by all possible efforts the issue of plagiarism; practice beneficence by

safeguarding human subjects as well as the environment; did not include person under 18 years old in the research; assured respondents about confidentiality in relation to their identification and information; respected the privacy of the respondents in relation to their preference for the location of conducting interviews and focus group discussions; avoided gender and other forms of discriminations; provided frank information to respondents and sought their prior informed consent; granted autonomy when respondents wanted freedom to choose and express information and debriefed the respondents during and after the research. All these ethical consideration were taken into account from the beginning of this research, throughout the process and up to the time of disseminating the results.

### **3.9 Validity and Reliability**

#### **3.9.1 Validity**

Validity refers to preciseness of the data collection tools and credibility of the data collected and the study finding (Patton, 2002). In this research, validity was accounted for in terms of internal validity and external validity. Internal validity was conducted on data collection tools which were checked by research experts, pre tested, re-checked by the research experts after a pre test and refined appropriately for their improvements before the data collection process. According to Neuman (2014, p. 218) validity should be maintained in carrying out a research for obtaining “fair, honest and balanced account of social life”.

The researcher also used a triangulation method to ensure that the tools complemented each other in terms of providing precise and consistent information relevant for the study. “Triangulation is a common feature of qualitative research where it is used to consolidate or confirm the picture emerging from one tool of data collection” (Ghoshal, 2011, p. 46).

To achieve this, the researcher formulated similar questions for both household interview schedules and focus group discussions. More similar questions were also formulated for the key informant interviews with slight modifications to fit the category of the informants. For external validity, the data analysis process and study findings were reviewed by a team of research expatriates and some few selected respondents who checked and verified the preliminary research results for accuracy before they were incorporated in the research report.

### **3.9.2 Reliability**

According to Neuman (2014, p. 212) “reliability means dependability or consistency”. Reliability refers to the consistency of the data collection tools in providing similar responses from the research respondents. Neuman ascertain that “in qualitative researches, we consider a range of data sources and employ multiple measurement methods”. In this research, ample time was allocated by the researcher to ensure a carefully selection and recruitment of the sampled respondents and eventually led to the participation of respondents who were well conversant with the research topics and objectives for obtaining consistent responses (Babbie, 2001).

### **3.10 Overall Limitation of the Study**

The overall limitation of this research pertained to the nature of qualitative studies which in most cases are not conducted for the purpose of generalising their findings. However, when the research findings qualify to be generalised, they cannot be generalised beyond the study area. The findings of this research qualified to be generalised and therefore the researcher used them to make generalisation in the study area only. This factor is a major limitation in this research because the research findings cannot be applicable in other areas.

### **3.11 Plan for dissemination of research results**

The results of this research are submitted to the Directorate of Research and Graduate Studies of St. John’s University of Tanzania as a requirement for the Degree of Master of Arts in Community Development. The researcher will seek permission from St. John’s University of Tanzania to disseminate the research results to relevant stakeholders of community participation in sustainable forest management for the Kiboriani Mountain Forest and to publish in peer review journals which will be interested to publish these research results. The research will also seek financial resources to disseminate the research results for the wider public audience through the use of local radio stations based in Dodoma region, appropriate newspapers and magazine, website and blogs, email serve lists to relevant stakeholders, dissemination workshops and meetings and village office notice boards in all the study area villages.

## CHAPTER FOUR

### RESULTS AND DISCUSSIONS

#### **4.1 Chapter overview**

The main aim of this research was to assess community participation in sustainable forest management for Kiboriani Mountain Forest in Kongwa and Mpwapwa districts and come up with appropriate recommended measures for improving and enhancing community participation in sustainable forest management. The chapter is divided into six sections which are chapter overview, description of respondent's socio-demographic characteristics, the nature of community participation in sustainable forest management, the levels of community participation in sustainable forest management, the existing local structures for supporting community participation in sustainable forest management, and the challenges and opportunities for community participation in sustainable forest management as well as the chapter summary.

#### **4.2 Description of respondents' socio-demographic characteristics**

This section focuses on the general characteristics of the respondents. The socio-demographic status of the respondents plays a crucial role in community participation in sustainable forest management (Kangalawe, 2012). The questions which were asked entailed the basic aspects of social life of the respondents. The aspects which were considered very important in assessing community participation in sustainable forest management were age, sex, marital status, literacy level and occupation.

##### **4.2.1 Age of respondents**

In Table 4.1. The results shows that the respondents had their ages distributed from 18 years old up to 65 years old. For easy analysis in this study, ages were grouped into two categories of 18 up to 35 years of age and from 36 up to 65 years of age. The main purpose was to capture the different age groups' attitudes, perceptions and beliefs regarding community participation in sustainable forest management. The study observed that majority of the respondents (34) were from the age group category of between 36 and 65 years old, while the age group category of between 18 and 35 years old were (26).

The results indicate that communities in the study area are dominated by people between 36 up to 65 years old. This implies that majority of the respondents were active, responsible, committed, have long experience with their communities and were capable in making decisions concerning various issues facing their communities. Some of the respondents reported that majority of community members in the age group category of between 18 and 35 years old were youths who have completed their secondary school education from the ward schools recently and in the past few years as well as young adults who did not have many commitments in their respective communities and therefore they were easily moving from one place to another.

**Table 4.1. Respondents' socio-demographic characteristics**

<b>Characteristics</b>	<b>Number of respondents</b>
<b>Age</b>	
<i>18 – 35 years</i>	34
<i>36 – 65 years</i>	26
<b>Sex</b>	
<i>Male</i>	35
<i>Female</i>	25
<b>Literacy level</b>	
<i>Informal education</i>	5
<i>Primary education</i>	25
<i>Secondary education</i>	13
<i>College education</i>	17
<b>Marital status</b>	
<i>Married</i>	33
<i>Not married</i>	12
<i>Single parents</i>	15
<b>Occupation</b>	
<i>Agriculture</i>	37
<i>Pastoralism</i>	23
<i>Charcoal making</i>	35
<i>Honey mongering</i>	12
<i>Firewood collection</i>	27

The most apparent explanation from the respondents was the tendency of energetic youths and young adults to migrate into urban centres in search for lucrative livelihood opportunities. One key participant interview respondent (K6) from Lupeta village explained that *“Many youths now days do not perceive agriculture which is a dominant livelihood activity in our village as a viable economic activity. They also do not want to engage in other tough jobs such as charcoal making”*. Similarly, in a Focus Group Discussion, one respondent (F8) in lbwaga village remarked *“Most of our youths, after completing secondary school education from ward school, they engage in the currently emerged boda-boda (motor cycle taxi) business”*.

This was also confirmed by a key participant respondent (K2) in Kongwa district who elaborated *“Many youths migrate from rural areas to urban and peri-urban centres such as here in our town (Kongwa), Mbande, Kibaigwa, Gairo, Mpwapwa, Mkoka, Kiteto and Dodoma municipality in search for attractive livelihood activities of their interests. However, many of them have ended up being petty traders in bus stops”*. This suggests that, most of the unsustainable forest management practises in the study area are performed by adults who are the permanent residents of the villages found within and adjacent to Kiboriani Mountain Forest.

#### **4.2.2 Sex of respondents**

The results in table 4.1 indicated that majority of the respondents were male (35) while female were (25). It was found that due to little gender equality awareness, women were not active like men in most of the activities in their respective communities. These results suggest that male and female are affected and benefit differently from the forest resources located within and adjacent to their respective communities. The research established that both men and women do not participate in sustainable forest management practices in their respective villages.

#### **4.2.3 Literacy level of respondents**

The researcher wanted to know whether literacy level had any influence for community participation in sustainable forest management. The respondents were asked to state their level of education during the interviews and the discussions. The finding on literacy levels of the respondents, were summarised in Table 4.1.

The results in Table 4.1 shows that majority of the respondents (25) had attained primary school education. The results indicated that, majority of the respondents had basic primary school education. This suggests that community members in the study area have limited knowledge on community participation and sustainable forest management. These results are in line with previous studies which revealed the higher the literacy level the higher the knowledge on sustainable natural resources management (January, 2010; Lazaro et. al., 2012; Shan, 2012). In addition, conservation education is rarely provided at primary school level and it is also not guaranteed in the informal education system.

#### **4.2.4 Marital status of respondents**

The marital status of the respondents in this research was considered based on the three categories namely, those respondents who were married, those who were not married and single parents (comprised of widows, widower, separated, divorced and single mothers). The research results in Table 4.1 indicated that (33) of respondents were married. The results suggest that majority of the respondents are responsible and caring for their families. The marital status of the majority of the respondents is more likely to contribute to unsustainable forest management practices for Kiboriani Mountain Forest for searching alternative livelihood activities when agriculture production fails (Kangalawe, 2012). This was evident during the direct filed observation in most of the forest sites whereby many sections of the forest areas had different levels of natural tree regeneration suggesting that there have been some series of deforestation in different past years.

#### **4.2.5 Occupation of respondents**

The research respondents were asked to state their occupations in order to identify how those occupations influenced community participation in sustainable forest management for the Kiboriani Mountain Forest. The occupations of the respondents considered in this research were agriculture, Pastoralism, charcoal making, honey mongering and firewood collection as indicated in Table 4.1. Further probe questions during key participant interviews revealed that majority of the respondents reported that they were forced to look for alternative sources of livelihoods such as charcoal making and firewood collection in order to adequately

satisfy their family needs when their routine agriculture activities fail to do so as a result of bad rain seasons.

The results in Table 4.1 shows that majority of the respondents (37) are engaged in agriculture. This implies a dominant occupation in the study area is agriculture. It is worth noting that, during the key participant interviews and in-depth interviews the research observed that majority of the respondents were practicing agriculture as their dominant occupation but also from time to time they were engaged in one or more of the other listed occupations as complementary livelihood activities.

**Figure 4.1. A destructive traditional charcoal kiln at Mwanakianga village in Mpwapwa District**



Direct field observation in the sampled villages' forest sites revealed evidence of forest encroachment for agriculture field expansions under a shifting agriculture system as well as slash and burn methods for field preparations. Livestock dung were rampant in the forest sites visited which indicated that grazing activities were carried on within the forest areas. The research also found some abandoned open mining pits which were used for extracting stones and sand for building materials and gem stones as well as used charcoal making kiln (Figure 4.1) and new charcoal making kilns which were observed in a distant location. It can be concluded that the dominant occupation in the study area is agriculture which is practiced with diversification of other livelihood activities. These threaten the sustainable management of the Kiboriani Mountain Forest as they lead to forest fragmentation and degradation as a result of extensive depletion of native trees.

**Figure 4.2. The effect of downstream erosion as a result of upstream deforestation at Kongwa Maji village in Kongwa district**



### **4.3 The nature of community participation in sustainable forest management in the study area**

The researcher wanted to know if community members were participating in sustainable forest management practices, who initiated the participation process, at which levels did community participation take place, ownership of forest reserves or forest areas, community members' knowledge about community participation in sustainable forest management and participatory forest management, and the current status of the Kiboriani Mountain Forest.

#### ***4.3.1 Initiator of community participation in sustainable forest management***

Respondents were asked to identify initiators of community participation in sustainable forest management in their respective villages in order to understand the nature of community participation in sustainable forest management. Table 4.2 present the summary of the findings. Majority of the respondents 67% identified the District Commissioners as the initiators of community participation in sustainable forest management activities. This suggests that, the nature of community participation in sustainable forest management in the study area is a top-down approach as communication, information and instructions concerning forest conservation issues originate from District administrators and forest managers. Agrawal and Gibson (1999) have highlighted the shortcomings of a top-down approach by the state and suggest for an effective bottom-up approach which relies on community participation as its solutions.

(Kotwal et. al, 2008) have ascertained that in order to achieve sustainable forest management interventions a bottom-up approach for community participation in designing, planning, implementing and evaluation is inevitable.

**Table 4.2. Initiators of community participation in the sampled villages**

<b>Initiator</b>	<b>No. of respondents</b>	<b>Percentage</b>
District Commissioner	40	67%
District Forest Officer	10	17%
TFS District Manager	3	5%
NGOs	7	11%

#### **4.3.2 Forest reserve and forest area ownership**

Majority of respondents (42) reported that their villages own forest reserves or forest areas, while (3) of the respondents reported that their villages do not own forest reserve or forest area and (15) reported that they did not know. These results indicated that majority of the respondents were aware about forest reserves or forest areas ownership in their villages. This can be attributed to the presence of the Kiboriani mountain ranges which harbours the Kiboriani Mountain Forest within and adjacent to their respective villages. The researcher probed further the respondents in order to understand the nature of the forest reserve or forest areas ownership and their responses were summarised in Table 4.3.

**Table 4.3. The types of forest ownership in sampled villages**

<b>Village name</b>	<b>Type of forest ownership</b>
Lupeta	Village and group
Idilo	Village
Mwana Kianga	Village
Nguji	Village
Kongwa Maji	Village
Ibwaga	Village

The results in Table 4.3 revealed that, while majority of the respondents reported their villages to own forest reserves or forest area, it was only in Lupeta village where it was observed and the respondents reported the existence of group ownership for a forest area. This study observed that the group forest ownership in Lupeta village was for a section of the village forest which was requested by a community based organisation called Juhudi for its management. It was reported by the key informants during the interviews that the group does not have any formal agreement to own and manage that section of the village forest. The group was allowed to manage the section of a village forest without following the required procedures of submitting their request to the village government and then to be approved by the village assembly.

**Figure 4.3. An evidence of high survival rate of natural regenerated native trees at MUMI secondary school in lbwaga village**



The research through secondary data found that all the sampled villages have no any legal documents which justifies that the villages owns forest areas or reserves from the Kiboriani Mountain Forest. These findings are similar to other previous analysis by Mustalahti and Lund (2009) who pointed out that the legislations are in place for facilitation of villages to declare their forest areas or forest reserves however very few villages have completed the process due to other conflicting laws and challenges facing the villages to undertake the process. The outcome has been for most of villages in Tanzania to stay without clear demarcation of their village forest areas or forest reserves.

The research has also established that there are some misunderstandings and confusions regarding the ownership of Kiboriani Mountain Forest. During the In-depth interviews in Dodoma urban, one of the respondents (I-3) revealed that there is an ongoing process to gazette the Kiboriani Mountain Forest to become a National Forest Reserve because it was under unreserved village lands and therefore it was regarded as a forest located on the general land. Another In-depth interview respondent in Mpwapwa district (I-8) explained about the existence of conflict of understanding regarding the Kiboriani Mountain Forest ownership by stating *“The lack of awareness and knowledge on the side of community members and the forest managers regarding the Land Act of 1999 and the Village Land Act of 1999, has resulted to the central government officials to claim the forest belongs to a general land, and also the local government authority officials in Kongwa and Mpwapwa to claim the forest is under these two local government authorities”*.

These contradicting scenarios concerning the right of ownership for the Kiboriani Mountain Forest have resulted a significant negative effect to its sustainable management and on making the community members in the study area to realise and understand their rights and obligations concerning the ownership and management of this forest resource in their villages (UD, 2009). Rotdgers et al. (2002) has pointed out that when community members lack perceived benefits and right of ownership in forest resources, its outcome is negative on sustainable forest management. In line with this observation, one respondent for the key participant interview (I-6) from Nguji village explained that majority of community members were engaged in unsustainable forest management practices as retaliation to the frequent harassments and threats for being evicted from the forest area by the police officers and the District Commissioners of both Kongwa and Mpwapwa districts. The respondent concluded his explanation by saying *“we have no reasons to conserve the forest due to the fact that we do not know our fate as villagers within this forest”*. This suggests that the ongoing trend of deforestation in Kiboriani Mountain Forest could be a result of these mentioned factors.

The research found that, Kiboriani Mountain Forest is currently referred to as a proposed national forest reserve pending to legal procedures for its gazettelement since the year 1994. It was further observed that, the Tanzania Forest Services Agency was leading the process of gazetting the Kiboriani Mountain Forest in collaboration with the Kongwa and Mpwapwa Local Government Authorities since

2014. The gazettelement process was elaborated by some other key participant's interviews in Kongwa and Mpwapwa district as lacking full participation of community members and other key stakeholders, transparency and free and prior informed consent from the communities found within and adjacent to the Kiboriani Mountain Forest. It was difficult for this research to ascertain under which ownership this forest belongs to as the issue of clarity concerning its ownership may require further discussions as well as legal and procedural interpretations from the relevant authorities.

The research has established that, lack of clear ownership of the Kiboriani Mountain Forest could be a reason which has demotivated community members to take an active participation role in its sustainable management. It appears that, if these conflicts of understanding concerning the forest ownership and the process of gazetting it are not resolved immediately, the future sustainable management of Kiboriani Mountain Forest will be under severe conservation risks. Sellin and Chavez (1995) have emphasized that a more collaborative, transparent processes reduces or avoid conflict, build trust and improve social learning. Gregory (2002, p. 47) has also cautioned about the issue of overlooking full and proper community participation in planning, making decisions and implementing sustainable forest management interventions by stating "These approaches consume time and resources than other methods but they save a lot of time and resources wasted in the future by creating understanding and resolve conflicts".

#### ***4.3.3 Knowledge about community participation in sustainable forest management***

The research results (Table 4.4) has indicated that majority of the respondents (42) do not understand about community participation in sustainable forest management. The results are supported by the findings from a report concerning the overall community participation in sustainable forest management in Tanzania which is rated very low at 7% only (NAFOMA, 2015). This suggests that lack of knowledge concerning community participation in sustainable forest management among the community members in the study area is a major reason for their limited participation. Mpokigwa et al. (2011) has highlighted that conservation education is very crucial in promoting knowledge for community participation in sustainable forest management.

**Figure 4.4. A pile of dug out regenerating tree stumps at Idilo village in Mpwapwa district**



The further probe questions to the respondents have revealed that lack of knowledge about community participation in sustainable forest management is attributed to lack of effective trainings and interventions in the study area. The forest managers and other stakeholders in both Kongwa and Mpwapwa districts have not undertaken capacity building initiatives to empower the community members to become effective and efficient forest managers. Majority of community members do not realise their own fate and that of their future generation by carrying out destructive activities in Kiboriani Mountain Forest as part of their routine works. Some of the respondents have explained that they have been experiencing hard time in preventing native trees from being cut by their fellow villagers who claim those trees are a gift from God and they do not belong to any body therefore people are free to exploit them without any restrictions.

**Table 4.4. Knowledge about community participation in sustainable forest management in the study area**

Status	Number of respondents
Understand	5
Do not	3
Do not understand	42

#### **4.3.4 Participation of community members in sustainable forest management**

In order to understand whether community members participate in activities related to community participation in sustainable forest management, the respondents were asked to list different activities which they were engaged with in their respective communities. The findings are summarized in Table 4.5.

**Table 4.5. Activities engaged by respondents in the study area**

<b>Activity</b>	<b>No. of respondents</b>	<b>Percentage</b>
Putting off forest fire	44	73%
Assist Forest Managers in Patrols	5	9%
Managing natural regeneration	11	18%

Majority of the respondents 73% were engaged in putting off forest fire, 18% were engaged in managing natural regeneration and 9% in assisting forest managers to conduct village forest area patrols. This study found that all the respondents were able to report their engagement in sustainable forest management activities. However, further probe questions and information from some of the key informants have revealed that majority of the respondents were only engaged in emergency operational activities which are putting off forest fire and assisting the forest managers to carry out forest patrols. This study has observed that, while these activities are relevant to forest management practices, they are necessarily not activities for sustainable forest management practices because they are ad hoc activities as both Kongwa and Mpwapwa districts do not have proper sustainable forest management plans or strategies.

Possible explanation for these results could be a failure by central and local government authorities and other key stakeholders to motivate, empower and support community participation in sustainable forest management for Kiboriani Mountain Forest. In order for community members to engage effectively in community participation for sustainable forest management practices, time and other resources should be invested to build their capacity through trainings and raising their awareness (Harmersley Chambers & Beckley, 2003).

#### ***4.3.5 Awareness about laws and policies which promote, advocate, facilitate and support community participation in sustainable forest management***

The study found that majority of the respondents (49) were not aware about laws and policies which promote, advocate, facilitate and support community participation in sustainable forest management as it is indicated in Table 4.6 below.

**Table 4.6. Awareness about laws and policies**

<b>Status</b>	<b>Number of respondents</b>
<b>Aware</b>	11
<b>Not aware</b>	49

Awareness is a very crucial determinant for community members to make decision on whether to participate or not to participate in sustainable forest management interventions (Takou et al., 2013). The study found that lack of awareness among community members in the study area, is a major drawback for them to participate in sustainable forest management. This implies that majority of the respondents they don't understand their rights, roles and obligations as stipulated in laws, policies, regulations and guidelines which support community participation in sustainable forest management. For that case, it could be difficult for them to demand their rights and hold accountable their local leaders and the forest managers who are vested with the responsibilities of facilitating the process of raising their awareness and empower them to become effective managers, co-managers and owners of forest resources in their respective communities (DANIDA, 2002).

#### ***4.3.6 Channels of communication used to inform community members to get involved in community participation for sustainable forest management***

The respondent were asked a question about which communication channels are used to get them informed for community participation in sustainable forest management and their responses were summarised in Table 4.7.

**Table 4.7. Channels of communication used in sampled villages**

<b>Communication channel</b>	<b>No. of respondents</b>	<b>Percentage</b>
Notice boards	32	53%
Village meetings	12	20%
Village announcers	10	17%
Friends or relatives	6	10%

The research results in Table 4.9 indicate that majority of the respondents 53% reported that they get information from village notice boards. This suggests that there could be little participation in village meetings which are the most appropriate forum to get information concerning community participation in sustainable forest management. It is only in village meetings whereby the community members can be provided with an opportunity to ask questions, requesting clarifications, contributing ideas and voting for reaching consensus on certain issues which may require collective decision making. This implies that the channels of communication contribute negatively in promoting community participation in sustainable forest management.

In order to promote community participation in sustainable forest management, appropriate and effective channels of communications such as village meetings should be used to disseminate communication, information and education to community members (Mpokigwa et. al., 2011). Sheppard and Achiam (2004) have mentioned barriers in perceptions and channels of communication as factors which can make community members to decide not to participate in sustainable forest management practices. The choice of channels of communication for promoting community participation in sustainable forest management should be appropriate to reduce information and perception barriers.

#### ***4.3.7 Knowledge about participatory forest management strategy***

In Table 4.8 majority of respondents (47) reported that they do not have knowledge about participatory forest management strategy. Only (13) of the respondents reported to have knowledge about participatory forest management strategy which is the only mechanism for facilitating community participation in

**Table 4.8. Knowledge about participatory forest management strategy**

Status	Number of respondents
<b>Understand</b>	13
<b>Do not understand</b>	47

sustainable forest management stipulated in the Forest Policy of 1998 and the Forest Act of 2002. Information from key informant interviews have revealed that the forest managers in both districts of Kongwa and Mpwapwa have not promoted adequately Participatory Forest Management practices in their respective areas. Limited knowledge concerning legal procedures, lack of adequate financial and human resources and reluctance of forest managers to delegate power and authority for fear of losing their status and revenues are the main reasons for their failure to promote participatory forest management in the study area (University of Dar es salaam, 2009). Forest managers have failed to play their role as facilitators of participatory forest management and instead they are still acting as police in conserving and managing forest resources (Blomley and Iddi, 2009).

Furthermore, Hamza (2007) has pointed out the fact that the failure by forest managers to promote and support participatory forest management in communities, is to deny community members their constitutional rights and going against the Tanzania macro policies such as The Development Vision 2025, Forest Policy of 1998 and the Forest Act of 2002. In order to scale up participatory forest management at village levels, the central government and local government authorities should allocate adequate budget for its implementation instead of depending on development partners funds (Newmark, 2006).

#### **4.4 The levels of community participation in sustainable forest management in the study area**

In order to understand how community participation in sustainable forest management takes place in the study area, the respondents were asked to identify and list levels in which community participation takes place in their respective communities in relation to the Amstein (1969) Ladder of Citizen Participation. Majority of the respondents indicated that (43) community participation in

sustainable forest management as happening at the lowest level which is manipulation level. The explainable reason in relation to these results is attributed to the nature of government working systems which for many years has been following a hierarchy of instructions from higher authorities to the collective actors at the grass root level. It can be assumed that, most of the community participation in sustainable forest management activities requires the collective participation of community members after being given orders or instructions from the leaders at household, community or village levels. Effective community participation in sustainable forest management requires full and active participation of all key stakeholders and should be promoted from the lowest level to the more advanced levels from household, community and village setting (Kotwal et. al., 2008).

#### **4.5 The existing local structures for supporting community participation in sustainable forest management in the study area**

The researcher asked respondents if they can identify existing local structures which support community participation in their villages in order to understand if there are mechanisms in place for supporting community participation in the study area. The researcher also went further to probe about the effectiveness of the identified structures by the respondents.

##### ***4.5.1 Existing local structure which supports community participation in sustainable forest management***

The results in Table 4.9 show that all the respondents were able to identify the existing structures for supporting community participation in sustainable forest management. The results indicated that majority of the respondents 33% identified the existence of the Village Natural Resources Committees as local structure for supporting community participation in sustainable forest management, 27% identified the Village Councils, 15% identified Non Governmental Organisation operating in the study area, 6% identified Community Based Organisations which operates in their respective communities and 3% identified Faith Based Organisations operating in the study area.

**Table 4.9. Existing local structures for supporting community participation in sampled villages**

<b>Existing local structure</b>	<b>No. of respondents</b>	<b>Percentage</b>
Village Council	16	27%
Village Natural Resources Committee	20	33%
CBOs	6	10%
NGOs	15	25%
FBOs	3	5%

The research found that majority of the respondents were able to identify the village natural resources committee as an existing local structure because it was a subcommittee of the village council which is elected by the village assembly for the main purpose of dealing with issues pertaining to forests in their communities. This factor made most of the respondents to be knowledgeable about the existence and purpose of this local structure. Other existing local structures which were identified by the respondents included the Village Council, Community Based Organisations, Non Governmental Organisations and Faith Based Organisations.

***4.5.2 The effectiveness of the local structure in initiating, facilitating, advocating and supporting community participation in sustainable forest management***

The researcher wanted to know how the identified existing local structures were effective in supporting community participation in sustainable forest management. The respondents were asked to rate the existing local structures based on being either effective or not effective. Table 4.10 presents the results from the respondents in the study area. Majority of respondents 60% rated the village council as the most effective local structure while majority of the respondents 95% rated the Community Based Organisations in their respective communities as less effective local structures.

**Table 4.10. Effectiveness of the existing local structures**

Status	Village Council	Village Natural Resources Committee	CBOs	NGO & FBOs
Effective	60%	28%	5%	36%
Not effective	40%	72%	95%	54%

The research found that the village council was the local structure which was giving out frequent orders and instructions concerning community participation in sustainable forest management in the study area. The most apparent explanation which was given by the study respondents during the interviews was lack of authority by the village natural resources committee. According to some of the respondents in Lupeta, Idilo and Nguji villages, the Village Council was dominating all the powers and authorities of the Village Natural Resources Committee. In some cases it was reported by the respondents that the village chairpersons were interfering and intimidating the members of the village natural resources committees from performing their duties.

It was also reported by the respondents that the village Chairpersons were the ones hiring and firing Village Natural Resources Committee members on grounds of nepotism and corruption instead of the Village Assembly contrary to the Local Government laws and regulations as well as the Participatory Forest Management guidelines. Lack of awareness and knowledge about laws and policies has been attributed to the ineffective of the village natural resources committee to the extent of being overshadowed by the village council. The village natural resources committee is vested with the responsibility of overseeing all issues concerning forest management and leading the formulation of village by-laws, before they are submitted to the village council and later to the village assembly for approval. It was observed from this research some of these responsibilities are carried out by the village council. In order to facilitate community participation in sustainable forest management for Kiboriani mountain forest, all the members of the existing local structures at village level should strive to understand supportive laws, policies, regulations and guidelines as their working tools. Furthermore, they need to clearly understand and respect their working boundaries and responsibilities in order to avoid intimidation and interference by higher level structures or officials.

## 4.6 The challenges and opportunities for community participation in sustainable forest management in the study area

### 4.6.1 Challenges for participating in sustainable forest management

The research respondents were asked to point out the challenges they face in community participation from their respective villages and their responses were summarised in Table 4.11. Majority of the respondents 53% reported lack of knowledge as their main challenge. It is worth noting that, other challenges were also identified by the respondents including lack of incentives 15%, lack of information 7%, poverty 7% and weak and poor governance 6%. This research found that, lack of knowledge could be a major reason of the limited community participation in sustainable forest management for communities found within and adjacent to Kiboriani Mountain Forest.

**Table 4.11 Challenges for community participation**

<b>Challenge</b>	<b>No. of respondents</b>	<b>Percentage</b>
Lack of knowledge	32	53%
Lack of incentives	15	25%
Lack of information	7	12%
Poverty	7	12%
Weak and poor governance	6	10%

Majority of the respondents revealed that they have never received information and trainings concerning community participation in sustainable forest management. This was confirmed during the focus group discussions, key informant and in-depth interviews in both Kongwa and Mpwapwa districts. One key informant in Kongwa district explained that the Local Government Authority initiated a project for Participatory Forest Management for 14 villages out of the 15 villages in the study area however this initiative ended with an introductory phase only to most of the villages and the formation of the Village Natural Resources Committees in five villages only. One respondent for an in-depth interview explained that shortage of fund was the main reason for abandonment of the Participatory Forest Management initiative.

Another respondent for the key informant interview in Mpwapwa district explained that Participatory Forest Management project was implemented in only one village out of the 15 villages in the study area. The research revealed that the project was implemented in Bumila village under the support from Tanzania Social Action Fund (TASAF) and which is not located in the Kiboriani Mountain Forest. These reports from the key informants from both Kongwa and Mpwapwa district and the document analysis conducted during the undertaking of this research further confirmed that there is very limited community participation in sustainable forest management interventions in the study area and more specifically to the Participatory Forest Management approach.

It was learned that, lack of knowledge and information among community members in the study area is a result of little support and commitment from the forest managers in both Kongwa and Mpwapwa districts. Dubey (2007) has emphasised the importance of building communities' capacity through integrating agriculture, livestock and forestry in conservation trainings and projects as many communities in Tanzania have diversification of livelihood activities. Most of the forest managers in both Kongwa and Mpwapwa districts are still acting as "policemen" instead of being "facilitators" of community participation in sustainable forest management (MNRT, 1998).

Furthermore, Cornwell (2002, p. 28) as cited by Kinyashi (2006) argued that "enhancing citizen participation requires more than including people to participate, it further requires giving people access to information on which to base deliberations or mobilize to assert rights and demand accountability". In order to achieve successfully community participation in sustainable forest management for the Kiboriani Mountain Forest, the forest managers at national, regional, district and village levels obliged to make deliberate efforts to build community capacity and empower them to realise their rights and roles for community participation in sustainable forest management.

The research also found that greedy for money through corruption and bribery for both community members and the forest managers demotivated some of the morally upright community members to take pro active role in sustainable forest management practices. In Mpwapwa district, one key informant explained that some village leaders were colluding with some few community members to undertake destructive livelihood activities in Kiboriani Mountain Forest.

The key informant gave some few examples including one which involved a village chairperson who was soliciting money from fellow villagers so that he allow some of the villagers to cultivate in steep slopes which was against the districts' by-laws of 1999. The next example involved a Councillor who was intimidating the Local Government Authorities' forest department staff and the District Police Officers to arrest his relatives who were caught with illegal timber from trees cut from Kiboriani Mountain Forest.

In Kongwa district, one key informant also explained similar events when he mentioned one Councillor who had an agriculture field closer to water source and some of his relatives were growing cannabis (marijuana) in Kiboriani Mountain Forest. In addition, the key informant also pointed out that some of the forest managers at district and village levels demanded bribe from villagers who were caught with various destructive offences in the Kiboriani Mountain Forest. All the respondents highlighted greedy for money as the source of bribes and corruption in the study area as all the culprits' intentions were to get extra income.

The research also revealed that to some extent lack of incentives was a limiting factor for community participation in sustainable forest management. This was highlighted by one of the respondents during the focus group discussions and supported by the other respondents in Mpwapwa district when the respondent explained *"It is very difficult for us to participate in sustainable forest management if there is nothing [financial incentives] we get. We cannot leave our family starving and engage in conservation activities, we must be paid some allowances"* (F-9). This implies that, the tendency of expecting financial incentives is also one of the barriers for community participation in sustainable forest management practices among some of community members.

The research revealed that there have been some few community interventions and projects implemented by the government as well as non-governmental organisations whereby community members were being paid cash money to undertake the project activities. To a great extent this practice of giving out allowances or payment is very detrimental to the sense of ownership, sustainability and commitment as it undermines community participation in sustainable forest management for Kiboriani Mountain Forest.

#### **4.6.2 Opportunities for participating in sustainable forest management**

The research respondents were asked to identify the opportunities they have for community participation in sustainable forest management in their respective villages and their responses were summarised in Table 4.12.

**Table 4.12 Opportunities for community participation**

<b>Opportunities</b>	<b>No. of respondents</b>	<b>Percentage</b>
Time for participation	26	44%
Forest area/reserve	18	30%
Good health	8	12%
FMNR method	30	50%
Supportive stakeholders	7	12%
Sufficient manpower	6	10%

Majority of the respondents 44% reported that they have an opportunity of ample time to take part for community participation in sustainable forest management in their respective villages. Other opportunities which the respondents identified were the existence of a simple, rapid and low cost reforestation technology known as Farmer Managed Natural Regeneration (FMNR) 50%, supportive stakeholders 12%, good health in terms of being physically and mentally fit 12%, presence of forest area or forest reserve 30%, their readiness to learn in order to acquire new knowledge.

**Figure 4.5. The LEAD Foundation chairperson demonstrating how to carryout Farmer Managed Natural Regeneration method**



During the interviews and focus group discussions, majority of the respondents explained that they do have enough time to devote for community participation in sustainable forest management. Some respondents appreciated and believed that the Farmer Managed Natural Regeneration (FMNR) method was a right solution for reforesting the Kiboriani Mountain Forest ecosystem. Furthermore, some of the research respondents in Mpwapwa district raised a major concern about the current practice of some community members to uproot naturally regenerating tree stumps and commented that such practices undermine this “revolutionary method”.

#### **4.7 Chapter summary**

This chapter presented the analysed and interpreted data collected from the field work. The research has observed that community participation in sustainable forest management for Kiboriani Mountain Forest in Kongwa and Mpwapwa districts is very limited. Communities found within and adjacent to the forest play a role of participant observers and sometimes as bystanders rather than being the really forest managers. The main reason could be the forest managers in both Kongwa and Mpwapwa districts do not involve and engage the communities adequately and effectively in designing, planning, making decisions, implementing, monitoring and evaluating those limited sustainable forest management projects and programmes which have been initiated in their respective areas. By depending and living closer to the Kiboriani Mountain Forest, community members were supposed to be the immediate and effective custodians of this crucial natural resource for their livelihoods and for its sustainable conservation. Their lack of awareness and knowledge on community participation in sustainable forest management has denied them their basic and human rights. In order to attain the dual objective of the participatory forest management approach, the forest managers are supposed to change their attitudes, perceptions and practices of being conservatives to the old practices of top-down approach; they should empower the communities to be the real forest managers by promoting and facilitating a bottom-up approach. The forest policy of 1998 has clearly stipulated that, forest managers are required to be community facilitators of participatory forest management and not to act as “police”. This is due to the fact that, participatory forest management approach is the only legal and policy mechanism for promoting community participation in sustainable forest management.

## CHAPTER FIVE

### CONCLUSION AND RECCOMENDATIONS

#### 5.1 Conclusion

It is concluded by the research that community participation in sustainable forest management for the communities found within and adjacent to Kiboriani Mountain Forest is very limited in both Kongwa and Mpwapwa districts. To some extent it has been promoted and practiced by very few identified institutions and groups in both districts. The existing local structures and institutions for supporting community participation in sustainable forest management are not effective as a result of failure to articulate and reinforce policies, laws, by-laws, regulations and guidelines thus leading to high rate of deforestation and other unsustainable forest management practices in the study area.

While majority of the research respondents indicated that they were conscious about their potential for taking active role in community participation for sustainable forest management, with (81%) of respondents engaged in agriculture, charcoal making and firewood collection activities in the forest area this poses major threats to its sustainability. A large number of trees in the observed forest areas have been cleared for informal settlements, agriculture fields, charcoal making and firewood collection. It was evident in this research that majority of respondents lacked awareness, knowledge, support and motivation to take an active role in sustainable forest management practices. The research has also revealed that there is lack of knowledge, motivation, commitment, accountability and political will among forest managers, government leaders, forest conservation and management stakeholders, politicians and local government authorities' supporting staffs in both Kongwa and Mpwapwa districts. These are people who are vested with the responsibilities to promote, facilitate, advocate and support community participation in sustainable forest management for communities found within and adjacent to Kiboriani Mountain Forest.

Notably, the Participatory Forest Management approach which is the only strategy stipulated in the Forest Policy of 1998 and the Forest Act of 2002 for facilitating community participation in sustainable forest management in Tanzania has not been implemented adequately and effectively in both Kongwa and Mpwapwa districts. For the past two decades, Participatory Forest Management approach has

been implemented in Tanzania and globally due to the main reason that communities play a significant role in all aspects of development processes. For that case, the issue of community participation in management, co-management and ownership of forest resources is inevitable for sustainability of forest resources conservation and management practices in Tanzania and more specifically for the sustainability of the forest and livelihoods activities for the communities found within and adjacent to Kiboriani Mountain Forest.

The involvement and engagement of communities found within and adjacent to Kiboriani Mountain Forest in designing, planning, decision making, implementation, benefits sharing, monitoring and evaluating sustainable forest management interventions, projects and programmes would empower them to take an active role for community participation in sustainable forest management.

## **5.2 Recommendations**

This research put the following recommendations in order to improve community participation in sustainable forest management in the study area;

1. The forest managers (Both District Forest Officers and District Managers for Tanzania Forest Services Agency) in both Kongwa and Mpwapwa districts should spearhead other sustainable forest management and conservation stakeholders to embark on a vigorous awareness raising campaign for community participation in sustainable forest management in communities found within and adjacent to Kiboriani Mountain Forest.

Community members need to understand and be well informed about their rights and obligations regarding community participation in sustainable forest management in order to make informed decisions and take an active role.

2. An integrated and comprehensive participatory Kiboriani Mountain Forest conservation and management plan should be designed, developed and implemented by all key stakeholders in Kongwa and Mpwapwa districts.

In order for community members and other key stakeholders to take an active role in community participation for sustainable forest management, they are supposed to be involved and engaged in designing, planning, implementing, monitoring and evaluation of all forest management interventions, projects or

programmes in their respective communities as well as for the other inter related sectors. The dependence of community members on the forest resources within and adjacent to their villages makes them to be real managers of this forest resource.

3. The forest managers in both Kongwa and Mpwapwa districts should make deliberate efforts to promote, facilitate and support the implementation of Participatory Forest Management strategy as it is the only mechanism stipulated in the Forest Policy of 1998 and the Forest Act of 2002 for facilitating community participation in sustainable forest management in Tanzania.

A failure by forest managers to do so, does not only deny the community members found within and adjacent to Kiboriani Mountain Forest their basic human and democratic rights but also is going against the Tanzania constitution of 1977, the Tanzania Development Vision 2025, the Five years Development Plan as well as other international conventions. The Tanzania Participatory Forest Management Strategy has a dual objective of improving rural livelihoods and sustainable forest conservation through promotion of gender equality and power sharing between local communities and forest management authorities and agencies.

4. The Government of Tanzania through its law and policy makers should make all possible efforts to harmonise, review and improve all conflicting laws and policies which impede community participation in sustainable forest management in terms of trees, forest and land tenures such as the Land act of 1999, the Village Land Act of 1999, the Forest Act of 2002 and the Forest Policy of 1998 and the Land Policy of 1995.
5. The currently and ongoing process of gazetting the proposed Kiboriani Mountain Forest to become a National Forest Reserve under the custodian of Tanzania Forest Services Agency (TFSA) should be suspended until some of the shortcomings, challenges and issues raised by some key stakeholders have been resolved.

For TFSA to proceed with the process which has been reported by some key stakeholders in the study area to lack transparency and full participation of the key stakeholders, poses a major risk for its future sustainable management. The sustainability of Kiboriani Mountain Forest to a great extent will be founded

on the willingness, commitment and ownership of the community members found within and adjacent to it as immediate managers as well as other people, organisations and institutions which have a stake on this forest. There must be a prior and informed consent, an open and clearly stipulated mutual agreement for the gazettelement process of the proposed Kiboriani Forest Reserve.

6. The Local Government Authorities and forest conservation and management stakeholders in both Kongwa and Mpwapwa districts should be committed, aggressive and innovative in initiating and maintaining new partnerships, collaborations and networks for mobilising resources which are much needed to promote and support the implementation of Participatory Forest Management strategy for communities found within and adjacent to Kiboriani Mountain Forest.

At the moment the central and local governments have no sufficient human, financial and material resources for scaling up Participatory Forest Management at District and Village levels. A best practice can be drawn from a partnership between the Mpwapwa Local Government Authority and TASAF which led to the implementation of a Participatory Forest Management project in Bumila village even though the project site was located outside the Kiboriani Mountain Forest area.

7. Community participation in sustainable forest management is a democratic process which facilitates decentralization of forest management and devolution of power and authorities to the rural communities. This should not be left in the Local Government's Decentralisation by Devolution policies and guidelines, Forest Act and Forest Policy documents only; it should be practical in both Kongwa and Mpwapwa districts.

The Central Government, District Administrations, Local Government Authorities and all other relevant stakeholders in both Kongwa and Mpwapwa should strive to ensure that this process trickles down to all villages in the study area as they are the lowest level of a democratic unit.

8. There must be a deliberate capacity building initiatives at all levels on community participation in sustainable forest management for both districts in Kongwa and Mpwapwa if the sustainability of the Kiboriani Mountain Forest is to be achieved.

There is very limited knowledge, awareness and skills at village levels about their legal rights and obligations concerning community participation in sustainable forest management as well as at district levels concerning the legal procedures required for executing Participatory Forest Management strategy. Furthermore, environmental education with a specific focus on sustainable forest management should be introduced and included in school curriculum at all levels in order to create awareness and sensitize students who are the future custodians and beneficiaries of the Kiboriani Mountain Forest.

9. The forest managers and other stakeholders in both Kongwa and Mpwapwa districts should introduce, promote and support climate smart agriculture technology and environmental compatible income generating activities for the communities found within and adjacent to Kiboriani Mountain.

These activities will reduce community pressure to exploit the forest resources unsustainably. The Kiboriani Mountain Forest area is very potential for horticulture, floriculture, honey production, eco-cultural, natural and historical tourism, agroforestry in terms of mixing crops and fruit trees such as apples, pears, avocado, mangoes and oranges as well as commercial tree plantations for timber and wood production. All these potentials have not been fully exploited and realised in both Kongwa and Mpwapwa districts.

10. Forest managers and other key stakeholders in both Kongwa and Mpwapwa districts should support and facilitate the farmers' adoption and scaling up of a rapid, simple and cost effective method of reforesting highly deforested and degraded forest lands popularly known in Swahili as "Kisiki Hai" – Farmer Managed Natural Regeneration (FMNR) which was introduced and promoted since 2012 in both Kongwa and Mpwapwa districts by Mpwapwa based Non Governmental Organisation called LEAD Foundation.

### **5.3 Suggested areas for further research**

This research suggest that further rigorous researches need to be undertaken in the study area for examining communities' utilisation of forest products and services, investigating barriers and facilitators of Participatory Forest Management strategy and assessing the effects of climate change in the Kiboriani Mountain Forest Ecosystem.

## APPENDIX A: KEY INFORMANT INTERVIEW SCHEDULE

Participant code: ..... Interviewer code: ..... Date: .....

Age:..... Sex:..... Education level: .....

Village:..... Ward:..... District: .....

*Thank you for volunteering to take part in this interview. My name is ..... I am a student from St. John's University of Tanzania pursuing Master of Arts in Community Development. The purpose of this interview is to gather information about community participation in sustainable forest management in your community/village. I would like to interview you and the interview will not take more than one hour. Your point of view is very important in this study. Your personal identification information will be kept confidential and will only be used for the purpose of this study only. Your responses will remain anonymous in any subsequent analysis and published report. This is a completely voluntary interview and you may decide to participate or not to participate, or to stop at any given time you feel like doing so. I will respect and adhere to your preference for location, time and the manner of conducting this interview in case of need for privacy. You may choose to answer or not to answer any question if you don't feel comfortable. I would greatly appreciate your cooperation and time.*

1. Do you understand the importance of trees and forests in your village or community?
2. Do you or other individual, group, community and village own forest reserve or forest area in the Kiboriani Mountain Forest?
3. What do you understand about community participation in sustainable forest management?
4. Does your Village, community, group or institution have any intervention, project or programme concerning Community Participation in Sustainable Forest Management for Kiboriani Mountain Forest?
5. At which level does community participation in sustainable forest management happens? (*Probe for individual, group, community, institutional and village levels*).
6. Who initiate interventions or activities for community participation in sustainable forest management in your village or community?

7. Do you participate in sustainable forest management activities in your village or community? *(If the respondent participate, Probe for types of activities; if the respondent does not participate, probe for reasons).*
8. Does your village, community, group or institution in your village have plans or strategies for community participation in sustainable forest management?
9. What do you understand about Participatory Forest Management?
10. Does your village or community have any Participatory Forest Management interventions?
11. Are you aware of any local structure which supports community participation in sustainable forest management for Kiboriani Mountain Forest in your village/community? *(If the respondent is not aware, proceed to question no. 7).*
12. How effective are these local structures in initiating, facilitating, advocating and supporting community participation in sustainable forest management for Kiboriani Mountain Forest in your community/village?
13. What are the channels of communication used to inform you to get involved with community participation in sustainable forest management for Kiboriani Mountain Forest in your community/village?
14. What do you think are the key drivers of the problem of deforestation for Kiboriani Mountain Forest in your community/village? How can these drivers best addressed to alleviate the problem?
15. Are you aware of any laws and policies which promote, advocate, facilitate and support community participation in sustainable forest management in your village/community?
16. Do you think community participation in sustainable forest management for Kiboriani Mountain Forest is important for the welfare of your household, community or village?
17. Can you explain the current status of the Kiboriani Mountain Forest in your village/community by making comparison to the past 10 years?
18. What do you think are the challenges facing you to participate in sustainable forest management for Kiboriani Mountain Forest in your community/village?
19. What do you think are the opportunities for you to participate in sustainable forest management for Kiboriani Mountain Forest?
20. What kind of support do you get from the national, regional and district forest managers?

21. What would you like to see introduced or improved for making community participation in sustainable forest management a success in your village/community?

*We have come to an end of our interview. I would like to thank you for your willingness to set aside your time and participate in this interview by sharing the information with me. If you have any question, additional comment or insights about this process please feel free to share with me. Once again I thank you and wishing you a good day!*

## APPENDIX B: FOCUS GROUP DISCUSSION QUESTION GUIDE

Group code:..... Facilitator code: ..... Note taker: ..... Observer code: .....

Village: ..... Ward: ..... District: ..... Date: .....

*Welcome and thank you for volunteering to take part in this discussion. My name is ..... I am a student from St. John's University of Tanzania pursuing Master of Arts in Community Development. The purpose of this discussion is to gather information from you about community participation in sustainable forest management for the Kiboriani Mountain Forest in Kongwa and Mpwapwa Districts. This is ..... and ..... who will assist me in gathering information for this discussion. You have been asked to participate as your current points of view, feelings and knowledge is very important in this study. I realise you are busy and I appreciate your time; this discussion will not take more than 2 hours. I would like to assure you that this discussion will be anonymous and all the information will be kept confidential for all the notes containing information that could make individual subject to be linked to specific statements. You should feel free and try to answer and comment as accurately as possible. If there are any questions or discussion that you do not wish to answer or participate in, you do not have to do so. However, try to answer and be as involved as possible. All your answers will be kept confidential and your names will not be identified with the information you provided. Do all of you agree to participate in this group discussion?*

1. Do you understand the importance of trees and forests in your village or community?
2. Do you or other individual, group, community and village own forest reserve or forest area in the Kiboriani Mountain Forest?
3. What do you understand about community participation in sustainable forest management?
4. Does your Village, community, group or institution have any intervention, project or programme concerning Community Participation in Sustainable Forest Management for Kiboriani Mountain Forest?
5. At which level does community participation in sustainable forest management happens? (Probe for individual, group, community, institutional and village levels).

6. Who initiate interventions or activities for community participation in sustainable forest management in your village/community?
7. Do you participate in sustainable forest management activities in your village/community? (If the respondents participate, Probe for types of activities; if the respondents do not participate, probe for reasons).
8. Does your village, community, group or institution within your village/community have plans or strategies for community participation in sustainable forest management?
9. Do you understand what Participatory Forest Management is?
10. Does your village or community have any Participatory Forest Management interventions?
11. Are you aware of any local structure which supports community participation in sustainable forest management for Kiboriani Mountain Forest in your village/community? (*If the respondents are not aware, proceed to question no. 7*).
12. How effective are these local structures in initiating, facilitating, advocating and supporting community participation in sustainable forest management for Kiboriani Mountain Forest in your community/village?
13. What are the channels of communication used to inform you to get involved with community participation in sustainable forest management for Kiboriani Mountain Forest in your community/village?
14. What do you think are the key drivers of the problem of deforestation for Kiboriani Mountain Forest in your community/village? How can these drivers best addressed to alleviate the problem?
15. Are you aware of any laws and policies which promote, advocate, facilitate and support community participation in sustainable forest management in your village/community?
16. Do you think community participation in sustainable forest management for Kiboriani Mountain Forest is important for the welfare of your household, community or village?
17. Can you explain the current status of the Kiboriani Mountain Forest in your village/community by making comparison to the past 10 years?
18. What do you think are the challenges facing you to participate in sustainable forest management for Kiboriani Mountain Forest in your community/village?
19. What do you think are the opportunities for you to participate in sustainable forest management for Kiboriani Mountain Forest?

20. What kind of support do you get from the national, regional and district forest managers?
21. What would you like to see introduced or improved for making community participation in sustainable forest management a success in your village/community?

*As we are approaching toward the end of this discussion, what would you say are the most important things we have discussed today and what are your final recommendations? I would like to thank you all for participating in this very successfully discussion. I hope you found it interesting. If there is anything you are unhappy with or wish to complain about, please contact ..... through ....., or you may speak to ..... later.*

## APPENDIX C: IN-DEPTH INTERVIEW GUIDE

Participant code:..... Interviewer code: .....

Organisation/Institution:..... District: .....

Sex: ..... Date: .....

*Welcome and thank you for agreeing to meet with me today. My name is ..... I am a student from St. John's University of Tanzania pursuing a Master of Arts Degree in Community Development. The purpose of this interview is to gather information about community participation in sustainable forest management for the Kiboriani Mountain Forest in Kongwa and Mpwapwa Districts. Your responses will help me to understand the reality of community participation in sustainable forest management in ..... and come up with lesson learned and recommendations for future improvement. This interview will not take more than one hour. I will ask you some questions which I have prepared and take notes as you answer the questions so that I can have a record of what we discussed. Please feel free to answer questions openly. I simply want your thoughts and experiences on the research topic. All your answers will be kept confidential and your name will not be identified with the information you provided. Do you agree to participate in this interview?*

1. What do you understand about community participation in sustainable forest management in Tanzania?
2. What is your experience concerning community participation in sustainable forest management in Tanzania?
3. Does your Organisation/Institution have any programme, project or interventions concerning community participation in forest management for Kiboriani Mountain Forest?
4. Does your Organisation/institution make use of any Laws, By-laws, Policies, Regulations, Guidelines or Plans for advocating and supporting community

participation in sustainable forest management for Kiboriani Mountain Forest?

5. On your opinion, what do you think are the benefits of community participation in sustainable forest management for Kiboriani Mountain Forest adjacent communities?
6. Does your organisation/Institution own or manage a forest reserve or forest area in Kiboriani Mountain Forest?
7. Do you understand the nature of community participation in sustainable forest management for communities or villages adjacent to Kiboriani Mountain Forest?
8. Do you know the existing local structures for supporting community participation in sustainable forest management for Kiboriani Mountain Forest? *(If the informant does not know, proceed to question no. 10).*
9. How effective are these local structures in supporting community participation in sustainable forest management for Kiboriani Mountain Forest?
10. How does your Organisation/Institution promote, facilitate, advocate or support community participation in sustainable forest management for Kiboriani Mountain Forest?
11. Are you aware about the participatory forest management approach in Tanzania?
12. Does your organisation/institution promote, facilitate, advocate or support participatory forest management approach in communities/villages adjacent to Kiboriani Mountain Forest?

13. Can you explain the challenges and opportunities facing community participation in sustainable forest management for the communities or villages adjacent to Kiboriani Mountain Forest?
  
14. What is your opinion concerning community participation in sustainable forest management for villages/communities adjacent to Kiboriani Mountain Forest?
  
15. What do you think are the key drivers of deforestation in Kiboriani Mountain Forest and what can be done to alleviate the problem?

*I have completed the interview. I want to thank you for spending time with me and answering questions. Your responses will be very valuable in this study by helping me to understand the reality of community participation in sustainable forest management in ..... Do you have any question or additional comment? If you will have any concern or would like further information concerning this research please contact ..... at .....*

## APPENDIX D: FIELD OBSERVATION SCHEDULE (OBSERVATIONNAIRE)

Village: ..... Ward:..... District: .....

Date of observation: ..... Time of observation: ..... Observer's code: .....

- 1. Presence of forest reserve or forest area:**
  
- 2. Existence of forest reserve or forest area boundaries or demarcations:**
  
- 3. Signs of the forest reserve or forest area disturbance:**
  
- 4. Existence or presence of forest reserve or forest area sign posts:**
  
- 5. Evidence of legal and illegal human activities in the forest reserve or forest area:**

**APPENDIX E: ETHICAL CLEARANCE CERTIFICATE AND A LETTER OF  
INTRODUCTION TO CONDUCT RESEARCH**



## REFERENCE LIST

- Adom, D. (2016). Inclusion of local people and their cultural practices in biodiversity conservation: Lessons from successful nations. *American journal of environmental protection*, vol. 4, no. 3, 67-78.
- Agar, M. H. (1986). *Speaking of ethnography*. Beverly Hills, CA: Sage.
- Agrawal, A. & Gibson, C.C. (1999). Enchantment and Disenchantment: The role of community in natural resources conservation. *World Development* 27, 629-649.
- Anderson, C. (2010). Presenting and evaluating qualitative research. *American Journal of Pharmaceutical Education* 2010; 74 (8) Article 141.
- Ascher, W. (1995). *Communities and sustainable forestry in developing countries*. San Francisco: Institute for contemporary studies.
- Babbie, E. (2001). *The practice of social research*. Belmont: Thomson Barring, Inc.
- Baranyi, J. (2003). Validating and comparing predictive models. *International Journal of Food Microbiology*, 48:159-166.
- Bernard, H.R. (2000). *Social research methods: Qualitative approaches*. Thousand Oaks: Sage.
- Blomley, T. & Ramadhani, H. (2007). Participatory Forest Management in Tanzania: An Overview of Status, Progress and Challenges ahead. *The Arc Journal*, Issue 21: 3-5.
- Cal, A. & Tehmarn, A. (2016). Phenomenology in HRD research and practices. Phenomenology epistemology approaches and implications for hrd research and practices. Bangkok.
- Cameron, C. (1990). The ethnographic approach: Characteristics and uses in gerontological nursing. *Journal of Gerontological Nursing*, 16(9), 5-7.
- Campbell, B., Byron, N., Hobane, P., Madzudzo, E., Matose, F. and Wily, L. (1999). *Moving to local control of woodland resources: Can campfire go beyond the mega – fauna?* *Society and Natural Resources*, 12: 501 – 509.

- CARE. (2010). *Window of opportunity: Qualitative research field staff toolkit*. Author.
- Chiwanga, E.S. (2015). *Serengeti ecosystem stakeholders analysis report*. Mugumu: Serengeti Ecosystem Community Conservation Forum.
- Creswell, J.W. (2002). *Educational research: Planning, conducting and evaluating qualitative and quantitative research*. Boston: Pearson education, Inc.
- Creswell, J.W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. Washington DC: Sage.
- Danish International Development Agency. (2002). *Participatory forest management in Tanzania: 2003–2007: Component document*. Component of the Environmental Support Programme. Danish Ministry of Foreign Affairs.
- Dubey, P. (2007). Changes in consumers decision making process led by environmental information. International marketing conference on marketing and society, 8-10 April, 2007. India.
- Dunn, K.A. (2004). Mail survey reliability through follow-up mailings: the case of auditor changes. *Managerial Auditing Journal*, 19(8): 1048-1054.
- Fairhead, J. & Leach, M. (1996). *Misreading the African Landscape: Society and Ecology in a Forest-Savanna Mosaic*. New York: Cambridge University Press.
- Food and Agriculture Organisation. (2010). *Forest and Climate Change: Integrating climate change issues into national forest programmes*. Dar es Salaam: Author.
- Ghoshal, T., Sinha, G. & Taylor, B. (2011). *Research methodology: A guide for researchers in management and social sciences*. New Delhi. PHI Learning Limited.
- Green, J. & Thorgood, N. (2004). *Qualitative methods for health research*. London: Sage.
- Gregory, R. (2002). Incorporating value tradeoffs into community based environmental risk decisions. *Environ: Value*, 11: 461-488.

- Harmersley Chambers, F. & Beckley, T. (2003). Public involvement in sustainable forest management. In Towards sustainable management of the boreal forest. NRC. Research Press. Ottawa.
- Iddi, S. & Blomey, T. (2009). *Participatory Forest Management in Tanzania: 1993 – 2009*. Dar es Salaam: Forestry and Beekeeping Division.
- International Union for Conservation of Nature. (2016). [www.iucn.org/rubeho-akalat-sheppardia-aurantiithorax](http://www.iucn.org/rubeho-akalat-sheppardia-aurantiithorax)
- January, A. (2010). Economic valuation of irrigation water and riverside wetland services. The case of lower Moshi irrigation schemes. Dissertation for MSc. Degree at Sokoine University of Agriculture, Morogoro.
- Kajembe, G.C. (1994). Indigenous management systems as a basis for community forestry in Tanzania: A case study of Dodoma urban and Lushoto Districts. Tropical Resource Management Paper series No. 6. Wageningen Agricultural University.
- Kajembe, G.C. & Kessy, J.F. (1990). Joint Forest Management in Urumwa Forest Reserve, Tabora, Tanzania: A Process in the making. *Paper Presented at a seminar and workshop on Governance, Property Rights and Rules on Woodland and Wildlife Management in South Africa, Harare, Zimbabwe, November 23-24, 1999.*
- Kajembe, G.C. & Mgoo, J.S. (1999). *Evaluation report on community based forest management approach in Babati district: A case of Duru-Haitemba village forest reserve*. Orgut Consulting AB (Unpublished).
- Kangalawe, R.X.M. (2012). Land degradation, community perceptions and environmental management implications in the drylands of central Tanzania. Retrieved from <http://dx.doi.org/10.5772/45897>
- Kihiyo, V.B.M.S. (1998). Forest policy change in Tanzania: Towards community participation in forest management. Morogoro: Sokoine University of Agriculture.

- Kilahama, F.B. (1994). *Trees and indigenous ecological knowledge about agroforestry practices in the rangelands of the Shinyanga region, Tanzania*. PhD Thesis. Bangor: University of Wales.
- Kinyashi, G.F. (2006). Towards genuine participation: Critical analysis of Village Travel and Transport Project (VTTP) Morogoro, Tanzania. IRDP. Dodoma.
- Kishor, N. & de Rijk, M.A. (2014). Assessing impacts of forest governance interventions: Learning from the World Bank experience. Washington DC: Program on Forest (PROFOR).
- Kitzinger, J. (1995). Qualitative research: Introducing focus group. *British Medical Journal*, 311, 7000, 299-302.
- Kothari, C.R. (2004). Research methodology: Methods and techniques. New Delhi: New Age International (P), Publishers.
- Kotwal, P.C., Omprakash, M.D., Kandari, L.S., Mali, K.P., Badyal, M. & Mishra, A. (2008). Sustainable forest management through community participation. *Current Science*, Vol. 95, No.8, 25 October 2008.
- Kvale, S. (1996). *Interviews: An introduction to qualitative research interviewing*. Thousand Oaks: Sage.
- Kwashirai, V. C. (2007). *World environmental history: Environmental history of Africa*. Encyclopedia of Life Support Systems (EOLSS).
- Kwashirai, V. C. (2010). Green Colonialism in Zimbabwe: 1890 – 1980. New York: Cambria Press.
- Lazaro, M., Shemdoe, R.S. & Emma, L. (2013). Community perceptions and willingness to accept and execute REDD+ initiative: The case of Pugu and Kazimzumbwi forest reserves, Tanzania. *Cross Cultural Communication* 9(3): 48-54.
- LEAD Foundation. (2012). *Annual Report: 2012*. Mpwapwa: Author.
- Leah, M., Means, R. & Scoones, I. (1997). Environmental entitlements: A framework for understanding the institutional dynamics of environmental change. IDS Discussion Paper No. 359, Brighton.

- Lucky, O.O. (2016). Significance of Community Participation in Rural Development. *International Journal of Agriculture and Earth Science*. Vol.2 No.2 ISSN 2489-0081.
- Luoga, E.J., Witkowski, E.T.F. & Balkwill, K. (2000). Economics of charcoal production in miombo woodlands of Eastern Tanzania: Some hidden costs associated with commercialization of the resources. *Ecological Economics*, 35: 24-27.
- MacQueen, K.M., McLellan, M.A., Metzger, D.S., Kegeles, S., Strauss, R.P., Scotti, R., ... Trotter, R.T. (2001). What is community? An evidence based definition for participatory public health. *American Journal of Public Health*, 91(12): 1929-1938.
- Mahoo, H.F., Habibu, N. & Mzirai, D.B. (n.d.). *Catchment management and poverty alleviation: The role of economic instrument and compensation mechanisms in water resources and forest management*. Forestry Research Programme.
- Ministry Natural Resources and Tourism. (2006). *Participatory Forest Management in Tanzania: Facts and Figures*. Dar es Salaam: Forestry and Beekeeping Division.
- Ministry of Natural Resources and Tourism. (2008a). *Tanzania Forest Sector Outlook Study: 2008 – 2018*. Dar es Salaam: Forestry and Beekeeping Division.
- Ministry Natural Resources and Tourism. (2008b). *Participatory Forest Management in Tanzania: Facts and Figures*. Dar es Salaam: Forestry and Beekeeping Division.
- Ministry of Natural Resources and Tourism, (2009). *Participatory forest management in Tanzania: 1993–2009*. Lessons learned and experiences to date. Dar es Salaam: Forestry and Beekeeping Divisions.
- Ministry Natural Resources and Tourism. (2014). *Tanzania forest services agency: Three years implementation report for the financial year 2011/12-2013/2014*. Dar es Salaam: Forestry and Beekeeping Division.
- Moriarty, J. (2011). *Qualitative methods overview*. London: School for social care research.

- Morse, J.M., Barnett, M., Mayan, M., Olson, K. & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods*,1,19.
- Mpokigwa, M.K., Sangeda, A.Z. & Iddi, S. (2011). Towards communication, education and awareness rising for participatory forest management: A case study of Mufindi District, Tanzania. *International Journal of Social Forestry*, 4 (1), 17-31.
- Mustalahti, I. & Lund, J.F. (2009). Where and How can participatory forest management succeed? Learning from Tanzania, Mozambique and Lao. *Society and Natural Resources*, *Online publication date: 02 December 2009*.
- Mwanyoka, I.R. (2006). Evaluation of community participation in water resources management: The case of Usambara biosphere reserve to UNESCO. Retrieved from [www.unesco.org/mab/doc/mys/2005/tanzania.pdf](http://www.unesco.org/mab/doc/mys/2005/tanzania.pdf)
- National Forest Monitoring and Assessment. (2015). *National forest monitoring and assessment of Tanzania mainland: Main results*. Dar es Salaam: Tanzania Forest Services Agency.
- Neuman, W.L. (2014). *Social research methods: Qualitative and quantitative approaches*. Essex. Pearson Education Limited.
- Newmark, W. (2006). A 16 years of forest disturbance and understory birds community structure and composition in Tanzania. *Conservation Biology*, 20(1):122-134.
- The Open University of Tanzania. (2012). *Research methodology*. Directorate of Research and Post Graduate Studies. Dar es salaam.
- Patton, M.Q. (1990). *Qualitative evaluation and research methods*. Newbury Park: Sage.
- Patton, M.Q. (2002). *Qualitative research and evaluation methods*. Thousand Oaks: Sage.
- Pope, C. & Mays, N. (2006). *Qualitative research in health care*. Oxford. Balckwell Publishing.

- Programme for the Endorsement of Forest Certification. (2017). Sustainable forest management. Retrieved 1 February, 2017 from <https://www.pefc.org/standards/sustainable-forest-management>
- Robson, C. (2002). *Real world research*. Oxford: Blackwell publishing.
- Rotdgers, W.A., Nabanyumya, R. Mupanda, E. & Perha, L. (2002). Community conservation of closed forest biodiversity in East Africa: Can it work? *Unasy/va*, Vol.53, No.2 (No.209).
- Rubin, H.J. & Rubin, I.S. (2005). *Qualitative interviewing: The art of hearing data*. Thousand Oaks: Sage.
- Schoenbrun, D. (1998). *A green place, a global place: Agrarian, gender and social identity in the great Lakes region to the 15<sup>th</sup> Century*. Portsmouth: Heinemann.
- Sellin,S. & Chavez, D. (1995). Developing a collaborative model for environmental planning and management. *Environ, Manage*, 19, 189-195.
- Shan, X.Z. (2012). Attitude and willingness toward participation in decision-making of urban green spaces in China. *Urban Forestry and Urban Greening*. 11:211-217.
- Shaw, I.F. (2003). Cutting edge issues in social work research. *British Journal of Social Work*, 33,1, 107-120.
- Shayo, C.M. (n.d.). *Introduction of Dairy Cattle Production Systems in Soil Conservation Areas*. Mpwapwa: Zonal Research and Training Centre. Livestock Production Research Institute. Retrieved from <http://www.fao.org/Wairdocs/ILRI/x5485E/x5485e0u.htm>
- Shepherd, G. (1990). Forestry, social forestry, fuelwood and the environment: a tour of the horizon. Social Forestry Network Paper 11a, ODI.
- Takon, T.J., Amalu, T.E. & Okpara, D.E. (2013). Assessment of local people's attitude towards natural resources conservation in bokilocal government area of Cross River State, Nigeria. *Research Journal on Organizational Psychology and Education Studies*, 2(2): 60 – 66.

- Thin, N. & van Gardingen, P. (2003). Legal, institutional and policies issues affecting access to CPRs: Forestry. In Neiland, A.E. (Ed). Workshop on CPRs in forestry and fisheries, water management and rangeland. DFID-IDDRA. Portsmouth, UK. 19 Mars 2003.
- Topp, L.B., Barker & Degenherdts, L. (2004). The external validity of results derived from ecstasy users recruit using purposive sampling strategy. *Drug and Alcohol Dependence*, 73:33-40.
- United Nations Development Programme. (1993). *Human Development Report: 1993*. New York: Author.
- United Nations Environment Programme. (2015). *Forest ecosystems in the transition to a green economy and the role of REDD+ in the United Republic of Tanzania: Executive summary*. Nairobi: UNON, Publishing Services Unit.
- United Nations Environment Programme – International Environmental Technology Centre. (2005). *Environmental Management and Community Participation: Enhancing Local Programmes*. Author.
- United Republic of Tanzania. (2002). The Forest Act, No. 14 of 7<sup>th</sup> June 2002.
- United Republic of Tanzania. (1998). The Forest Policy, 1998. Dar es Salaam: Author.
- United Republic of Tanzania. (1999). The Land Act, 1999: Act supplements No. 6, 21<sup>st</sup> May 1999. Gazette of the United Republic of Tanzania No.21 Vol. 80. Dar es Salaam: Author.
- United Republic of Tanzania. (1999). The Village Land Act, 1999: Act supplement No.7, Vol 80 of 21<sup>st</sup> May 1999. Dar es Salaam: Author.
- University of Dar es Salaam. (2009). Preparing for the REDD initiative in Tanzania: A synthesized consultative report. Dar es Salaam: Institute of Resources Assessment.
- Vansina, J. (1990). *Paths in the rainforest: Towards a history of political tradition in Equatorial Africa*. Madison: University of Wisconsin Press.

- Vihemaki, H. (2009). Participation or further exclusion? Contradiction over forest conservation and control in the Usambara Mountains in Tanzania. Institute of Development Studies. University of Helsinki.
- Vihemaki, H. & Leonard, C. (2010). Village forest management as way to protect biodiversity in Tanzania. Dar es Salaam: Tanzania Forest Conservation Group.
- Webb, S. & Webb, B. (1932). *Methods of social study*. London: Longman Green.
- Wily, L.A. (2002). A review of new policy towards participatory forest management in Eastern Africa. For CARE review of policy towards participatory forest management in Eastern Africa.
- Westergaard, K. (1986). *People's participation, local government and rural development: The case of west Bengal, India*. Copenhagen: Centre for Development Research.
- World Agroforestry Centre. (2009). Policy Brief, 3. Nairobi: Author.