

**CERTIFICATION**

The undersigned certifies that she has read and hereby recommends for acceptance by the Open University of Tanzania a Dissertation entitled Impact of reserving forest on local communities: a case of Pugu and Kazimzumbwi forest Reserves in partial fulfillment of the requirements of the award of degree of Master of Social Work.

.....

Dr. Magreth Bushesha

Supervisor

.....

Date

**COPYRIGHT**

No part of this dissertation may be reproduced, stored in any retrieval system, or transmitted in any form by any means, electronic, mechanical, photocopying, recording or otherwise without prior written permission of the author or Open University of Tanzania in that behalf.

## **DECLARATION**

I, Hemedi Hamza do hereby declare that this dissertation is my own original work and it has not been submitted for a similar degree in any other University.

.....

Signature

.....

Date

**DEDICATION**

This work is dedicated to my late beloved mother for her support, guidance and encouragement during difficult times.

## **ACKNOWLEDGEMENT**

My sincere acknowledgement goes to my supervisors Dr. Magreth Bushesha who has been there for me whenever I needed guidance and with her support I managed to finish this work in time. Also I would like to acknowledge the support given by Mr. Abrahaman mango and local people from Pugu kajiungeni, Nyeburu, Kazimzumbwi and Kisarawe village for taking time to participate in Focused group discussion and filling the questionnaire.

## **ABSTRACT**

This study was conducted by a social worker to investigate the impacts of reserving Pugu and Kazimzumbwi forests on local people living adjacent these reserved forests. The study was conducted using case study research design. Data were collected using interview, focus group discussion and questionnaire techniques. The collected data was analyzed by using thematic analysis for the case of focus group and interview with key informants. Data from questionnaire was analyzed using Statistic Package of Social Science (SPSS).

This study find out that establishment of Pugu and kazimzumbwi forests have impact on the general access of forest products by 90 percent. The costs of reserving forests can range from displacement of local communities to restricted access to resources and changes in land tenure. Cultural activities have being affected by 77.5 percent and access to social services by 95 percent. Livelihoods of local people have deteriorating by 90 percent. Benefits can include direct revenue from environmental protection, and the maintenance of ecosystem services such as watershed protection. Therefore this study concludes that establishment of Pugu and Kazimzumbwi forest reserves impact local communities surrounding the forests socially, economically and culturally.

## TABLE OF CONTENTS

<b>CERTIFICATION.....</b>	<b>ii</b>
<b>COPYRIGHT.....</b>	<b>iii</b>
<b>DECLARATION.....</b>	<b>iv</b>
<b>DEDICATION.....</b>	<b>v</b>
<b>ACKNOWLEDGEMENT.....</b>	<b>vi</b>
<b>ABSTRACT.....</b>	<b>vii</b>
<b>TABLE OF CONTENTS .....</b>	<b>viii</b>
<b>LIST OF TABLES .....</b>	<b>xii</b>
<b>LIST OF FIGURES .....</b>	<b>xiii</b>
<b>ACRONYMS AND ABBREVIATIONS.....</b>	<b>xiv</b>
<b>CHAPTER ONE .....</b>	<b>1</b>
<b>INTRODUCTION.....</b>	<b>1</b>
1.0 Introduction.....	1
1.2 Statement of the Problem.....	5
1.3 Objectives of the Study.....	7
1.4 Research Questions.....	7
1.5 Significance of the Study .....	8
<b>CHAPTER TWO .....</b>	<b>9</b>
<b>LITERATURE REVIEW .....</b>	<b>9</b>
2.0 Introduction.....	9
2.1 Conceptualization of the Key Concepts.....	9
2.1.1 Poverty .....	10
2.1.2 Livelihoods and Forest Resource Use.....	12
2.2 Benefits of Forests to Surrounding Communities.....	14

2.2.1	Supporting and Regulating Services .....	15
2.2.2	Provisioning Services .....	15
2.2.3	Cultural Benefits .....	16
2.3.	Costs of Reserving Forests .....	18
2.3.1	Cultural Costs .....	19
2.3.2	Social Costs .....	20
2.3.3	Economic Costs of Reserving Forest in Tanzania .....	21
2.4	Theoretical Framework .....	21
2.4.1	The Vulnerability Context .....	22
2.4.2	Resources and Population Trends .....	24
2.4.3	Conflicts and Economic Shocks .....	26
2.4.4	Transforming Structure and Processes .....	28
2.5	The Significance of Sustainable Livelihood Framework .....	29
<b>CHAPTER THREE .....</b>		<b>30</b>
<b>RESEARCH METHODOLOGY .....</b>		<b>30</b>
3.0	Introduction .....	30
3.1	Description of the Study Area .....	30
3.1.1	Pugu Forest Reserves .....	31
3.1.2	Kazimzumbwi Forest Reserves .....	31
3.2.3	Population, Ethnicity and Economic Activities in the Study Area .....	31
3.2.3.1	Population .....	31
3.2.3.2	Ethnicity .....	34
3.2.3.3	Existing Economic Activities .....	34
3.2.3.3a	The Linkage Between Off - Farm and Farm Activities .....	35
3.2.3.3c	Trend and Use of Generated Income .....	37



3.3	Research Design.....	39
3.4	Data Collection Techniques.....	41
3.4.1	Collection of Primary Data .....	42
3.4.1.1	Questionnaires .....	42
3.4.1.2	Interview .....	43
3.4.1.3	Focus Group Discussion (FGD) .....	44
3.4.1.4	Observation.....	45
3.4.2	Collection of Secondary Data .....	46
3.5	Data Analysis.....	46
3.5.1	Thematic Data Analysis.....	47
3.5.2	Unit of Analysis .....	48
	<b>CHAPTER FOUR.....</b>	<b>50</b>
	<b>FINDINGS AND DISCUSSION.....</b>	<b>50</b>
4.0	Introduction.....	50
4.1	The Forest Products Required By Local People on Daily Bases.....	50
4.2	Impacts of Reserving Pugu and Kazimzumbwi Forest Reserves .....	52
4.2.1	Social Impacts .....	52
4.2.2	Economic Impacts .....	54
4.2.3	Cultural Impacts of Reserving Pugu and Kazimzumbwi Forests Reserves .....	62
4.5	Best Ways of Managing Pugu and Kazimzumbwi Forest For The Benefit Of Local People Adjacent the Reserved Forests.....	64
4.5.1	Legal Issues .....	64
4.5.2	Institutions for Pugu and Kazimzumbwi Forest Reserves Management .....	64
4.5.3	Education Levels of Community Member .....	65
4.5.4	Project Approach Pose Challenge on Reserving Forests .....	66

4.5.5	Governance.....	66
4.6	Conclusion .....	68
<b>CHAPTER FIVE .....</b>		<b>69</b>
<b>SUMMARY, CONCLUSIONS AND RECOMMENDATIONS .....</b>		<b>69</b>
5.0	Introduction.....	69
5.1	Summary .....	69
5.2	Conclusions.....	70
5.3	Recommendation .....	76
<b>REFERENCES .....</b>		<b>78</b>

## LIST OF TABLES

Table 2.1: Trends, shocks and seasonality.....	30
Table 2.2: Population growth in Pwani and Dar es salaam.....	32
Table 3.1: Education Level of the Respondents.....	33
Table 3.2: The Trend of Family Size in the Surveyed Areas.....	33
Table 3.3: The Occupation of Respondents before Coming into the Area and Current Activities.....	35
Table 3.4: The Average Sales per Day for the Forest Related Products.....	38
Table 3.5: Village name and Percentage of respondents.....	43
Table 4.1 Needs of forest products by local people.....	51
Table 4.2: Easy accessible social services.....	54
Table 4.3: Retardation of economic activities of local people.....	56
Table 4.4: Cultural Impacts of reserving Pugu and Kazimzumbwi forests.....	63

## LIST OF FIGURES

Figure 2.1 sustainable livelihood framework.....	24
Figure 3.1: The map of Pugu and Kazimzumbwi forest reserves.....	32
Figure 3.2: Pugu Forest human activities .....	37
Figure 3.3: Kazimzumbwi human activities .....	39
Figure 4.1: A House within Kazimzumbwi Forest reserve.....	52
Figure 4.2: State of Pugu and Kazimzumbwi 2006 to 2010 .....	57
Figure 4.3: Sandstone quarries at Pugu forest reserves.....	58
Figure 4.4: Man burn charcoal at kazimzumbwi forest.....	58
Figure 4.5: Truck and bicycle with charcoal from Kazimzumbwi Forest .....	59
Figure 4.6: Daily train of bags with sandstone from Pugu forest Reserve .....	60
Figure 4.7: Sand Stones for free inside Pugu Forest Reserve.....	61
Figure 4.8: Area with no tree found at Kazimzumbwi forest .....	61
Figure 4.9: Reality of Pugu and Kazimzimzumbwi forest reserves .....	62

**ACRONYMS AND ABBREVIATIONS**

CBFM	Community-Based Forest Management
CFR	Community Forest Reserve
FAO	Food and Agriculture Organization
FBD	Forestry and Beekeeping Division
JFM	Joint Forest Management
LAFR	Local Authority Forest Reserve
MNRT	Ministry of Natural Resources and Tourism
NFP	National Forest Programs
NFR	National Forest Reserve
PFM	Participatory Forest Management
PRS	Poverty Reduction Strategy
UNDP	United Nations Development Programs
VLFR	Village Land Forest Reserve
WHO	World Health Organization

## CHAPTER ONE

### INTRODUCTION

#### **I.0 Introduction**

The effectiveness of forest reserves in natural resources conservation has long been discussed in terms of their ability to reduce deforestation and conserve biodiversity. It is only relatively recently that the social and economic impacts of such conservation measures have come under scrutiny (Pimbert and Pretty, 1995). The establishment of forest reserves can place restrictions on the use of resources within large areas of forest that had been freely available to local and indigenous communities. Whilst these areas provide important ecosystem services at the global, national and local scale there is a concern that the costs are mostly incurred by the local people who rely on forest resources for their livelihoods.

Pimbert and Pretty (1995) suggested that carefully managed protected areas could help to alleviate poverty; conserving biological resources whilst providing developmental benefits to marginalized communities. However, it has also been suggested that protecting areas of forest can increase poverty and marginalization, resulting in loss of livelihoods options and dislocation of communities (Pimbert and Pretty, 1995), raising ethical moral, and practical questions regarding forest reserve management (Kaimowitz, 2003; Salafsky and Wollenberg, 2000). One ethical position is that forest reserves should be managed such that their creation ‘does no harm’ to those living within and around them.

However the concept of forest reserve roots in the enclosure movement in England and the Western game hunters in early 20th century whereby forest reserves have been

established with little regard on the livelihoods of local people, and have often disrupted or destroyed the life of local people. Their creation has often involved forced evictions and can interrupt ecological knowledge and subsistence practices. Most significantly, the forest reserves have established a pattern of antagonism between local people and conservation practices. The antagonism is due to the fact that forest reserves restrict people from using resources, which, for long time, communities have been using and depended on. In most cases villagers are left without alternatives, which in a long run, results into encroachment and poaching (Gillingham and Lee 2003).

Geisler (2001) suggests that the number of displacement due to protection of forest reserves may exceed 14 million in Africa alone. Neumann (1997) estimates that, the creation of Tanzanian forest reserves has evicted nearly 60,000 peoples. In one of such instance, colonial authorities evicted 3,000 of the local Meru people from the NgareNanyuki region on November 17, 1951. Neumann recalls the human rights offences committed by the officials as he writes: The government burned the houses to the ground with all the food and possessions inside, including small livestock...one evicted pregnant woman gave birth in the bush and her baby died four days later, while seven other women suffered miscarriages. In another occurrence, documented by Brockington and Igoe (2006), the Tanzanian Ministry of the Environment evicted 5,000 pastoralists from the Mkomazi Game Reserve in 1988.

As with NgareNanyuki, there is evidence of human rights offences committed during the evictions. In addition, Brockington and Igoe (2006) notes the disastrous effects that the eviction had on the local people, as it sandwiched them between the reserve and

nearby mountains and gave them little space to graze their livestock. The results of this compression included an abrupt decrease in the numbers of cattle and small livestock sold at markets, herd mortality, an increase in agriculture as a subsistence system, a decrease in women's earnings, and changes in diet. All of these effects influenced most significantly those who were already poor.

Forests play an important role in the livelihoods of hundreds of millions of rural people, principally as a source of cash income, a capital asset, and a source of employment (Sunderlin *et al.*, 2003). For example people in Sweden use forest foods extensively to help meet dietary shortfalls during particular seasons of the year, and during emergency periods such as floods, famines, droughts and wars (Falconer and Arnold, 1989; Scoones, Melnyk and Pretty 1992). In West Africa, 25 percent of people's protein requirements are met by bush meat; it is the principal source of food and income for rural communities (Bennett 2000).

Also Forests help farming communities to meet their needs for construction materials, household goods, fuel, crop nutrients and medicines. The poorest depend especially heavily on community forests. All local people rely on forests as habitat for crop pollinators and predators of agricultural pests, and microclimate on the environmental services of forests, particularly water quality and flow regulation. For many local people, the forest also has highly significant spiritual and religious values (Arnold and Dewees, 1995). Through cultural ritual and practices forests have been able to survive in their environment (Dowie, 2009).

Forests reserves affect local communities economically as it prevent local people



access to forest products that could earn them income. It also affects local people socially as it prevents free access of social services such as fire woods collections and animal fodders. Culturally forest reserves prevent local people to conduct their spiritual and religious practice within the forests. Limited knowledge is available on social- economics and cultural impacts of forest reserves in local scales and the extent to which it destroy the means of survival for local communities. Not much has been written on the impact of conserving forest on local communities in Tanzania.

This study will add knowledge on the impact caused by limited access of forests products to the local communities. In doing so it will help future planning of forest reserves to avoid or minimize socio-economic and cultural impacts . It is from the above explained impacts that as a social worker with the purpose of helping others to meet social needs or eliminating difficulties the researcher decided to conduct this study to find out the impacts of reserving Pugu and Kazimzumbwi forests on surrounding local communities. Socialist Social worker insists on helping communities fight every inch of the way to gain rights, entitlements and a fair share of whatever goods are around (David, 1994).

### **1.1 Social Work as Helping Profession**

Social work practice and casework deal with human behaviors or promotes social change, problem solving in human relationships as well as the empowerment and liberation of people to enhance well –being. Social work in its various forms addresses the multiple, complex transactions between people and their environments with its mission being to enable all people to develop their full potential, enrich their lives, and prevent dysfunction. It recognizes the complexity of interactions between human

beings and their environment, and the capacity of people both to be affected by and to alter the multiple influences upon them including bio-psychosocial factors. This is because people often tend to select activities and associates from the vast range of possibilities in terms of their acquired preferences and competences (Bandura et al., 1986).

Social work is an interrelated system of values, theories and practice which grew out of humanitarian and democratic ideals, and its values are based on respect for the equality, worth, and dignity of all people. Since its beginnings over a century ago, social work practice has focused on meeting human needs and developing human potential. Human rights and social justice serve as the motivation and justification for social work action. Utilizing theories of human behaviour and social systems, social work intervenes at the points where people interact with their environment. Principles of human rights and social justice are fundamental to social work (BASW, 2002). As a social work the researcher was interested to investigate the reason for dissatisfaction of people living around Pugu and Kazimzumbwi forest reserves. To find out if the establishment of these forests observed the human needs and developing human potential. In addition to human needs to find out if the rights and social justice of local people around these forests were observed in the establishment and maintenance of Pugu and Kazimzumbwi forest reserves.

## **1.2 Statement of the Problem**

People in economically poor countries as Tanzania often depend on extracting resources from nearby forests for their livelihoods, whether for consumption or fuel wood, or as a source of income. The main objective of reserving forests in Tanzania is

to prevent forest degradation and detriment of the general biological diversity from such unsustainable forest resources utilization. The process of reserving forests results into restricting access to forest resources among rural communities (Kajembe, 2009).

However the main economic activities in the area include farm activities like crop cultivation and non-farm activities, such as charcoal selling and Crop grown include: cassava, maize, paddy, palm, potatoes, peas and fruits. Non-farm activities include; charcoal making and selling, pole cutting for housing construction, firewood collection, timber logging and small business. Non- farm activities made 31.4 percent of the population and 73.7 percent were farmers before the establishment of Pugu and Kazimzumbwi forest (Discov.Innov, 2007). Therefore putting restriction on the use of forest products while almost all their livelihood activities depend on the forest make local people vulnerable.

Social work values recognizes the complexity of interactions between human beings and their environment, and the capacity of people both to be affected by and to alter the multiple influences upon them including bio-psychosocial factors (Emmons and Diener, 1986). As a social worker I found that literature is rich on the importance of reserving forests for wildlife and biodiversity conservation but it is scant in discussing the extent to which reserving forests impacts local communities adjacent to the forests. It is from this ground this study was conducted to particularly search on kinds of impacts that forest reserves have on local communities adjacent to the reserved forests. The study made reference to two forest reserves in Tanzania namely Pugu and Kazimzumbwi.

### **1.3 Objectives of the Study**

This study had one general objective which is to examine the impacts of reserving Pugu and Kazimzumbwi forests on people's livelihoods in the community surrounding these forests.

The study had the following specific objectives:

- i) To identify and examine social, economic and cultural impacts of reserving Pugu and Kazimzumbwi forests on surrounding communities between 2000 and 2012
- (ii) To establish on how best Pugu and kazimzumbwi forest reserves can be managed so that can benefit the communities surrounding the reserved forests.

### **1.4 Research Questions**

The research had one general question which is to examine how has the individual livelihoods improved or deteriorate since the reservation of the Pugu and Kazimzumbwi forests.

The study has the following specific questions:

- i) What were peoples' major sources of incomes before the protection of Pugu and Kazimzumbwi forests in the communities surrounding these forests and how these have changed after the reservation of these forests?
- ii) How social services such as education, health, communication, transport and transportation, and water supply have been impacted by the reservation of the Pugu and Kazimzumbwi forests in terms of availability and access?
- iii) Did cultural aspects have changed as a result of conserving the Pugu and Kazimzumbwi forests?

### **1.5 Significance of the Study**

It is hoped that findings from this study will provide a basis for a long-term initiative to manage the resources in forest reserves through various approaches for the benefit of local communities. It is further hoped that the study will also give a way on how to reduce or eliminate conflicts between local peoples and national and international interests on how the resource available from the Kazimzumbwi and Pugu forest reserves be utilized. This may in turn lead to sustainable utilization of the resources from the Pugu and Kazimzumbwi reserves.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

In this chapter the research from different Authors will be presented reflecting available information on impact of reserving forest to the local people. The literature included study carried in different countries by different authors. It shows what information is available and what is not yet discovered and need to be researched. Also it present key concepts of the study, that is livelihoods, poverty, benefits of reserving forests and its costs to the surrounding communities. The benefits were presented as supporting services, provisioning services and cultural benefits. On the other hand cost of reserving Pugu and Kazimzumbwi forests was presented as cultural costs, social costs and economic costs. Theoretical framework was also presented in this chapter explaining what theory was used to interpret the data and why it fit in this study.

#### **2.1 Conceptualization of the Key Concepts**

The world has experienced dramatic environmental and economic changes in recent decades. Phenomena like population growth; rapid urbanization processes, increasing poverty but also environmental degradation, climate change, and the increase in the natural disasters have affected the social and economic development in many parts of the world (Donald and Marcus, 2005). Because of these different factors, which are summarized under the term “global change”, many people have become more vulnerable to the negative effects of very different hazards. Poverty as the other important aspect is prevalent in large parts of the world and is one of the largest challenges of mankind in the 21<sup>st</sup> Century. Therefore the member states of the United Nations decided at the Millenium summit in 2000 to combat global poverty and to

halve the number of poor people by the year 2015.

The millennium development Goals (MGDs) name the quantitative targets and indicators in order to measure progress in the fight against poverty. The achievement of these targets is jeopardized by global change, because poor people especially those who live nearby forest reserves have the least possibilities to cope with its negative effects. Therefore it is important to analyze their vulnerability to different risks and subsequently to enhance their abilities to cope with these effects (Donald, 2005).

Social work is sanctioned by society to provide specific services targeted primarily at helping vulnerable populations engage in efforts to change themselves, the people around them, or social institutions. Social worker has the purpose of helping others meet social needs or eliminate difficulties, helping other to function more comfortably within their environment, helping to modify environment to be supportive of people. Also social worker operates to ensure the fairness and moral rightness in how social institutions such as governments, corporations, and powerful groups recognize and support the basic human rights of all people. They strive for economic justice that is fairness in apportioning and distribution of economic resources, opportunities and burdens such as cost of forest reservation. It is from these roles of social work that this study was conducted to investigate the impacts of Pugu and kazimzumbwi reservation to vulnerable poor communities living adjacent to these forests.

### **2.1.1 Poverty**

Natural resource management decisions are increasingly discussed in relation to poverty and livelihoods. 'Livelihoods' represent the means of living, and 'poverty' is

typically an outcome-based measure of livelihood performance (Sunderlin *et al.*, 2005). Traditionally, poverty has often been measured in terms of absolute income, with a common indicator defining the ‘poor’ as those who earn less than US\$1 per day (Anglesen and Wunder, 2003). Examined from a perspective of radical social work poverty and vulnerability is the result of normal functioning of the principal institutions of capitalism-specifically, labor markets, social class divisions and the state. If an individual possesses both labor and capital, his chance of being poor or in a low income percentile is substantially less than if only labor is possessed. Therefore any acts that tend to limit or eliminate capital to an individual or community it force the individual or community to become poor. Those community that lack means of production become susceptible to shocks, trends and seasonality.

The united nations high Commission for refugees (UNHCR) defines “poverty” as a human condition characterized by the sustained or chronic deprivation of resources, capabilities, choices, security and power necessary for an adequate standard of living and other civil, cultural, economic, political as well as social rights (UNHCR, 2004).

Thus, poverty can be described as the state of being without the necessities of daily living, often associated with need, hardship and lack of resources across a wide range of circumstances. However, economic deprivation-lack of income- is a standard feature of most definitions of poverty. But this in itself does not take account of the myriad of social, cultural and political aspects of phenomenon. Poverty is not only deprivation of economic or material resources but also a violation of human dignity.

For the purpose of this study the UNHCR definition of poverty was used to explain the findings.



The Human Development Index (HDI), developed by the United Nations Development Programme (UNDP), also includes health and education parameters. Livelihoods can be improved, for example, if natural capital is managed sustainably, and vulnerability to changes in the environment or market is lowered. All these factors are considered in the following investigation of the social and economic impacts of forest reserves under different forms of management and governance to local communities' adjacent forest reserves (Kaimowitz, 2003).

### **2.1.2 Livelihoods and Forest Resource Use**

Kaimowitz (2003) reviews the importance of forest resources to local communities. The users of forest products include forest dwellers, nearby farmers, commercial users (including small traders, producers and employees) and the urban poor. Timber, non-timber forest products (NTFPs) and animal protein are all used by the rural poor for subsistence, and also as a source of income and employment (Angelsen and Wunder, 2003). Depending on circumstances, forest products may offer both a 'daily net' and a 'safety net'. The 'daily net' describes everyday use, with products meeting current household needs, offering a reliable source of income to purchase agricultural inputs (Shackleton, 2004), or fodder for livestock herds. A 'safety net' comes into play when other sources of household income (e.g. plantations) fail to meet dietary shortfalls, or whenever a quick cash option is required (McSweeney, 2003).

Socialist social worker focus on identifying the underlying conditions that generates poverty and crime; and helping the powerless to claim more power. There are three ways for social workers to help clients (Communities around Pugu and Kazimzumbwi forest reserves) improve the amount of power they possess and the resources they can

secure. The first is to help them fight every inch of the way to gain rights, entitlements and a share of whatever goods are around. Those with the greatest needs experience the poorest provision in our society as for the case of people living around Pugu and Kazimzumbwi forest reserves.

The second is that as social worker argues that social problems result from the harsh and inevitable consequences of a capitalist economy and the ideological climate set by the ruling classes. People who live in rotten house, who subsist on meager income and who have few opportunities to escape the bottom of the social pile are not well place to behave 'reasonably'. Yet any signs of unreasonable behaviour on their part is liable to be severely checked and punished. For instance for the case of illegal harvesting of forest products at Pugu and Kazimzumbwi forest reserves local people got bitten and send to jail or pay high fines.

The third element used by radical structuralize social worker is collective action. By uniting in thought and deed, Community and social workers offer a more powerful political force in the face of significant issues. As for the case of this study a more powerful political force can solve continuous conflict and displacement that take place around Pugu and kazimzumbwi forest reserves. The cold, calculating and impersonal nature of both policy and practice in state welfare capitalism is exposed and criticized for what it is at every opportunity. It is from these grounds that this research was conducted to investigate and expose the bad policy and practice used to deprive resources from local people living around Pugu and Kazimzumbwi forest reserves.

## **2.2 Benefits of Forests to Surrounding Communities**

At a global or national scale benefits of forests can include the ecosystem services listed in the Millennium Ecosystem Assessment (2005) such as provisioning services (such as food, firewood, water) supporting (nutrient cycling, primary production), regulating services (climate or water purification) and cultural services (spiritual, recreational). Many of these benefits are often only fully appreciated on coarse national or global scales, including substantial financial value at their point of consumption, this typically does not occur at local level. Balmford and Whitten (2003) argue that the immediate opportunity costs of reserving forests most often exceed the management-related costs of maintaining forest reserves and that these costs are borne largely by local communities.

Costs and benefits of protected areas may be also describes as being direct or indirect. Direct benefits include the use of natural resources for construction, food, medicine or fuel, whilst indirect benefits may be watershed protection and improved agricultural productivity (Kaimowitz, 2003). On local scales benefits include those derived from forest reserves and infrastructure, such as financial gains from ecotourism and employment and through payments for environmental services (Ferraro and Kiss 2002; Grieg-Gran *et al.*, 2005). The benefit of biodiversity conservation is clear at the global scale. Intact ecosystems are thought to have more resilience to change, and to provide more ecosystem services (e.g. Cardinale *et al.*, 2006; Fox, 2006). However, the direct benefits to local livelihoods depend upon protected area management strategies: the inclusion or exclusion of those local communities and their livelihood activities, or the sharing of protected area benefits with surrounding communities.

### **2.2.1 Supporting and Regulating Services**

Supporting and regulating services include generating and maintaining soils, primary production, sustaining hydrological cycles, runoff control, and prevention of soil erosion and storing and cycling essential nutrients. For example, the forests of the Korup National Park, Cameroon provide flood control for agricultural land, and help to sustain downstream mangrove fisheries. The annual net benefit of these watershed functions has been estimated at US\$85 per hectare of forest (Ruitenbeck, 1992; Myers, 1996). Local communities may not recognize or value these services when their benefits accrue at the regional, national and global scales (Myers, 1996), especially given that the costs of protection are mainly incurred at the local scale (Balmford *et al.*, 2002).

Despite the problems surrounding the identification and distribution of benefits, many are recognized by local communities. In the Kerinci Seblat National Park, Indonesia, 88 percent of farmers, thought that forest loss would result in flooding, soil erosion and attacks from insect pests respectively (Linkie *et al.*, 2007). In the Annapurna community reserve, Nepal, communities have reported improved water resources after an increase in forest cover in the reserve (Bajracharya *et al.*, 2006). In Huertar Norte, Costa Rica, participants in a payment for ecosystem services scheme reported that reforestation in the area had improved soils and promoted tourism (Miranda *et al.*, 2002).

### **2.2.2 Provisioning Services**

It is often possible to identify and quantify the provisioning services provided by forest protected areas, as they are mostly direct benefits with visible economic impacts. The

reliance of local communities on forest resources has already been highlighted, and it could be suggested that one of the biggest benefits of forest reserves for local people is the protection of forest resources for future generations. Brown *et al.* (2000) argue that the designation and sustainable use of protected areas can also lead to a more reliable resource base, whilst safeguarding the natural resources of a region for future use. The pattern of boom and bust in forest resource exploitation cycles can be replaced with a steadier economic base and the direction of benefits to local communities. For these reasons, some communities have set up their own restrictions on forest use, citing the value of future use of forest resources as their primary motivation (Barton-Bray *et al.* 2003).

Whilst not focusing specifically on forest reserves, Belcher *et al.* (2005) review the use and management of NTFPs and their implications for livelihoods and conservation. NTFPs can include food, fiber, incense, medicinal plants or rubber. A small percentage of NTFPs enter local, regional or international markets, providing a cash income to producer households. They are more often consumed directly by the communities that extract them; in either case they may act as a daily net (e.g. providing food for subsistence or sale), or an infrequent safety-net. In the latter case, lives may depend upon NTFP availability, particularly as the poorest groups within a community make disproportionate use of NTFPs (Hamilton, 2004).

### **2.2.3 Cultural Benefits**

Whilst the services discussed in the preceding sections are probably more easily quantifiable, the cultural benefits of forest protected areas are an intrinsic aspect of their role in local livelihoods. McNeely (1994) discusses the opportunities for social

benefits of protected areas, and concludes that forest reserves can play a crucial role in maintaining cultural identity, preserving traditional landscapes and empowering local knowledge. For example, attitudinal surveys undertaken in the Wolong Biosphere Reserve, in southwestern China, indicate that the principal social development benefit of the reserve is that of increased social stability and cultural identity (Lü *et al.*, 2003). These benefits may be less visible and tangible, but can be highly valued by local communities. NTFPs such as medicinal plants can be symbolically and culturally important, providing livelihood benefits through their social significance. Their value is not limited to that of a financial asset (Lü *et al.*, 2003).

Hamilton (2004) describes how medicinal plants may be “held in special religious, nationalistic or ideological esteem”, which he argues can be advantageous for conservation, by helping to establish culturally-based support for the value of flora and fauna (Hamilton, 2004). Local knowledge of traditional medicinal practices and resources can be a source of employment opportunities for local communities, to serve local needs and sometimes through assistance to research projects. Its value is also intrinsic, however; providing a source of local empowerment and identity.

Many ethnic groups in Tanzania have collectively or individually conserved forest areas for a range of social, cultural, religious and other traditional purposes. Traditional forests can be thought of as either communal or private forest reserves that have not undergone any official establishment process. Perhaps the most well documented examples of this type of forest are the *ngitili* forests of Shinyanga and Mwanza regions. As a strategy to cope with shortages of fodder during the dry season, the Wasukuma pastoralists developed an indigenous fodder conservation system,

called *ngitili*, which protects natural rangelands through controlled and deferred grazing. The final few weeks of the dry season are a critical and vulnerable time for livestock keepers, as all sources of grazing and browse are usually exhausted. *Ngitili* forests provide a reserve of fodder during this critical period. By enclosing a designated area as bush fallow and allowing livestock to use it only during this critical time, traditionally reserved forests are protected, resulting in rapid regeneration and re-establishment of trees. The browse trees play an important role in the nutrition of livestock, particularly as supplements to grasses and crop residues (Mlenge, 2004).

In spite of this traditional way of reserving forest reserve the government have introduced protected forest reserves in which local communities are not allowed to use forest products as they used to do so when they were conserving forests by traditional means. Therefore despite of the benefit of reserving forest reserve to the local communities surrounding the forest very little is known about the impact of reserving these forests to local communities. This study was conducted to investigate what are the impacts of reserving forest and how they affect local communities living adjacent to forest reserves in Tanzania.

### **2.3. Costs of Reserving Forests**

The costs associated with forest reserves at local scales can include changes in land tenure and community structures, restricted employment opportunities, the commercialization of forest products and services, and human-wildlife conflicts (Coad *et al.*, 2008). In a review of multiple case studies, West and Brockington (2006) found costs to local communities that range from ill health, guerrilla movements, drug trafficking, to the erosion of local cultures and norms. Other costs may include

displacement either physical or from resources: of shelter or access to assets, without community involvement (World Bank, 2004). Displacement can have led to many socio-economic implications including landlessness; joblessness; homelessness; marginalization; food insecurity; increased morbidity and mortality; loss of access to common property and social disarticulation (Cernea,1997).

### **2.3.1 Cultural Costs**

Chapel *et al.* (2003) show that through the IUCN process of listing and cataloging protected-area types, and IUCN's attempt to create a worldwide category system, national governments have to fit their protected lands into these international categories that separate people from their surroundings. This is a form of the generification (West and Carrier 2004) of the external world the IUCN takes an externally imagined set of categories and restructures the world to fit these categories with limited indigenous peoples as ecologically noble regard for national or local descriptive categories. Anthropologically speaking, these separations mirror Western imaginaries of nature and culture and impose them on much of the world (Gillison, 1980; Johnson 2000; Strathern, 1980).

Nygren (1998) argue that NGOs rely heavily on the western division between nature and culture. NGO publications frequently present nature as a static object, separate from human beings. By extension, they present the ecological effects of human activities as part of culture as unnatural. In other cases, they may savages, whose cultures are somehow closer to nature. Whether indigenous peoples are imagined, or project themselves (Adams ,2003), as inside or outside nature, however, the imposition of this putative nature dichotomy has had significant material and social impacts,



either by forcefully excluding people from their land or holding them to discursive standards that are nearly impossible to live up to in practice (Igoe, 2005 and West, 2001). Therefore this study was conducted to investigate to what extent establishment of forest reserve that limit access of local people on their access to the forest products will change their traditional way of life. It is the focus of this study to find out to what extent forest reserves have affected the culture of local communities surrounding the reserves.

### **2.3.2 Social Costs**

Forest reserves and conservation efforts have profound effects on gender relationships worldwide (Agarwal, 1997; Ghimire and Pimbert, 1997; Schroeder 1993). In the Maya Biosphere Reserve in Guatemala, project planners targeted the men as the primary agents of social change, whereas the planners initially virtually ignored the women (Sundberg, 2003). Because they were ignored, women began to build alliances and work outside of their immediate family. This allowed women new ways of constituting themselves as persons. Instead of making self only through family interactions, women broadened their social networks and their networks of self-reliance (Sundberg, 2004).

Similarly, in Costa Rica, women's participation in handcraft production projects aimed at tourist markets has given them economic power that they did not have in the past (Vivanco, 2001). Women participation in handicraft projects that have emerged because of conservation and ecotourism in Costa Rica have changed the way women produce crafts and the imagery used in the crafts. Women now incorporate images of the quetzal into their designs, even if they have never seen the birds before (Vivanco, 2001).

### **2. 3.3 Economic Costs of Reserving Forest in Tanzania**

In Tanzania like any other countries in the world, forests have many values for the people living adjacent to the forest reserves. People conceive the forest to be a source of rainfall and fuel woods, as well as water source (Kajembe and Mwaseba, 1994; Roe *et al.*, 2002). It is estimated that honey, charcoal, fuel wood, and wild fruits contribute 58 percent of the cash incomes of farmers in six villages surveyed in a semiarid region of the country. Honey alone accounted for one third of all cash income in these villages Monela *et al.*, (2000). According to the surveyed farmers, agriculture has become less profitable, thus inducing them to find other means for earning a living, for example, collecting and selling forest produce. Forest resources clearly provide an important “safety net” for resource-poor households, particularly at times when other income sources are unavailable, for example, when rains fail and harvests are poor (Blomley and Ramadhani, 2006).

A further constraint to households securing optimal benefits from wood lands and forests is the fragmentation of laws and policies regarding natural resource management. It is clearly seen up to this point that there is enough literature available on the social impact of forest reserves on local communities at global level but at national and local level very little is known on the impact of reserving forests to the surrounding local communities especially in Tanzania. Therefore this study was conducted to investigate the social, economic and cultural impacts of reserving forests to local communities in Tanzania.

### **2.4 Theoretical Framework**

A theoretical framework accounts for or explains phenomena. It attempts to clarify

why things are the way they are based on theories. For this study the theoretical framework has been used to explain why reserving forest have impacted local people living around Pugu and Kazimzumbwi forest reserves. The sustainable livelihoods framework is the one which was used to explaining why Pugu and Kazimzumbwi forest reserves affect local people. The livelihoods framework is a tool to improve our understanding of livelihoods, particularly the livelihoods of the poor. It was developed over a period of several months by the Sustainable Rural Livelihoods Advisory Committee, building on earlier work by the Institute of Development Studies (DFID, 1999).

#### **2.4.1 The Vulnerability Context**

The Vulnerability Context frames the external environment in which people exist.

The International Strategy for disaster Reduction (UN/ISDR) sees vulnerability as “The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impacts of hazards” (UN/ISDR 2004).

The United Nations Development Programme in contrast defines vulnerability as: “A human condition or process resulting from physical, social, economic and environmental factors, which determine the likelihood and scale of damage from the impact of a given hazard” (UNDP, 2004). Both definitions like many of the other definitions put an emphasis on human conditions as a major factor of vulnerability (Birkmann, 2005).

German Technical Cooperation (GTZ) states that “vulnerability is caused by a broad

range of political, institutional, economic, environmental and socio-cultural factors such as insufficient knowledge, organizational gaps, lack of personal and financial resources, inadequate legislation, etc (GTZ, 2005). Using this cause of vulnerability for this study reserving Pugu and Kazimzumbwi forests made people living around them vulnerable to the impacts of critical trends as well as by shocks and seasonality over which they have limited or no control.

Table 2.1: Trends, shocks and seasonality

Trends	Shock	Seasonality
<ul style="list-style-type: none"> <li>• Population trends</li> <li>• Resource trends (including conflict)</li> <li>• National/international economic trends</li> </ul>	<ul style="list-style-type: none"> <li>• Human health shocks</li> <li>• Natural shocks</li> <li>• Economic shocks</li> <li>• Conflict</li> <li>• Crop/livestock health shocks</li> </ul>	<ul style="list-style-type: none"> <li>• Of prices</li> <li>• Of production</li> <li>• Of health</li> <li>• Of employment opportunities</li> </ul>

Source: DFID, (1999)

The Sustainable livelihoods framework fit well in this research because it is a tool to improve our understanding of livelihoods, particularly the livelihood of the poor. This is in line with the focus of this study because the study also focuses on the impact of reserving forests on livelihoods of local people who most of them are poor. This theoretical framework presents the main factors that affect people's livelihoods and typical relationships between these in doing so it answer the research questions of this study. It also centered on people with the aim of helping stakeholders with different perspectives debate about the factors that affect livelihoods, their relative importance

and the way in which they interact. Therefore this way the framework can be used in this research to investigate how reserving forests affects local people livelihoods (DFID, 1999).

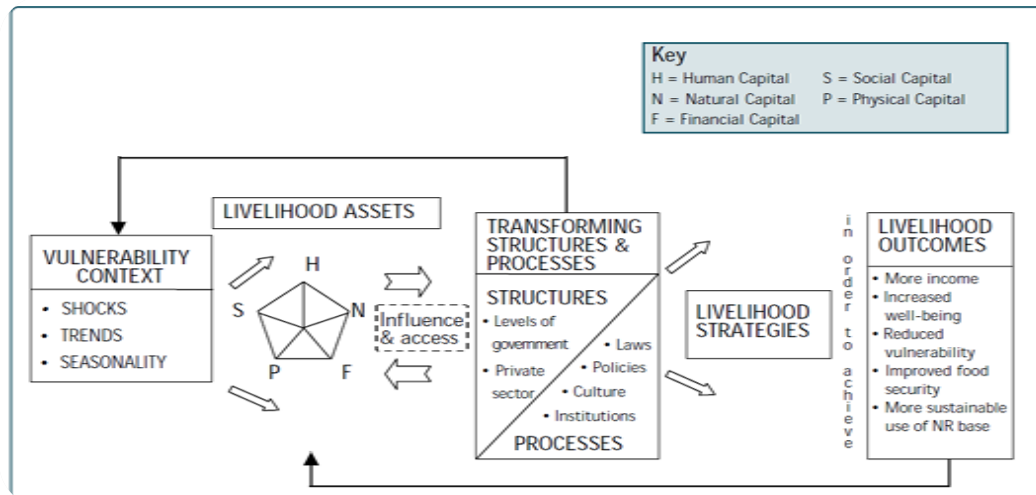


Figure 2.1: Sustainable Livelihood framework

Source: DFID (1999)

People's livelihoods and the wider availability of assets are fundamentally affected by critical trends as well as by shocks and seasonality over which they have limited or no control. However in this research the trends investigated were population trends, resource trends, social and economic trends. Shocks investigated were economic shocks and conflicts. Seasonality investigated was of production and of employment opportunities. All the trends, shocks and seasonality studied in this research are well explained by the sustainable livelihoods framework presented on figure 1 above.

#### 2.4.2 Resources and Population Trends

The 2002 census data revealed that almost 50 percent of the population was concentrated in only 39 percent of the total land area. In 1988, 50 percent of the

population occupied only 35 percent of the land. According to Maro (1983), 65 percent of the population was concentrated in only 28 percent of the total land area in 1978 census. Increases in population density are largely a function of natural increase and net migration patterns. The impact of high population density is reflected by land per capita which fell from around 12 hectares in 1948 to 4 hectares in 1988 (URT, 1991). The increase in population in Dar es salaam and Pwani region have huge impacts on reservation of Pugu and Kazimzumbwi Forest reserves as well on the livelihoods of local people living adjacent these two forests. Below is the table which shows the population of Pwani and Dar es Salaam region in different years.

**Table 2.2 Population Growth in Pwani and Dar es Salaam**

REGION	POPULATION PER YEAR				
YEARS	1967	1978	1988	2002	2012
PWANI	428041	516586	633352	885,017	1,098,668
DSM	356,286	843,090	1,357,248	2,487,288	4 , 364 , 541

Source: Census (2012)

From the study it was discovered that the rise in population put pressure in available land for cultivation and most of the time local people end up selling their land to immigrant to get money for their daily consumption and in turn left with nothing. Therefore with no support from Pugu and Kazimzumbwi forest reserves and left with no land local people are forced to encroach the forest in search of fire wood, charcoal and medicinal plant for domestic consumption and for sell so that to raise income. With increase in population the resource trends per capital tend to decrease. Establishment of Pugu and Kazimzumbwi forest limit the access of local people to forest products. Since these people have no enough resources to support their life

restrict them from using the forest endanger their survival and they left with no choice rather than harvesting illegally and suffer the consequence if caught by the authority. Therefore Pugu and Kazimzumbwi forest affect local people adjacent Pugu and Kazimzumbwi forest reserves.

### **2.4.3 Conflicts and Economic Shocks**

Findings reveal that there is longstanding boarder conflict between Nzasa and Kimwani villagers/ themselves as legal owners residents who identify of the land claimed to be within Kazimzumbwi forest landscape. The conflict is fueled by interventions from the central government whereby it is alleged that the Government has ordered a group of alleged illegal dwellers out of the forest until it resolves the conflict. Respondents were concerned, however, that the government has been lax in addressing the border conflict. Respondents pointed out that he conflict started in the early 1990's when the Chanika villagers through its chairman, Mr. Peter Leo, officially requested the MNRT to allow villagers to cultivate seasonal crops in Kazimzumbwi forest reserve.

The study also noted that some Nzasa residents purposefully set bush-fires irregularly with the intention of destroying Kazimzumbwi forest. Respondents also alleged that some officers at the Ilala Municipality permitted some Nzasa residents to live in the forest under the Municipality's development plan map (which the team members did not see) which allegedly indicates that the Pugu and Kazimzumbwi Forest Reserves borders have been altered to accommodate the residents. Also another conflict happened in 2011 at Nyeburu Street in Chanika ward between Ministry of Forest an Natural Resources and the residents of Nyeburu who was accused of cultivating in the

Pugu forest reserve area while they maintained that they did not enter into the forest reserves. The people were evicted under the Police intervention in collaboration with street chairman, Mr. Uchuro and Kisarawe District officer. The conflict causes people to live uncertain life and discourage their support on conserving Pugu and Kazimzumbwi forest reserves. Therefore Pugu and Kazimzumbwi forest reserves affect local people by subjecting them into conflict which was not there before, they are not there to further the interest of local people rather than looking at the interest of biodiversity conservationist.

This research found out that local community suffer from economic shocks as their agricultural produce have being minimize tremendously since they are left with insignificant farm outside their muddy house. No significant income from selling forest products such as woods, timber and charcoal because they are not allowed entering the forests. If they are found by forest guards selling charcoal on the road they become answerable on where they got the charcoal and required to show the receipt showing that they have paid tax for the bag of charcoal possessed. The study discovered that despite of preventing local people from using forest products there is no alternative source of energy put forward so that people can use. There is no place put aside for local people agricultural activities in spite of the truth that more than 75 percent of the local people depend on agriculture for their livelihood. No project to support local people agricultural activities in terms providing funds and other agricultural inputs to local people so that they can engage in sustainable agricultural activities. Therefore this suggest that Pugu and Kazimzumbwi forest reserve destroy the activities of local people livelihood without put alternative means of living hence force them to invade and destroy Pugu and Kazimzumbwi forests. All this result into



increased level of poverty for local people and this is due to restriction created by establishment of the two forest reserves.

#### **2.4.4 Transforming Structure and Processes**

The Tanzania government has enacted several laws in order to manage and conserve forests. These laws includes; the Forest Act, (2002), The Local Government (District Authorities) Act (1982, the Wildlife Conservation Act (1974), Land Act (1999) and the Village Land Act (1999). The objective of this study therefore, was to review the existing legal and institutional Frame work governing Pugu and Kazimzumbwi forest and to identify feasible legal and institutional options for the sustainable utilization of Pugu and Kazimzumbwi forest reserves.

This study discovered that the application of this policy have affected local people at Kazimzumbwi forest since they depended on forest for charcoal production and firewood collection. Preventing local people from collecting fire wood affect women who have to go longer distant everyday to fetch woods and this make their house cooking impossible. Also it cut their source of income which depended on wood selling. This study also discovered that not the local people who destroy Pugu and Kazimzumbwi forest to large extent rather the destruction is caused by Dar es salaam resident who extract timber, poles and charcoal for selling.

Standing on the road it was observed that tens of truck with charcoal, timber and woods heading to Dar es Salaam via Chanika road and Kisarawe from the forests. This also suggests that the policies affect the poor local people nearby the forest. Therefore local people get affected by establishment of Pugu and Kazimzumbwi forest while

others especially Dar es salaam resident benefit from Pugu and Kazimzumbwi forest through extraction of poles, timber ,charcoal and immigrate into the local areas to establish their farms and even to live there. For instance there is a cement factory and a big nice hotel built at Kazimzumbwi village nearby the Kazimzumbwi forest reserves. This implies that restriction and bun of activities only imposed on poor local people with no money but not to the rich people who do not depend on these forests for their survival.

## **2.5 The Significance of Sustainable Livelihood Framework**

The factors that make up the Vulnerability Context are important because they have a direct impact upon people's asset status and the options that are open to them in pursuit of beneficial livelihood outcomes. Knowing these factors will help to understand the impact that forest reserve would have on local people based on accessibility of employment, health services, productive land and the price of commodity of goods and services. Shocks can destroy assets directly. They can also force people to abandon their home areas and dispose of assets (such as land) prematurely as part of coping strategies.

Recent events have highlighted the impact that international economic shocks, including rapid changes in exchange rates and terms of trade, can have on the very poor. Trends may (or may not) be more benign, though they are more predictable. They have a particularly important influence on rates of return to chosen livelihood strategies. Seasonal shifts in prices, employment opportunities and food availability are one of the greatest and most enduring sources of hardship for poor people in developing countries.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.0 Introduction**

This chapter presents the way in which this research was carried out. It describes the study area location and its state of existence. It explains about its population, ethnicity and economics activities of the local people. This chapter also present the research design used and data collection techniques. It explains why the research design and data collection techniques were used in this study.

Research methodology is a way to systematically solve the research problem. When we talk of research methodology we are not only talking of the research methods but also consider the logic behind the methods we use in the context of our research study and explain why we are using particular methods or techniques and why not using the other so that research results are capable of being evaluated either by the researcher himself or by others. It also explain why a research study has been undertaken, how the research problem has been defined, in what ways and why the hypothesis has been formulated, what data have been collected and what particular method has been adopted, why particular technique of analyzing data has been used (Kothari, 2004).

#### **3.1 Description of the Study Area**

The study area covered the two forest reserves of Pugu and Kazimzumbwi. The forests are located in Kisarawe Coast Region with a small portion in Ilala district in Dar es Salaam region. The study covered four villages bordering the forest reserves namely Pugu Kajiungeni, Kisarawe, Buyuni, and Kazimzumbwi.

### **3.1.1 Pugu Forest Reserves**

Before gazettelement the forest was known as Kinyanyiko, the first hill on the way to Kisarawe from Pugu. The forest was declared a Forest Reserve in 1947 in Forest Ordinance Cap 132. It was surveyed in 1954 and the map was drawn in 1967, the area of the forest is 2410ha. The following villages surround the forest; Pugu Kajiungeni, Pugu stesheni and Kisarawe. Pugu Forest Reserve is located between 39005'E, 6054'S, with altitudinal range between 100 and 305 meters above sea level.

### **3.1.2 Kazimzumbwi Forest Reserves**

Kazimzumbwi Forest Reserve was officially declared a forest reserve in Government Notice No. 306 of 24th 1954 (Holmes, 1995). Kazimzumbwi is in Kisarawe District Coastal Region, with a total area of 4862.5 ha. It borders with Pugu, Chanika and Buyuni villages to the southeast, Kisanga, Kazimzumbwi and Kisarawe villages to the east. The forest is situated at the southwest of Dar es Salaam between grid reference 6055' –7002'S and 39002' – 39004'E at an altitude ranging from 120-300 meter above sea level and temperature between 240C- 310C. The name Kazimzumbwi has its origin in two branches – Mzumbwi River and water well known as Ng'azi but Europeans pronounced it as Kazi. The Mzumbwi River pours its water into Ng'azi – Thus Kazimzumbwi.

### **3.2.3 Population, Ethnicity and Economic Activities in the Study Area**

#### **3.2.3.1 Population**

The population of the area is about 105172(NBS, 2012). The interviews revealed that over 62.0 per cent of the respondents had not attended formal education. Further results indicate that only 33 per cent of the respondents had primary school education

and only 5 per cent of the interviewees had secondary education and none had attained college, vocational or university education.

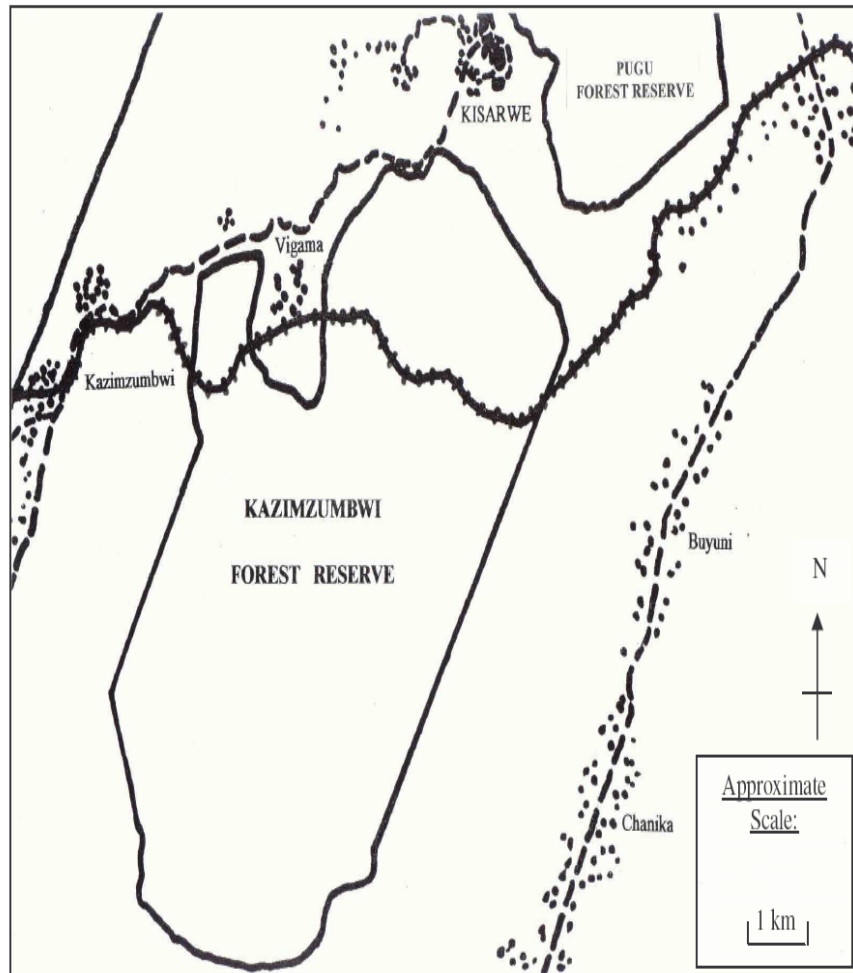


Figure 3.1: The map of Pugu and Kazimzumbwi forest reserves

Source: Fieldwork (2012)

According to Leach (1987), most African societies with high income house hold stand to have large household size because they usually attract distant relatives or employ servants thus consuming more wood fuel. Smaller households are often characterised by young couples, bachelors and elderly people who tend to generate small incomes

and consuming less wood fuel. This situation abounds in Dar es Salaam where demand for forest products is very high. The survey results also confirmed that there has been a tremendous rise in population size in the surveyed villages within the last two decades.

**Table 3.1: Education Level of the Respondents**

Level of education	Frequency	Percentage
None	74	62.0
Primary education	40	33.0
Secondary education	6	5.0
College/Vocational	0	0
University	0	0
Total	120	100.0

Source: Field work (2012)

The results shown in Table 3.2 indicate that in 1980 only 9.5 per cent of these respondents had more than five children and 43.2 per cent had no children at all. However, in 1999 the number of those with more than five children had more than doubled to 25 per cent, while those who had no children were only 16.4 per cent. These results suggest that the fertility rate in the studied areas is high. The trend of dependants has also been on the increase. During focus group meetings, it was discovered that most dependants are mainly grand children whose parents migrate to the nearby Dar es Salaam region, or are left to stay with their grandparents when the parents opt for polygamy. The increase in the size of families is an important catalyst for forest depletion and, may be an indication of poverty. It is well documented that demand for forest products is determined by such factors as total population,

household size, cooking methods, prices and availability of alternative fuels, and household income.

**Table 3.2: The Trend of Family Size in the Surveyed Areas**

Number of children			Number of dependants		
Number	1980 (%)	1999 (%)	1980 (%)	1999 (%)	
5+	9.5	25.0	5+	4.3	5.0
4 or 3	18.3	33.0	4 or 3	7.5	13.7
2 or 1	28.0	24.0	2 or 1	21.3	37.0
0	43.2	16.4	0	66.9	44.3

Source: Field survey data (2012)

### **3.2.3.2 Ethnicity**

Pugu and Kazimzumbwi forest village close to Kisarawe, about 20km south-west of Dar es salaam. It is formally an administrative ward of the Ilala District, in the Dar es Salaam region. At the 2002 census, the Pugu ward had a total population of 14,652. The local population is mostly from the Zaramo ethnic group, with a smaller percentage of Makonde people. Other ethnic groups include Ngoni, nyakyusa, mboga, pogoro, hehe, ngindo, matumbi, ha, luguru, ndengeleko, yao, matengo, nyamwezi, chaga, pare, mwera, kwere, makua, sangu, sukuma, haya, gogo and some other small groups. The Zaramo comprises of larger population.

### **3.2.3.3 Existing Economic Activities**

The main economic activities in the area include farm activities like crop cultivation and non-farm activities, such as charcoal selling and business. Crop grown include: cassava, maize, paddy, palm, potatoes, peas and fruits. Non-farm activities include;

charcoal making and selling, pole cutting for housing construction, firewood collection, timber logging and small business (Discov.Innov, 2007). The field survey attempted to trace the type of economic activities that are common among the surveyed areas. The investigation involved the occupational categories before and after shifting into the present locality. The results are shown in Table 7. The results indicate that the majority (73.7 per cent) of the respondents were farmers before moving to the surveyed villages. Another dominant activity is trade. During the focus group meetings it was revealed that in all villages there were petty traders of agricultural and forest products. An inquiry into their current occupation revealed that the majority (63.7 per cent of the responses) still identify themselves as farmers. The trading activity has more than doubled to about 31.4 per cent.

**Table 3.3: The Occupation of Respondents**

Activities before	Percentage	Activities now	Percentage
Farming	83.3	Farming	73.3
Fishing	0	Fishing	0
Hunting	3.1	Hunting	0.1
Trade	14.7	trading	31.4
Construction	4.7	Services	3.6
Local government staff	2.3	others	1.4

Source: Field work data (2012)

### **3.2.3.3a The Linkage Between Off - Farm and Farm Activities**

Off-farm activities are becoming important in poverty alleviation in the surveyed areas, and are generally associated with absolute poverty. Although assessing economic contribution of forest activities in the surveyed areas was not central to this



study, an assessment of income generated from various sub-sectors (especially from agriculture and forest related off-farm activities) is done in the subsequent sections. Off-farm activities sourced from the forests include procurement of timber, building poles and charcoal making. Other activities are those that use forest products as raw materials like furniture making, building industry and food preparation.

During the field survey it was clearly revealed that an increase in off-farm activities was not meant to displace farm activities but rather to complement them. Farm and off-farm activities are linked by income generated from the activities. The income is used to cater for daily expenditure for example on food, shelter, education expenses for children and health services. Part of the income is ploughed back in support of agriculture or off-farm activities or both. In this case, supporting development of these activities is vital in poverty reduction initiatives.

#### **3.2.3.3b Income from Economic Activities**

An attempt was made to study the average income received from various economic activities through capturing the average sales per day. In the case of farmers it was revealed that they could sell their agricultural outputs in a maximum of three months in one year, using the rest of the months to procure the products. Charcoal makers indicated that it takes time in procuring and processing forest products such that they can sell charcoal for about 6 months in a year.

Table 3.2 shows that the minimum sale per day is TShs 300. Taking this as the minimum for the 31.4 per cent of the population, and assuming that it is for farmers who estimate three months as the average trading time, the average sales will average

TShs 27,000 in one year. A maximum of TShs 1,000 per day would give TShs 90,000 for one year and an average sale of TShs 600 per day would give an average annual sale of TShs 54,000. If the people with the same sales per day are engaged in forest related activity the estimated income would double. Similar income levels can be computed for the people with sales per day of between TShs 1,150 and TShs 5,000, TShs 6,000 and TShs 10,000, and above TShs 10,000. The conclusion from these results is that income generated from forest-related activities is higher and may be twice the income generated through agricultural activities

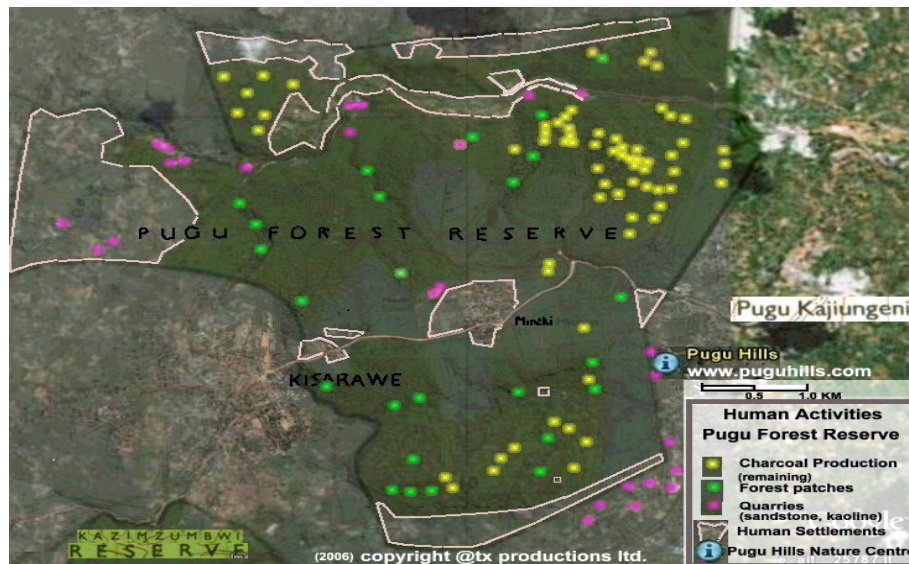


Figure 3.2: Pugu Forest human activities

Source: [www.puguhills.com](http://www.puguhills.com) 01/05/2012

### 3.2.3.3c Trend and Use of Generated Income

The income generated from forest related activities is used to provide for various needs, which vary among individuals but mainly include food, clothing and shelter. Other needs include payment for health services, education, and to some people, water services. Checking on the effect of continued harvesting of forests showed that, three out of four (75 per cent) respondents who deal with activities involving forest products

claimed that the supply of forest products as a source of raw material for making furniture and building materials has been declining. Two major reasons are given for the decline. The first one is increased government's efforts to curb or reduce illegal harvesting of the forests. The second reason is that the forests are over-harvested and require more resources including time to obtain the same type and quantity of forest products.

**Table 3.4: The Average Sales per Day for the Forest Related Products**

Amount (TSHS)	Percentage
300-1000	31.4
1150-5000	41.6
6000-10000	21.2
10,000	5.8
TOTAL	100

Source: Fieldwork data (2012)

The study sought to capture the effects of prices and other reasons on the observed trend. Respondents were directed to indicate whether prices of the forest products (charcoal, building poles, etc.) have been increasing, are constant, decreasing or don't know (as shown in Figure 3.3). The results showed that the view of majority of the respondents was that supply of the forest products has been declining which indicates a tragedy end in the future. The price of the products serves to confirm the trend of supply of the forest products. The researchers asked respondents on the observed trend of prices of various forest products and got a confirmation that there has been an increased price of almost all the forest products at the exit point partly attributed to

increased transportation costs to Dar es Salaam, and the general decline in the availability of trees.

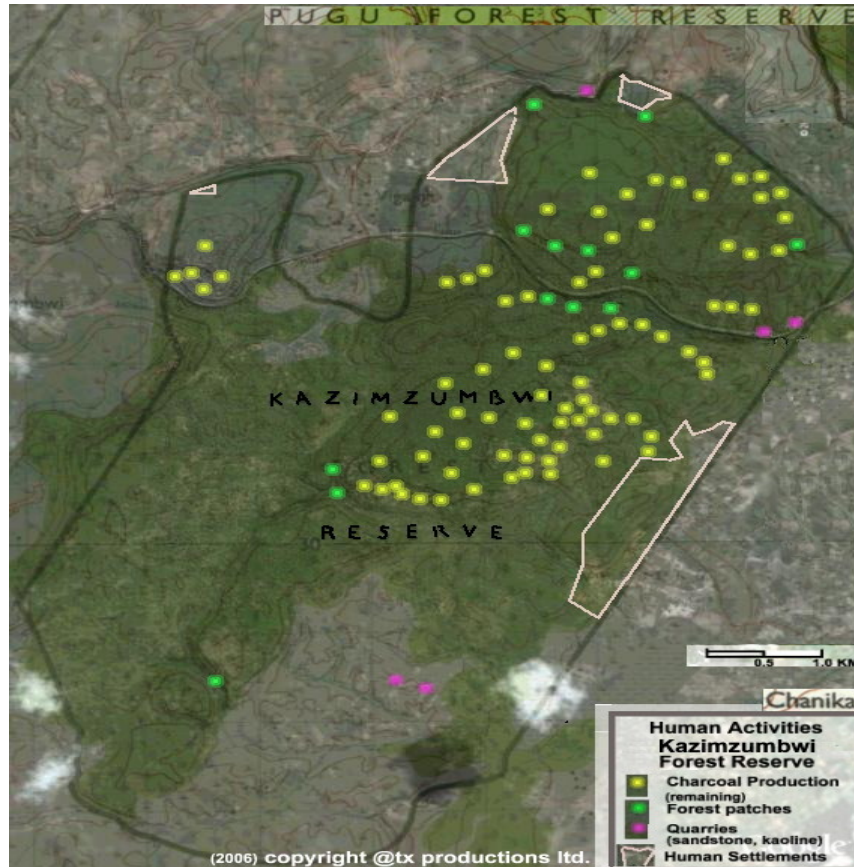


Figure 3.3: Kazimzumbwi human activities

Source: [www.puguhills.com](http://www.puguhills.com) 01/05/2012

### 3.3 Research Design

The research design is the logical sequence that connects the empirical data to a study's initial research questions and, ultimately, to its conclusions (Yin, 2003). It can also be seen as a blueprint, chain of evidence, or logical model of proof. It needs to maximize construct validity, internal validity, external validity and reliability. For the purpose of this research case study research design was used. According to Kothari (2004) the case study method is the study which places more emphasis on the full analysis of a limited number of events or conditions and their interrelations. The case

study deals with the processes that take place and their interrelationship. Thus, case study is essentially an intensive investigation of the particular unit under consideration. This case study design was used because it seek to describe a unit in details, in context and holistically. In case study a great deal can be learned from a few examples of the phenomenon under study. In this study this design allowed the researcher to collect data from few respondents and study them in details. This gave the researcher deeper insight of the impact of protected areas to local communities. This design allowed the researcher to analyze the effects of reserving forests on local communities.

Other designs are Descriptive design which describe the state of affairs as it exist (Orodho and Kombo, 2002), experimental design assigned to an experimental group, correlation design that assess the degree of the relation that exist between two variables (Orodho, 2003) and cross cultural research design used to compare behavior pattern of different culture. All of these design deal with specific issues and not a whole issues Descriptive research is description of the state of affairs as it exists.

Kerlinger (1969) points out that descriptive study are not only restricted to fact findings, but may often result in the formulation of important principles of knowledge and solution to significant problems. They are more than just a collection of data. They involve measurement, classification, analysis, comparison and interpretation of data (Kombo and Tromp, 2006). This design cannot fit in this study because it does not give details of each unit and the impact of one factor over the other in details. It does not give the insights and better understanding of the problems instead it describe the state as it is with explaining why.

In experimental design, subjects are randomly assigned to an experimental group which receives the treatment or to a control group which does not receive treatment. Assuming the two groups were initially equivalent, the researcher can compare their performance. In this design cause and effect can be easily determined. If this design is to be used independent and dependent variable must be certain and must guard against the influence of extraneous variables (Kombo and Tromp, 2006). This design cannot fit in this study because of the fact that we cannot control natural environment. To have experimental design control of some factors is must.

Also there is correlation design which enables the researcher to assess the degree of relationship that exists between two or more variables. It analyses the correlation between two or more variable (Orodho, 2003). This design cannot be used in this study because it does not concentrate on showing how the impact will be caused by one variable over the other instead it give only the relationship between them. The last design described in this study is Cross Cultural research design used to compare the behavior patterns of different cultures. It can be used to perceive how various cultures perceive certain educational and social outcomes. This does not fit in this study because it focuses on the behavior of culture which is not the focus of this study.

### **3.4 Data Collection Techniques**

Yin (2003) identifies six sources of evidence that can be collected under the case study research design, each having their strengths and weaknesses. The first is documentation, which is stable because it can be reviewed repeatedly, it is unobtrusive, it is exact and it has a broad coverage. However, the selection and reporting can be biased, and the access can deliberately be blocked. The second is

archival records, which is the same as documentation, but in addition it also has the advantage of being precise and quantitative, and the disadvantage of being difficult to access due to privacy reasons. The third is an interview which is targeted and insightful, but also has disadvantages because they can be biased due to poorly constructed questions or poor responses, and they can be inaccurate due to poor recall.

Other data collection techniques are, direct observation which is the fourth technique and has the advantage of being real-time and contextual, but it can be time consuming, selective, the observed event may react different due to the observation, and is time consuming. The fifth is participant-observation which has the same characteristics as direct observations. It has an extra advantage as being insightful into interpersonal behavior and an extra disadvantage of the possibility of being biased due to manipulation. The sixth and last source of evidence is physical artifacts. They are insightful into cultural features and technical operations; however, selectivity and availability are disadvantages.

### **3.4.1 Collection of Primary Data**

Primary data were obtained through questionnaires, interviews, focus group discussion and observation. Table 3.5 show villages in which sample was drawn from and it also show number of sample size from each village with their percentage composition. At the end it shows the total number of respondent from both villages and their total percentage composition.

#### **3.4.1.1 Questionnaires**

Questionnaires refer to forms filled in by respondents or by a researcher. Questionnaires can be handed out or sent by mail and later collected or returned by

stamped addressed envelope. This method can be adopted for the entire population or sampled sectors. This was used to collect information about people's knowledge and perception on reserved forest. This information were coded and tabulated, then analyzed using Statistical Package for Social Science to investigate how forest reserves affect local people.

**Table 3.5: Village name and Percentage of respondents**

The	Name of village	Frequency	Percent	Valid Percent	Cumulative Percent
	Kajiungeni	30	25.0	25.0	25.0
	Kazimzumbwi	30	25.0	25.0	50.0
	Kisarawe	30	25.0	25.0	75.0
	Nyeburu	30	25.0	25.0	100.0
	Total	120	100.0	100.0	

Source: Field work (2012)

#### **3.4.1.2 Interview**

In interviews information were obtained through inquiry and recorded by enumerators. Guided questions were prior prepared. The interviewer used these questions to ensure the interviews were focused. The notes were coded and tabulated according to main themes. Each table was analyzed to determine the causal relationship between forest reserves and impact on local people's livelihood. Content analysis was used in the analysis. In content analysis the first step is to select the data source to be studied, and then develop a classification system to record the information. Content analysis consists of analyzing the contents of documentary materials such as books, magazines, newspaper and contents of all verbal materials which can be either spoken or printed (Kothari, 2004). The analysis of contents is a central activity whenever one is



concerned with the study of the nature of verbal materials. Content analysis examines the intensity with which certain words have been used. It develop a classification system to record the information .In interpreting results the frequency with which a symbol or idea appears may be interpreted as a measure of a measure of importance, attention or emphasis (Kombo *et al.*, 2006).

#### **3.4.1.3 Focus Group Discussion (FGD)**

Focus Group Discussion consist of a small number of individuals drawn together to express their views on a specific set of questions in group environment. This technique was applied so as to get back ground information on a topic. Later, when the survey data had been collected and analyzed, data from focus group helped better understand the results by facilitating a fuller interpretation of the survey data (Baker 1994). In this study a group of 6 people who are knowledgeable about forest reserves were selected and gathered at a specific site for the discussion Information was recorded using diaries and sound record. In the evening the data collected in the daytime was properly recorded and being digested to get clear meaning of it. Data collected using group discussion was then analysed using thematic analysis.

However in these two ways of analysis the focus was on the major themes of the collected data. The process of focused group discussion was divided in three parts namely the open part, questionnaire section and closing section. During the opening part, this is the time whereby the facilitator did welcome the group, introduce the purpose and context of the focus group, explain what a focus group is and how it will flow, and make the introductions of the issues to be discussed. The question section is where the facilitator asks the questions as written on the script for the participant to

contribute. In this section questions were asked and participant contributed while the facilitator listen effectively and record different opinion. Lastly is the closing section that wraps up the focus group. This includes thanking the participants, giving them an opportunity and avenue for further input, telling them how the data will be used, and explaining when the larger process will be completed.

#### **3.4.1.4 Observation**

Observation is a way of gathering data by watching behavior, events, or noting physical characteristics in their natural setting. Observations can be overt (everyone knows they are being observed) or covert (no one knows they are being observed and the observer is concealed). The benefit of covert observation is that people are more likely to behave naturally if they do not know they are being observed. However, you will typically need to conduct overt observations because of ethical problems related to concealing your observation. Observations can also be either direct or indirect. Direct observation is when you watch interactions, processes, or behaviors as they occur; for example, observing a teacher teaching a lesson from a written curriculum to determine whether they are delivering it with fidelity. Indirect observations are when you watch the results of interactions, processes, or behaviors; for example, measuring the amount of plate waste left by students in a school cafeteria to determine whether a new food is acceptable to them (Taylor,1996).

For the purpose of this study direct and indirect observation was carried out. In direct observation researcher visited Pugu and Kazimzumbwi forest reserves and sat along the road from the forest looking to individuals, bicycle, motorbike and truck coming from the forest carrying forest products such as timber, fuel woods, charcoals and

poles. Data was recorded and digested later in the evening. Also indirect observation was done by visiting Pugu and Kazimzumbwi forest to see the extent of deforestation. Pictures was taken and recorded.

### **3.4.2 Collection of Secondary Data**

Secondary data was obtained through a review of current literature on various topics and related studies. Other sources of secondary information included consultation with Misituyetu project under Wild Conservation Society of Tanzania and CARE Tanzania, Forest and Beekeeping Division Officials, Frontier Tanzania, Kisarawe and Ilala District and Municipals progressive reports, management plans, policy and legislative documents will also be reviewed.

### **3.5 Data Analysis**

Data Analysis is the process of systematically applying statistical and/or logical techniques to describe and illustrate, condense and recap, and evaluate data. According to Shamoo and Resnik (2003) various analytic procedures “provide a way of drawing inductive inferences from data and distinguishing the signal (the phenomenon of interest) from the noise (statistical fluctuations) present in the data. While data analysis in research can include statistical procedures, many times analysis becomes an ongoing iterative process where data is continuously collected and analyzed almost simultaneously. Indeed, researchers generally analyze for patterns in observations through the entire data collection phase (Savenye and Robinson, 2004). The form of the analysis is determined by the specific qualitative approach taken (field study, ethnography content analysis, oral history, biography, unobtrusive research) and the form of the data (field notes, documents, audiotape, and video tape).

Data analysis in research can be defined as consisting of three concurrent flows of action: data reduction, data display, and conclusions and verification. These flows are present in parallel during and after the collection of data (Miles and Huberman, 1994). Data reduction refers to the process of selecting, focusing, simplifying, abstracting and transforming the collected data. It needs to be reduced in order to make the data more readily accessible and understandable (Berg, 2004; Kvale, 1996). Data display is intended to organize the collected data in such a way that it permits conclusion drawing (Miles and Huberman, 1994; Berg, 2004). The third component of the data analysis process is conclusion drawing and verification. During the collection of data, there should not be made any definitive conclusions, and these preliminary conclusions should be verified during the process (Miles and Huberman, 1994).

### **3.5.1 Thematic Data Analysis**

Thematic analysis is a process that could be used with most qualitative information. It is a way of seeing, making sense of related material, systematically observing situations, group's organizations, interactions, cultures and behaviors. The process is regularly used by psychologists, sociologists, ethnographers, historians, and many in other fields. Thematic analysis enables user experience researchers, especially at the early stages of a project, to formulate their problem space and create the foundations for the design project and support knowledge sharing and communication. The key is to transform the data into explicit codes and encoding the data into themes. Thematic analysis involves five main steps:

- Recognize or sense the themes using the right focal point
- Develop a coding system
- Encode information

- Interpret the themes in the context of a theory
- Consolidate new knowledge

The main threats to the reliability and validity of the process are projection, biased sampling and a researcher's mood and style. It is, therefore, important to ensure that a system of codes is developed by more than one person, structured screening of participants and managing time realistically. In this study data collected using focused group discussion was organized into main theme that is social, economic and cultural. The interpretation of the data was made based on three major themes as it shows. All social issues were presented and discussed under social theme as well as economic and cultural issues were discussed in their respective themes.

### **3.5.2 Unit of Analysis**

For a case study it is important to define the case, in terms of what the case is, and where the case leaves off (Miles and Huberman, 1994; Yin, 2003). The more a study contains specific propositions, the more it will stay within feasible limits, and also the context has to be clear (Yin, 2003). For the purpose of this study single and holistic case study will be used in which Pugu and Kazimzumbwi forest was investigated holistically to find out the impact of reserving the two forests on local communities around them. Case studies can be single or multiple-case designs, where a multiple design must follow a replication rather than sampling logic. When no other cases are available for replication, the researcher is limited to single-case designs. In this study only single case design was used. In an embedded case study, the case is split in multiple units of analysis, while a holistic case study has one unit of analysis for each case. For the purpose of this study the holistic design was used in which only Pugu and Kazimzumbwi forest reserves as one unit was used for analysis of the problem.

The unit of analysis of each case is that part of the population that is relevant to answer the main research question, also called logical subunits (Yin, 2003). When no logical subunits can be identified, the holistic design is advantageous. When unit of analysis changes during the study, the researcher can be forced to start over. When conducting an embedded case study, the researcher has the pitfall to focus too much on a single unit, and fails to return to the larger unit of analysis. Therefore for the purpose of this study data from focused group discussion, interview with key informant and data collected through observation was analysed using thematic analysis. However data from questionnaire was analysed using SPSS and then tabulated to get percentage respondent. The result was presented and discussed as shown in chapter four.

## **CHAPTER FOUR**

### **FINDINGS AND DISCUSSION**

#### **4.0 Introduction**

The chapter present and discuss the study findings based on data which was collected through observation, focus group discussions, questionnaire administration and interview with key informants. The data are presented descriptively using tables and bar charts. This data explain how Pugu and kazimzumbwi forest reserves have affected local community living adjacent to the reserves socially, economically and culturally. In section 4.1 the requirement of local people will be presented followed by social costs in section 4.2.1, economic costs in section 4.3 and finally cultural costs in section 4.4 as follows.

#### **4.1 The Forest Products Required By Local People on Daily Bases**

This study discovered that forest products needed by local people adjacent Pugu and Kazimzumbwi forests are fire woods, charcoal, poles and folders. The establishment of forest reserves does not support the accessibility of forest products by local people adjacent Pugu and Kazimzumbwi forests. This study discovered that timber is not needed by local people, 92.5 percent of respondents mentioned that timber is not required by local peoples on daily basis while only 7.5 percent are on the opinion that timber is required by local people as shown in table 4.1. This is due to the fact that timber is used for generating income and it is a cash product that is harvested and sold in the city of Dar es salaam and even transported abroad for selling. It require huge capital to do this business and poor local community cannot afford to do this illegal harvesting of timber out of Pugu and Kazimzumbwi forest reserves.

Contrary to timber local people was in opinion that they need in large quantities fuel woods, charcoal, folders, land for cultivation and wild animals. The study discovered that 84.2 percent of local people need fuel woods, 85.0 percent need charcoal, 95.0 percent need folders, 98.3 percent need land for cultivation and 98.3 percent need wild animals for foods as shown in table 4.1. This is due to fact that the local people surrounding Pugu and Kazimzumbwi are poor and depend on forest products for foods, shelter, source of energy and income. Folders are used by poor local people to cover their mud house.

Also they are used as animal feeds and for preparation of nice place for animal to sleep. On the other hand land is very much needed for cultivation in both villages since people people depend on agriculture to obtain their daily needs. It was discovered that fuel woods and charcoal are used are used as source of energy. Local people around Pugu and Kazimzumbwi used mostly fuel woods as source of energy and most of charcoals are transported to Dar es salaam for use. Since charcoal cause huge deforestation, this means much of deforestation is caused by pressure from Dar es Salaam as for the case of timber.

**Table 4.1 Needs of Forest Products by Local People**

NO	Forest product	Respondent/120	Percentage (%)
1	Timber	111	7.5
2	Fuel woods	101	84.2
3	Charcoal	102	85.0
4	Folders	114	95.0
5	Land for cultivation	118	98.3
6	Wild animals	118	98.3

Source: Field work (2012)



## 4.2 Impacts of Reserving Pugu and Kazimzumbwi Forest Reserves

### 4.2.1 Social Impacts

This study has established that local people at Nzasa and Kazimzumbwi have been removed from their land because of establishment of Pugu and Kazimzumbwi forest reserves. For instance Mr. Wavu Mnyimvua Kondo said the government through Ministry of Forest and Natural Resources have forced them to leave their village without compensating them. Respondents from the four villages which were visited namely Nyeburu, Kisarawe, Pugu Kajiungeni and Kazimzumbwi village clearly explained that the reservation of Pugu and Kazimzumbwi forest reserve contribute nothing on social services such as education, healthcare, transport and communication and providing drinking water.



Figure 4.1: A House within a Kazimzumbwi Forest Reserve

Source: Fieldwork (2012)

Furthermore, people are not settled due frequent displacement because of expanding boundary of Pugu and Kazimzumbwi forest. One of the interviewees Mr. Abrahaman Rashid Mango of Nyeburu Village explained that despite the fact that the current settlement is a result of being moved from the former settlement because of forest reservation activities. Again his parents have started to find another area to go and live

as they are afraid soon they will be forced to move from that area too because after expanding the boundary of the forest they find themselves in contact with the forest. However his parents are old people with no income to buy a land in town or in land allocated for residential purpose. For that case they will have to go and find another area nearby the forest where they can get land for free from village leader or buy on cheap price.

Also no infrastructure for clean water built due to Pugu and kazimzumbwi forest reservation. Local people travel long distance to fetch water from traditional wells, these well are seasonal. In Kazimzumbwi village people also get water from newly built cement industry once per day. No any school which was found at Kazimzumbwi village and one school found at each village Kajiungeni, Kisarawe and Nyeburu village. This study discovered that when the forest reserve was established these people were displaced from their home land and their means of life was destroyed socially. They were forced into a new area where now they face a threat of being evicted again.

From the research finding only 5.8 percent of respondents are in opinion that medical services accessibility have improve that mean reserving Pugu and Kazimzumbwi forest reserves have not made it easy to access medical services to the villages nearby reserved forests. Only 5 percent of the respondent are in opinion that road is passable due reservation of Pugu and Kazimzumbwi forest reserves. The study discovered that establishment of Pugu and Kazimzumbwi forest reserves have not improved access to clean water by the local people. Also 8.3 percent of respondent are in opinion that access to clean water has improve while 91.7 percent of the people had the opinion

that protecting Pugu and Kazimzumbwi forest did not improve the accessibility of clean water for local people adjacent the forest reserves. It was found that only 10 percent of the respondents are in opinion that reserving Pugu and Kazimzumbwi forest have improved education accessibility while 90.0 percent of the people said that reserving Pugu and Kazimzumbwi forest did not improve accessibility of education for the people living around the forests. Therefore the Reservation of Pugu and Kazimzumbwi forests have not improved social service such as getting clean water, medical services and provision of education to the local communities. In all the four villages no dispensaries for provision of medical services was found.

**Table 4.2      Easy Accessible of Social Services**

No	Social service	Respondent(120)	Percentage (%)
1	Medical services	7	5.8
2	Improved infrastructure	6	5
3	Clean water	10	8.3
4	Education	12	10

Source: Field work (2012)

#### **4.2.2    Economic Impacts**

In this section the findings on the impact caused by reservation of Pugu and Kazimzumbwi forest reserves on agriculture, land for cultivation, agricultural products, availability of enough foods, access to fuel woods, charcoal burning and timber is presented and discussed. This study has established that except Pugu Kajiungeni village, in the three villages Kazimzumbwi, Kisarawe and Nyeburu respondent explained that the agriculture output have dropped as people have less farm

area for cultivation due to expansion of boundaries of Pugu and Kazimzumbwi forests.

The study discovered that 98.3 percent of the people had the opinion that people have lost their land as a result of reserving Pugu and Kazimzumbwi forests. It is only 1.7 percent of respondent who was in opinion that local people still possess land for cultivation. The study also discovered that 94.2 percent of the respondents had the opinion that no growth in agriculture output as a result of reserving Pugu and Kazimzumbwi forests while 5.8 are in opinion that there was agricultural output increase due to reservation of the two forest reserves. It was also discovered that 91.7 percent of respondents had the opinion that reserving Pugu and Kazimzumbwi forest have reduced the quantity of foods obtained while 8.3 percent are in opinion that there is enough food from agricultural activities in the area adjacent Pugu and Kazimzumbwi forests due to reservation activities.

However table 4.3 shows that 95 percent of the people interviewed had the opinion that the income generating activities have not improved rather deteriorated due to reservation of Pugu and Kazimzumbwi forests. On the hand 5.0 percent of respondents are in opinion that income generating activities has improved due to reservation Pugu and Kazimzumbwi forests. In focus group discussion people explained that they don't have basic needs such as fire woods, charcoal and poles for construction. For example Mr. Sina Ndugu Said Ndoge from Nyeburu said that they are not allowed to collect firewood from the forest, to do charcoal burning and to cut poles for building. There is forest guard and if they caught anyone in the forest, he/she will go to jail or pay fine. He said they live a very difficult life because they don't have any other source of energy for cooking, no source of income in spite of selling charcoal since there are no

industries and they no longer have farms for cultivations. Villagers complained that the government does not care about them because since they forbid them from using the forest without giving them alternative means of obtaining their daily needs.

Since people have being forced to stop cutting trees and forced out of their fertile land, most of them are jobless living uncertain life with low unguaranteed income. People work for others and are paid low wages because most people are very poor. The study discovered that only 1.2 percent of respondents are employed and they are found at Kisarawe and Pugu kajiungeni villages. Furthermore since local people have no access to forest products such as fire woods, charcoal, poles and timber as mentioned earlier. They tend to access these illegally and if caught they risk going to jail or pay penalty which they cannot afford. Through observation it was discovered that there is no tree inside the forest reserves of Pugu and Kazimzumbwi in spite of claim from conservationist that trees are being planted and forests are under tight protection.

**Table 4.3: Retardation of Economic Activities of Local People**

S/N	Economic item	Respondent (120)	Percentage (%)
1	Loss of fertile land	2	1.7
2	Agricultural output	7	5.8
3	Enough food substance	10	8.3
4	Charcoal production	6	5.0
5	Unemployment	1	1.2
6	Fuel woods as energy source	14	11.7

Source: Fieldwork (2012)



Figure 4.2: State of Pugu and Kazimzumbwi Forests 2006 to 2010

Source: [www.puguhills.com](http://www.puguhills.com) 1/5/2012

The study discovered that between 2006 and 2010 forests had been cleared in spite of having projects for reserving them. Looking at the photograph taken at Pugu hills in 2010 the forest reserve has remained bare land with no trees at all. It is high time now project planner for reservation of Pugu and Kazimzumbwi focus on improving living condition of local residents by Provide them with source of income, source of energy and other social services that does not depend on forests.





Figure 4.3: Sandstone quarries at Pugu Forest reserves

Source: Fieldwork (2012)

It was observed on the field that the lives of the people living adjacent the forests depend heavily on extracting forest products, it is obvious that people still exploit forest products illegally in spite of being sent to jail or harsh penalty they face if found by the forest guard.



Figure 4.4: Man burn charcoal at Kazimzumbwi forest reserves

Source: Fieldwork (2012)

Also standing on the road it was observed on the road a continuation of bicycle and motorbike carrying between four up seven bags of charcoal coming from chanika and kisarawe road heading to Dar es Salaam city centre. This was observed daily for a

period of more than two month in which data was collected. Forest products are moved from the studied forests to different destinations for consumption. It was revealed during field survey that more than 80 per cent of products mainly in the form of charcoal, building poles, firewood and timber are channelled to Dar es Salaam for retail and wholesale. Small business people constitute the largest group of traders who move these products along the marketing flow chart. Ferrying of the forest products to Dar es Salaam is done either directly from the forests or from local markets located in surrounding village.



Figure 4.5: Truck and bicycle with charcoal from Kazimzumbwi forest reserves

Source: Fieldwork (2012)

In most cases bicycles are used to transport forest products to the nearest local markets, but for longer distances, especially moving the products directly from the forests or local markets to the city, motor vehicles (Lorries and pickups) are employed. In terms of the profit margin along the flow chart, general analysis made during the field survey suggests that profit margins increase as one goes towards the end of the flow chart. This implies that the locals who are the major suppliers of products fetch relatively low profit margins. This explain two scenarios, one is that still there is vigorous cutting down of trees from Pugu and kazimzumbwi forest reserves. Second scenarios are that the destruction of forest is not due to local communities activities



around the reserves but rather accelerated by charcoal and sandstone seller from Dar es Salaam. Big truck caring sand soil coming from the forest toward Dar es Salaam pass after every five to ten minutes.



Figure 4.6: Daily train of bags with sandstone carried from Pugu forest

Source: Fieldwork (2012)

From what was observed it is true that in spite of having forest guards, traffic police on the road and village committee on forest conservation destruction of Pugu and Kazimzumbwi continues tremendously. In addition to above point, this also show as that, it's not the local people who destroy the forest reserves to the extent of endangering its existence rather urban people from Dar es salaam are the one who put high pressure on the forest by accelerating the extraction of charcoal as a result the burn of forest use imposed harm to the local people who depends on the forest for their survival. The study discovered that reserving Pugu and Kazimzumbwi forests have made the live of local people impossible. From Questionnaires administered from both villages it shows that 88.3 percent of people said that reservation of Pugu and kazimzumbwi forests have made difficult to access firewood while 11.7 percent are in

opinion that reservation of Pugu and Kazimzumbwi did not make difficult to access fuel woods.



Figure 4.7: Sand Stones for free inside Pugu Forest Reserve

Source: Fieldwork (2012)



Figure 4.8: Area with no tree found at Kazimzumbwi forest

Source: Fieldwork (2012)

It has not facilitated accessibility of fuel wood as source of energy for the local people. The study therefore discovered that local people do not benefit from reserving Pugu

and Kazimzumbwi forest reserves. This is because the requirement of local community is limited because of the establishment of these reserves. On top of that no alternative source of income was created by the Pugu and Kazimzumbwi forest reserves or the government for the local people. The response from questionnaires indicate that 91.7 percent of local people they see no advantage caused by reservation of Pugu and Kazimzumbwi forests on easy access of forest products especially fuel woods, folders and timbers.



Figure 4.9: Reality of Pugu and Kazimzumbwi forest reserves

Source: [www.puguhills.com](http://www.puguhills.com) 01/05/2012

#### **4.2.3 Cultural Impacts of Reserving Pugu and Kazimzumbwi Forests Reserves**

This section of findings report the impacts of reserving Pugu and Kazimzumbwi forest on culture of local communities around the reserved forests. In the literature review it had been documented that reserving forests have got impact on the culture of local people In the United States on Navajo and Hopi peoples (Begay, 2001). This was also found at Pugu and Kazimzumbwi forests. The forest reserves limit access to land that is needed for ritual and ceremony. In the United State the preservation of sacred landscapes and access to them on the part of native peoples is crucial for the maintenance of native cosmology, and restrictions on access affect social lives in

important ways (Begay, 2001).

This study discovered that reserving Pugu and Kazimzumbwi forests has cultural impacts too. People in the study villages complained that the government forced them out of their former homesteads and because of that they have left the grave of their parents and they are not allowed to visit these graves. Mr. Wavu Wavu Mnyimvua Kondo said “we were born there before the establishment of the reserve. Our ancestor’s traditions and way of life is gone”. Also he said that they are not allowed to do group circumcision in the forest while this is part of their cultures. Insisting on the importance of cleaning and visiting their father’s grave he said white men from German travels a long way from Europe to Kimbiji area so as to visit the grave of his parents. The study discovered that local community have being affected culturally by establishment of Pugu and Kazimzumbwi forest reserves. Among all respondents 88.0 percent of respondents were in opinion that the use of traditional medicine has dropped which was their way of treating the sick people. Therefore in this study 77.5 percent of respondent were in opinion that reserving Pugu and Kazimzumbwi forest affect the culture of local communities around the forests reserves only 22.5 percent are in opinion that culture are not being affected by reservation activities.

**Table 4.4: Cultural Impacts of reserving Pugu and Kazimzumbwi forests**

S/N	Cultural practice	Respondent (120)	Percentage (%)
1	Use of traditional medicine	65	54.2
2	Effects on Culture	27	22.5
3	Use of tradition 20 years ago	32	26.7

Source: Field work (2012)

## **4.5 Best Ways of Managing Pugu and Kazimzumbwi Forest For The Benefit Of Local People Adjacent the Reserved Forests**

### **4.5.1 Legal Issues**

The respondents interviewed were of the view that legislation and policies are good and have provisions which provide for effective management and regulation of Pugu and Kazimzumbwi Forest Reserves activities. There is a pertinent problem of enforcing the laws and implementing the policies. The study discovered that there is little knowledge on laws and policies that are used to regulate and manage the two forest reserves. Accordingly, this leads to illegal activities to continue being carried out with most perpetrators left to go scot free. Based on the foregoing discussion, some respondents suggested that trainings on the laws and policies that regulate forest reserves should be conducted.

Furthermore, it was suggested that friendly Swahili versions of the laws and policies be made available to the communities. The communities also suggested that fines charged for breaching forest law provisions need to be reviewed because most of the suspects usually paid fines imposed on them, only to commit similar offences later. They observed that this situation has been encouraging illegal activities in the two forests reserves.

### **4.5.2 Institutions for Pugu and Kazimzumbwi Forest Reserves Management**

The inadequacy of forest officers, forest guards and poor governance at district, region and national levels particularly on Forest and Beekeeping Division was listed as one of the main reasons for the deterioration of Pugu and Kazimzumbwi Forest Reserves. Respondents from the villages neighboring the two forests pointed out that poor

enforcement of the forest laws is the main driver of deforestation and forest degradation of the two forest reserves. Respondents specifically pointed out that the Ministry of Natural Resources and Tourism has not made enough efforts to make the community members appreciate the value of the Pugu and Kazimzumbwi Forest Reserves. The ministry should make sure that local people around Pugu and Kazimzumbwi forest get benefit from these forests by allowing them to use forest products such as firewood collection, allocate areas for agriculture and the fund provided for conservation should also support social services such education, health care, water supply and improvement of infrastructure of Village surrounding these forests. Also the ministry must make sure that there is involvement of environmental and natural resources committees from neighboring villages in forest management.

#### **4.5.3 Education Levels of Community Member**

Interviewed local people have low level of education and this hinder their ability to engage in activities that require formal skills. This forced them to depend on agriculture activities and extracting forest product for selling to generate income to support their life. In the interview most respondents mentioned several threats that hinder sustainable Pugu and Kazimzumbwi forest reserves conservation. The common threats listed included; fire outbreaks, charcoal making, agriculture, sand quarrying, tree cutting and construction of residential houses within the reserves. Some of the respondents were of the view that there should be a review of the fines charged those who breach forest law because they seem to be small to perpetrators. They also noted that cases take a relatively longer time to be determined and that this affects the evidence and in some cases it leads to setting free culprits because at the end of the day the evidence is either destroyed or considered inadequate to convict offenders.

Therefore these cases should be given priority and be decided in short period of time. But the most important thing is to build more school to ensure people get high education and lead them to understand the important of conserving forest. Also education obtained will enable them to engage in other production activities that does not involve forest cutting.

#### **4.5.4 Project Approach Pose Challenge on Reserving Forests**

The study also noted that the community members concern for the sustenance of the Pugu and Kazimzumbwi Forest Reserves has partly been eroded due to the concept of projects. Respondents consider the "project approach" to addressing the concerns as not being adequate. Respondents noted that the CARE/WCST project addressed issues pertaining to joint forest management (JFM) and community based forest management (CBFM) quite successfully at the initial stages. They noted that with time, however, the Joint Forest Management (JFM) and Community based forest management failed to materialize as anticipated the MNRT was uncomfortable with the benefit sharing scheme. There are no practical and sustainable benefits for the local people. Therefore when the project end people go back to the forest for their daily basic needs and that lead to forest deforestation. There is a need to put strategy and project that will provide means of obtaining basic needs of the local people after project ended.

#### **4.5.5 Governance**

Findings from the field reveal that although the Pugu and Kazimzumbwi Forest Reserves have been under the governance of MNRT since its gazettelement, local community members in the proximity of Pugu and Kazimzumbwi Forest Resrves have not been part of the governance and management structure despite of several attempts

initiated by the wild life Conservation Society of Tanzania (WCST). This scenario divorced the community members from being part of the Pugu and Kazimzumbwi Forest Reserves management and governance. Therefore it is important for the government and Pugu and Kazimzumbwi forest Authority to understand that ignoring the local people on management will make any effort to reserve the forest to fail. This is because local people are the important stakeholder and beneficiaries of the two forests.

Findings also reveal that there is longstanding boarder conflict between Nzasa and Kimwani villagers who identify themselves as legal owners of the land claimed to be within Kazimzumbwi forest landscape. The conflict is fueled by interventions from the central government whereby it is alleged that the Government has ordered a group of alleged illegal dwellers out of the forest until it resolves the conflict. Respondents were concerned, however, that the government has been lax in addressing the border conflict. Respondents pointed out that the conflict started in the early 1990's when the Chanika villagers through its chairman, one Mr. Peter Leo, officially requested the MNRT to allow villagers to cultivate seasonal crops in Kazimzumbwi forest reserve.

Respondents also alleged that some officers at the Ilala Municipality permitted some Nzasa residents to live in the forest under the Municipality's development plan map (which the researcher did not see) which allegedly indicates that the Pugu and Kazimzumbwi Forest Reserves borders have been altered to accommodate the residents. Therefore the government needs to intervene urgently and set the border between the forest and local resident without removing people from their home. For any action taken should make sure that local people livelihood are preserved and



protected that only will encourage people to participate in any reservation activities around Pugu and Kazimzumbwi forests.

#### **4.6 Conclusion**

This chapter concludes that there are no benefits to communities living within the proximity of Pugu and Kazimzumbwi Forest Reserves. This is due to the fact that, local people involvement in reservation is very minimal and this state of affairs cannot motivate the communities to participate effectively in reserving and managing the two forests. Findings reveal that before the reservation of Pugu and Kazimzumbwi forests the communities adjacent Pugu and Kazimzumbwi Forest Reserves used to benefit from the forest reserves in terms of medicinal plants, collecting mushrooms, fire woods, and entrepreneurial activities of selling woods, charcoals and poles for building. However since the establishment of Pugu and Kazimzumbwi forest reserves these benefits are no longer there for the local people because of the restriction on access to forest products and ban imposed on charcoal and timber trade. Therefore it is unquestionable fact that the reservation of these two forests negatively affects the livelihoods of local people.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.0 Introduction**

This chapter presents a summary, conclusions and recommendations for the study. In the summary it gives a brief description on why the research was done, what method was used to collect data and how data was analyzed. It also explains in brief what the result of the investigation was. In conclusion the researcher interpreted the meaning of the data collected by referring to field observation, respondent response and relate with information from the literature review. The last part of this chapter presents some recommendation. Here the researcher recommends action to be taken so that reserving Pugu and Kazimzumbwi forests can have positive impact on local communities. This was done based what was found on the field, what was learned from the literature review and the comment from the respondents.

#### **5.1 Summary**

This study was conducted to investigate the impact of reserving Pugu and Kazimzumbwi forest to local community surrounding these forests. Data was collected from Pugu kajiungeni, Kisarawe, Nyeburu and Kazimzumbwi village using questionnaire, interview, focus group discussion and observation. Data obtained was analysed using SPSS table was drawn and bar chart to show the extent of impact of reserving Pugu and Kazimzumbwi forests in percentage. From the result it was discovered that reserving Pugu and Kazimzumbwi forests have no benefit to local people living adjacent these forests. It was also discovered that reserving the Pugu and Kazimzumbwi deteriorate the livelihood of local people living around Pugu and Kazimzumbwi forests. 90 percent of respondent believe that the life of local people

around Pugu and Kazimzumbwi was deteriorated by reserving Pugu and Kazimzumbwi forests.

## **5.2 Conclusions**

This research found out that people from four villages depend on agricultural based activities for their daily requirements of life. From the field people who interviewed believe that such requirements includes timber 92.5%, fuel woods 84.2%, charcoal 85.0%, folders 95%, land 98.3% and wild animal 98.3%. However since the establishment of Pugu and Kazimzumbwi forest reserves local people living around these forests have been prohibited from harvesting forest products in anyway. This have lead to a drop of income generating activities such agricultural activities by 94.2%, fire woods collection by 88.3% and people lost their land by 98.3 percent. Also people's culture has affected by 77.5 percent especially the use of traditional medicine which depends on forest in getting trees for the makeup of medicine.

In spite of preventing local people surrounding Pugu and Kazimzumbwi forest reserve from using these forests to obtain their basic needs as well as generating income from forest products. This study found no visible and practical effort made by local, regional or national government to provide local people with means to sustain their life. No improvement of social services as well as infrastructure such as road and railway in the village surrounding the forests. 94.2 percent of local people face difficult in accessing social services such as clean water, health services and education while 95 percent of road and railways is destroyed or not passable. This made it difficult for villagers to move from one area to another with the exception of main road from Dar es Salaam to Kisarawe district and main road from Pugu Kajiungeni to

Chanika area. People survive by participating in small agricultural activities nearby their house, working on farm own by rich people from Dar es Salaam and doing illegal harvesting of forest products. The restriction imposed on the use of forest is not performing as there are very little trees remaining in the forests. Standing on the road from Kisarawe and Chanika heading to Gongo la Mboto there is vehicles, bicycle and motorbike carrying charcoal, timber and poles passing after 10 to 45minutes. This is because there is nothing significant that is sustainable which have done to make sure that people have alternative source of energy for domestic use especially in the city of Dar es salaam and Pwani where Pugu and Kazimzumbwi forests are located. Therefore the continuation of deforestation impact local people because more measure are taken to limit their accesses to these two forest even if they are not the one who to large extent destroy the forests reserves.

In all of the four villages that was visited, Nyeburu, Kisarawe, Pugu Kajiungeni and Kazimzumbwi village all the study discovered that the reservation of Pugu and Kazimzumbwi forests contribute nothing on social services such as education, healthcare, transport and communication and providing drinking water. Therefore there is no any motivation for local people to engage in reserving these forests.

The last village of Pugu Kajiungeni comprises people who migrated from Dar es salaam city and most of them their activities is in town and do not deal with agriculture activities. For most of the people engaged in agriculture they have being forced to cultivate on small infertile land nearby their home Since people have being forced to stop cutting tree and forced out of their fertile land, most of them are jobless living uncertain life with less un guaranteed income. People are very poor and almost

all of them are unemployed, do not have farm of their own only work for other for low pay. They have no access to forest products such as fire woods, charcoal, poles and timber unless they get them illegally and if caught they risk going to jail or pay penalty which they cannot afford. Villagers from Kisarawe, Kazimzumbwi, Nyeburu said that their culture have being disrupted by Conservation of Pugu and Kazimzumbwi forests. All these explain the suffering caused to local people adjacent Pugu and Kazimzumbwi forest reserves.

Through observation it was discovered that there is no tree inside the forest reserves of Pugu and Kazimzumbwi in spite of claim from conservationist that trees are being planted and forests are under tight protection. It was observed on the field that the lives of the people living adjacent the forests depend total on agriculture activities it is obvious that people still exploit forest products illegally in spite of being sent to jail or harsh penalty they face if found by the forest guard. From what was observed it is true that in spite of having forest guards, traffic police on the road and village committee on forest conservation either they are highly corrupted so that they allow people to continue harvesting forest illegally or they are few that they cannot perform their duty as required. In addition to above point, this also show as that, it's not the local people who destroy the forest reserves to the extent of endangering its existence rather urban people from Dar es salaam are the one who put high pressure on the forest by accelerating the extraction of charcoal as a result the burn of forest use imposed harm to the local people who depends on the forest for their survival.

The study discovered that there is little knowledge on laws and policies that are used to regulate and manage the two forest reserves. Furthermore, it was suggested that

friendly Swahili versions of the laws and policies be made available to the communities. Also the study discovered that the inadequacy of forest officers, forest guards and poor governance at the district and the Ministry of Natural Resources and Tourism level were the main reasons for the deterioration state of Pugu and Kazimzumbwi Forest Reserves.

In addition the study identified several reasons for Pugu and Kazimzumbwi Forest Reserves deforestation and forest degradation. These include: poverty, existence of inadequate alternative income generating activities, poor governance of the reserves, non-participatory conservation initiatives and corruption among forest officers and district official. It was discovered that the CARE and WCST project implemented in early 2000, although quite successful, became unsustainable for conserving Pugu Kazimzumbwi Forest Reserves due to a lack of a clear exit strategy. This was due to the fact that after the funding period ended, nothing remained for sustaining activities for conserving these forests and supporting local people adjacent these forests. Therefore when the project end people go back to the forest for their daily basic needs and that lead to forest deforestation. There is a need to put strategy and project that will provide means of obtaining basic needs of the local people after project ended.

Findings from the field reveal that although the Pugu and Kazimzumbwi Forest Reserves have been under the governance of Ministry of Natural Resource and Tourism since its gazettelement, local community members in the proximity to Pugu and Kazimzumbwi Forest Resrves have not been part of the governance and management structure despite of several attempts initiated by the Wildlife Conservation Society of Tanzania. This scenario divorced the community members

from being part of the Pugu and Kazimzumbwi Forest Reserves management and governance.

The study also revealed that there is longstanding boarder conflict between Nzasa and Kimwani villagers who identify themselves as legal owners of the land claimed to be within Kazimzumbwi forest landscape. The conflict is fueled by interventions from the central government whereby it is alleged that the Government has ordered a group of alleged illegal dwellers out of the forest until it resolves the conflict. Respondents were concerned, however, that the government has been lax in addressing the border conflict. In addition to above, the study found that the source of conflicts on natural resources is associated with high demand for forest products like timber, building poles and charcoal. The demand for these products has been attributed by high population pressure. The increase in population exerts more pressure on ever diminished natural resources. Therefore unless the government takes measure to address the issue of population increase which is contributed by immigrations of people from Dar es Salaam city to Nyeburu, Buyuni, Pugu kajiungeni and kisarawe deforestation of Pugu and Kazimzumbwi forest will continue and this will have more impact on local people than the immigrant. This is because almost all the immigrant conducts their activities in Dar es Salaam city and they do not depend on Pugu and Kazimzumbwi forests reserves for income generation activities. The immigrant is less affected by restriction of access to forest product since they are less dependent on it.

However the immigrant causes the decrease in land per capital for the local people and since they are left with no other means rather than cultivating on the boarder of the forest and even inside the forest. This was evident in Nyeburu area and Kisarawe

where local people conduct agricultural activities and sand extraction. Since these activities are not allowed local people get affected by the increase of population. The effect become worse because of the restriction put forward by Authority managing Pugu and Kazimzumbwi forest reserves on the access of forest products by local people. Therefore in general this study discovered that establishment of Pugu and kazimzumbwi forests have impact on the general access of forest products by local people by 90 percent. Cultural activities have being affected by 77.5 percent. Also people face difficulties in accessing social services by 95 percent. Due to establishment of Pugu and Kazimzumbwi forest reserves their lives have deteriorating by 90 percent. Hence the establishment of Pugu and Kazimzumbwi forest reserves impact local communities surrounding the forests socially, economically and culturally.

The detail investigation of Pugu and Kazimzumbwi surrounding communities using Sustainable livelihood framework discovered that no investment that have being done by the local or national government institution in Human capitals, Social capital and Natural capital for the purpose of improving local people's livelihood. Therefore they have got know skills which can enable them to compete in the labor market of today. Their low level of social capital does not help them to fight for their right since they have got poor network with nongovernmental organization to help them solve their problems. Natural capita such as land continue to decrease as peoples population keeps increasing. It was discovered that laws, policies and institution that govern Pugu and Kazimzumbwi forest have failed to address needs and problems facing local people instead only focus on trees planting and keep restricting people from using the two forests. Therefore taking into account the nature of local people dependent on Pugu



and Kazimzumbwi forests local people have been affected in the following manner; their income have reduced to almost zero income, their well being have being deteriorating, increasing vulnerability to shocks, trends and seasonality, increased food insecurity and and finally it leads into unsustainable use of natural resource base. Therefore this research conclude that Pugu and Kazimzumbwi forest impact local people living around them socially, culturally, economically and politically.

### **5.3 Recommendation**

Based on the finding this study it is recommend that The stakeholders on reserving forests should put forward project which can stimulate economic development of the areas surrounding Pugu and Kazimzumbwi forest reserves. The Authority that manage Pugu and kazimzumbwi forest reserves should start working hand to hand with local communities on reserving Pugu and Kazimzumbwi forest reserves. The Authority should find a way to make sure that local people have an access to forest products for the purpose of sustaining their life and in this way sustainability of the forests can be guaranteed.

Also there is need to conduct research to investigate detailed impact of migration of people from other areas toward areas surrounding Pugu and Kazimzumbwi forests. Government and other stakeholder on reservation of Pugu and Kazimzumbwi forests should conduct practical training for the purpose of educating local people on sustainable agricultural activities and entrepreneurship. These training should be long term to make sure that local people practice what they have learned under the supervision and guidance of the trainer. In addition to training financial aids must be given to local people adjacent Pugu and Kazimzumbwi forest reserves to help them

start business so that they can stop depending on the forest for income generation activities. The Government and other stakeholders must facilitate access to local people for alternative source of energy before preventing local people from using Pugu and Kazimzumbwi forest reserves because this add up to their scale of poverty . The government must invest in production activities, infrastructure development, education development, health service and social services at village surrounding Pugu and Kazimzumbwi forest so that it alleviate poverty in the areas and motivate people as well help them to stop depending on the forest. This is possible if people have good health, good education to get job in other area and this will be facilitated by having good infrastructure in place. The government through the ministry of Natural resources and tourism must make sure there is enough forest officers and forest guards all the time to patrol around Pugu and Kazimzumbwe forest to ensure that there is no invasion at any time from timber and charcoal dealers.

## REFERENCES

- Adnan, S. (ed) (1992)        People's Participation, NGOs and the Flood Action Plan: An Independent Review. Oxfam, Dhaka. Africa, BASIS.
- Aid Policy and Practice (2002) Poverty and the Environment. An issue paper from the Centre for development and Research, Copenhagen.
- Amwene,C. (2003) assessment of illegal activities at Kazimzumbwi Forest Reserve, Kisarawe District. A special Project Report submitted in partial fulfillment of the requirement for the Degree of Bachelor Of Science in Forestry of Sokoine University of Agriculture, Morogoro Tanzania.up.
- Anan, G. (1996)        The Politics of Environment in Northern Thailand: Ethnicity and Highland Development Programs. In Hirsch, P. (ed), Seeing Forests for Trees.Environment and Environmentalism in Thailand. Silkworm Books,Chiang Mai areas. Annual Review of Anthropology 35:251-277
- Arnold, J. E. M. (2001) Forestry poverty and aid. CIFOR. Bogor, Indonesia.
- Baker, M. (2003).        Against the Odds: (Re-) Building Community through Forestry on the Hoopa Reservation. Technical report, Pacific West Community Forest Center.
- Balmford, A. (2002) Economic Reasons for Conserving Wild Nature. *Science* 297(5583):950-953
- Barrow, E. (2000).        Rhetoric or reality?: a review of community conservation policy and practice in East Africa. London, International Institute for Environment and Development.
- Baumann, P. 2002.        The Sustainable Livelihoods Approach and Improving Access to Natural

- Bennett, E. L. (2000). Timber Certification: Where Is the Voice of the Biologist? Conservation
- Berkes, F. (2004): Rethinking Community-Based Conservation. Conservation Biology, 18 (3): 621-630.
- Brockington, D. and Igoe, J. 2006. 'Eviction for Conservation. A Global Overview.' Conservation and Society 4 (3): 424-70
- Brosius, J.P., Lowenhaupt Tsing, A. & Zerner, C. (1998): Representing communities: Histories and Politics of Community-Based Natural Resource Management. Society and Natural Resources, 11(2): 157-168.
- Carney, D. (ed.)(1998). Sustainable Rural Livelihoods: What Contribution can we make?
- Cernea, M. M. (1997). The Risks and Reconstruction Model for Resettling Displaced Populations. World Development. (25) 10: 1569-1589
- Chambers, R. and C. G (1991). Sustainable rural livelihoods: practical concepts for the 21st century.
- Clarke, G.P. & Stubblefield, L .K. (1995) Status Reports for 7 Coastal forests in Tanga Region, Tanzania. Clarke, G.P. & Dickinson, A. (1995) Status Reports for 11 Coastal forests in Coast Region, Tanzania.
- Coad, L. (2007) Bushmeat hunting in Gabon: socio-economics and hunter behaviour. PhD Collaborative Research Centre.
- Coomes, O.T., Barham, B.L., Takasaki, Y. 2004. Targeting conservation-development Cooperation and Development (OECD), Development Assistance Committee (DAC), DC Department for International Development, London
- Depew, L.A. (1998) Biodiversity and conservation of the Eastern Arc Mountains of Tanzania and Kenya. Journal of East African Natural History Vol. 87 part

1/2special issue 1999. Development 28(8):1421-1438

Dompka, V. (ed.) (1995) Human population, biodiversity and protected areas: Science and Policy Issues. Washington: AAAS.

Donald, K. and Delno L.A (2006) "AN introduction" Paulin Publications Africa, Nairobi, Kenya

Doody, K. Z, Ntemi, A., Killenga, R. & Beharrell, and N. K. (2001) Conclusions: Mpanga Village Forest Reserve: A biodiversity survey. pp. 58-60 from East Usambara Conservation Area Management

Ellis, F. (1998) Household strategies and rural livelihood diversification. London, Frank Cass & Co. 35(1998) nr 1: S. 1-38.

Ellis, F. (2000) Rural livelihoods and diversity in developing countries. Oxford, Oxford University Press.

FAO (2006) Gender and forestry website. <http://www.fao.org/gender/en/fore-e.htm>.

Ferraro, P. J., Kiss, A. 2002. Direct payments to conserve biodiversity. *Science* 298:1718-

Food and Agriculture Organization (FAO) 2003. State of Forest and Tree Genetic Resources in Dry Zone Forest Programme in Tanzania 2001–10. Dar es Salaam.

Geisler, C. 2003 A new kind of trouble: Evictions in Eden. *International Social Science*

Geisler, C., de Souza, R. 2001. From refuge to refugee: the African case. *Public Administration and Development* 21:159-70

Ghimire, K. B. & Pimbert, M. P. (1997) Social change & conservation: an overview of issues and concepts.

Gillingham, S. and P. C. Lee (2003). People and protected areas: a study of local

perceptions of wildlife crop-damage conflict in an area bordering the Selous Game Reserve, Tanzania. Oxford, Blackwell Scientific Publications. 37(2003): S. 316-325.

H. T. Prins, Thomas T. Dolan Wildlife Conservation by Sustainable Use, Kluwer academic publishers, Boston, UK

Holmern, T. (2000). Hunting and community based conservation outside the Serengeti National Park: a sustainable approach by Serengeti Regional Conservation Project(SRCP)? Trondheim, T. Holmern: 56 bl.

Holmern, T. (2003). Human-wildlife conflicts and hunting in the Western Serengeti, Tanzania. Trondheim, Norwegian Institute for Nature Research.

Holmes, 1995. Natural Forest handbook for Tanzania Vol.1 Forest ecology and management, SUA, Morogoro. 401pp.

Kaale, B.K, Ramadhani, H.K, Kimariyo B.T, Maro R.S. and Abdi H.(2002), Participatory Forest Resource Assessment. Misitu Yetu Project. A partnership between WCST, TFCG and CARE – TZ pp.

Kaale, B.K., Mwakifwamba, S. and Ennal, A. (2002) Mid-term Evaluation Report. Misitu Yetu Project. A partnership between: Wildlife Conservation Society of Tanzania, Tanzania Forest Conservation Group and CARE - Tanzania. pp 48

Kaimowitz, D. (2003). Forest law enforcement and rural livelihoods. International Forestry

Kideghesho, J. R., E. Roskaft, et al. (2007). "Factors influencing conservation attitudes of local people in Western Serengeti, Tanzania." Biodiversity and Conservation 16 (7): 2213-2230.

Kothari, A., Suri, S. & Singh, N. (1995) People and protected areas-rethinking conservation in India. The Ecologist 25:5, pp.188-194.

- Kothari, C.R (2004) "Research Methodology" New International (P) Ltd., Publishers, New Delh, India
- Lewis, C. (1996).Managing conflicts in protected areas. Gland, IUCN
- Mariki, Stephen W. L. (2001).The Role of Forestry in Poverty Alleviation: Tanzania.
- Mbile, J. (2005)"Linking management and livelihood in environmental conservation: case of the Korup National Park Cameroon." Journal of Environmental Management 76(1): 1-13.
- McNeely, J. A. (ed.)(1992) Parks for life: The proceedings of the IV World Congresson National Parks and Protected Areas. Gland: IUCN
- McSweeney, K. (2003). Tropical forests as safety nets. The relative importance of forest
- Meshack, C., Bukoli, A. and Hapkiss, A. (1999) Supporting communities to manage and Benefit from Biodiverse Forests of Eastern Tanzania WCST, TFCG and CARE International Project Proposal MisituYetu Project submitted to NORAD. Pp. 22
- Mialla Y.S (2002). Participatory Forest Resource Assessment and Zonation in Monduli Catchment Forest Reserve, Arusha, Tanzania. Pp134.
- Millennium Ecosystem Assessment (2005). Ecosystems and Human Well-Being: A Synthesis.
- Mlengi.W.2005. Ngitili: An Indigenous Natural Resources Management System in Shinyanga,
- Mlengi.W.2004 Ngitili. An indigenous natural resources management system in Shinyanga. ALIN,
- MNRT (2001) Community based forest Mnagement Guidelines. Ministry of Natural

- Resources and Tourism. NPC-Kiuta Printers. Dar Es Salaam/. pp 86.
- MNRT (2002). Forest Act, No 14 of 2002. Ministry of Natural Resources and Tourism, Government Printers, DSM. Pp.1279.
- MNRT (2007) Wildlife policy of Tanzania (revised version). Tanzania, Government printer.
- Monela, G. C., G. C. Kajembe, A. R. S. Kaoneka, and G. Kowero. 2000. "Household Livelihood Monitoring Centre, Cambridge.
- Muruthi, P. (2005). Human Wildlife Conflict: Lessons Learned From AWF's African Heartlands, African Wildlife Foundation. AWF Working Papers.
- Muturi, N (1992) Curriculum For In –Service Training in Agroforestry and Related Subjects in Kenya. Technical Hand Book No 1. SIDA's Regional Soil Conservation Unit, RSCU. pp81
- MYP (2003) Joint Forest Management Facilitation workshop Report. CARE – International – TZ Misitu Yetu Project. Kibaha conference Centre. Kibaha pp.28.
- Neumann, R.P. 1998. Imposing wilderness: struggles over livelihood and nature preservation Northern Pakistan. In: J Carrier ed. Confronting Environments: Local Environmental
- Nygren, A. (2000) Environmental narratives on protection and production: nature based conflicts in Río San Juan, Nicaragua. Accepted for publication in Development and Change Office, Dar-es-Salaam, Tanzania.
- OECD 2001. The DAC Guidelines Poverty Reduction, Organisation for Economic
- Oliveira, R., Anderson, E.S. (1999) Gender, Conservation, and Community Participation: The on Rural Livelihoods, Forests and Biodiversity. 12 – 23 May, 2003, Bonn, Germany.



- Ongugo, P., Njuguna, J., Obonyo, E., Sigu, G ( 2002). Livelihoods, natural resources Organization, Corteveccia, Italy, September 2001.
- Pimbert, M.P., Pretty, J.N. 1995. Parks, People and Professionals: Putting 'Participation' into product sale as smallholder insurance, Eastern Honduras.
- Pyhala, A., Brown, K., Adger, W.N. 2006. Implications of livelihood dependence on non timber
- Rahnema, M. (1992) Participation. In Sachs, W. (ed), The Development Dictionary: A guide to knowledge as power. Zed Press, London.
- Lastarria-Cornhiel, S. 1999 .Impact of privatization on gender and property rights in Africa.
- Roche .L. & Dourojeanni, M. J. (1984) A guide to in situ conservation of genetic resources of tropical woody species. Food and Agriculture Organization of the United Nations, Rome.
- Roth. M. and Haase. D.(1998). Land Tenure Security and Agricultural Performance in Southern rural livelihood security and as safety nets: a review of evidence from South Africa. *South*
- Salafsky, N. and E.Wollenberg (2000). "Linking livelihoods and conservation: A conceptual framework and scale for assessing the integration of human needs and biodiversity." *World Development* 28(8): 1421-1438.
- Salas L.A., Kim J.B. (2002). Spatial Factors and Stochasticity in the Evaluation of Sustainable
- Salmi, J. and G. C. Monela. 2000. Study on Financing in Forestry. Dar es Salaam, Tanzania: National
- Scoones, I. (1998). Sustainable rural livelihoods: a framework for analysis.

- Shamoo, A.E., Resnik, B.R. (2003). *Responsible Conduct of Research*. Oxford University Press.
- Sharma, N. P., ed. 1992. *Managing the World's Forests: Looking for Balance between Conservation and*
- Shemwetta, D. T. K. and J. R. Kideghesho (2000). *Human wildlife conflicts in Tanzania: What research and extension could offer to conflicts resolution.*
- Shepard, R.J. (2002). Ethics in exercise science research. *Sports Med*, 32 (3): 169-183.
- Shiva, V. (1988) *Staying Alive: Women, Ecology and Development*. Zed Press, London.
- Sundberg J. 2003. *Conservation and democratization: constituting citizenship in the Maya*
- Sunderlin, W. D., A. Angelsen, et al. (2005). "Livelihoods, forests, and conservation in developing countries: An overview." *World Development* 33(9): 1383-1402.
- Sunderlin, W.D, Angelsen, A. and Wunder, S (2003) *Forests and Poverty Alleviation*. Centre for International Forestry Research. Japn, Stu Gede, Bogor barat, Indonesia.
- Sunderlin, W. D, Angelsen, A. and Wunder, S (2003) *Forests and Poverty Alleviation*. Centre for International Forestry Research Japn, Stu Gede, Bogor barat, Indonesia.
- TANAPA (2008). "Tanzania National parks." Retrieved 15/04, 2008. *The World's Forests*, Food and Agriculture Organization of the United Nations, Rome.
- Tuxill, J. & Nabhan, G. P. (1998) *Plants and protected areas - a guide to in situ management*. Stanley Thornes Publishers Ltd, Cheltenham.

- U.S. Agency for International Development (USAID). 2004. Tanzania Country Strategic Plan FY 2005–
- UN/UNEP (1992) United Nations Convention on Biological Diversity. Understanding in a Globalising World. Altamira Press, Lantham, MD. pp. 71–96
- UNDP (United Nations Development Programme) . 1998. Progress against poverty in Africa. New York, NY: UNDP.
- UNDP (1999) UNDP Human Development Report 1999. New York: Oxford University Press.
- UNEP-WCMC (2000). Global Distribution of Current Forests. UNEP World Conservation
- UNEP-WCMC 2007. Millennium Development Goals: Indicator 26: Protected Areas Report.
- USAID 2006. Issues in Poverty Reduction and Natural Resource Management. United States
- Vivanco L.A. 2001. Spectacular quetzals, ecotourism, and environmental futures in Monte
- Walsh. M. (2000) The development of Community wildlife Management in Tanzania: Lessons from the Ruaha ecosystems. African wildlife Management in the New millennium. College of African wildlife Management Mweka Tanzania
- WCST (1999) Hifadhi za Pugu na Kazimzumbwi, Mpango wa Elimu ya Mazingira. Pp67.
- WCST , Kisarawe-branch. (1996). Activities in the Pugu- and Kazimzumbwi Forest Reserves, From Jan 1993 to April 1996.
- Wells. M., and Brandon, K., 1992. People and Parks: Linking Protected Area

- Management with Local Communities. The World Bank, Washington, DC.
- West, P., Brockington, D. 2006. An Anthropological Perspective on Some Unexpected
- West, P., Igoe, J., Brockington, D. 2006. Parks and peoples: the social impact of protected
- Williams, N. L. (2000) the effects of a century of policy and legal change on wildlife conservation and utilization in Africa. By J. G. (Jan Geu) Grootenhuis, Herbert
- Wily, L. (1997) Villagers as Forest Managers and Governments "Learning to Let case of Duru-Haitemba & Mgori forests in Tanzania. Forest Participation Series No. 9, International Institute for Environment and Development, London.
- Woodcock, K. (2002) Changing Roles in Natural Forest Management: Stakeholder's roles in the Eastern Arc Mountains, Tanzania. Ashgate Studies in Environmental Policy And Practice. Ashgate
- World Bank 2000. World Development Report: Attacking Poverty. World Bank, Washington
- Yin, R. K. (1994) Case study research-design and methods. Newbury Park: Sage Publications. Newspapers and magazines: Sustainable livelihood Guidance Sheets, department of international development, 1999