

**THE ROLE OF TRADITIONAL INSTITUTIONS IN FOREST RESOURCES
MANAGEMENT IN SOUTH ULUGURU MOUNTAINS, MOROGORO
REGION, TANZANIA**

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**A THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR
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ABSTRACT

Understanding the role traditions play in forest resources management from the insider's perspective is central in determining dynamics in forest management at the community level. It has been populated that engaging, rather than disengaging local communities in efforts towards natural resources management including forest resources is cardinal based on communities' historical interactions with their resources. Accordingly, the value of traditional practices in natural resources management is gaining recognition. However, previous work addressed the question of traditional institutions from the outsider's point of view (emic approach) hence lacking the deeper understanding from the insider's perspective, leading to a superficial understanding of the dynamics of forest resources management at community level. Thus the present research aimed at carrying out an in-depth study of the roles of traditional institutions (TIs) in forest resources management through the use of both emic and etic lenses. The specific objectives of this study, were to determine community's perceived important forest and associated resources, to map traditional institutions that are geared towards the use and protection of forest resources, to determine the predictors of compliance with traditional institutions among community members, to test the efficacy of traditional institutions in conservation of forest resources and to examine socio-economic and environmental factors influencing the performance of TIs. The study was conducted in South Uluguru Mountains, Morogoro District, Tanzania, using mainly a qualitative approach. Data were collected through participant observation, interviews with key informants and focus group discussions. The study findings revealed that the community has robust

institutions which have stood the test of time and pressure from formal organizations, immigrants bringing in different cultures and the impact of modern technologies. The communities are keen to protect their traditions, beliefs and practices related to the spirit medium (Mwenye-Kolero) and, by implication, their traditional forests. Mwenye-Kolero, the fundamental traditional institution, is dependent on the traditional forest for its survival and retrospectively the traditional forest is to the traditions. The study noted a low rate of yearly forest cover loss in traditional forests suggesting that traditional institutions play an enhancement role in forest resource management. Community members have been observed to comply with the traditional institutions, which leads to a healthier forest. Residence in clan designated settlements and age of community members have been found to be important predictors in complying with traditional institutions. Members of the community who reside in areas designated for clans who are custodians of the traditions are likely to comply more than those residing elsewhere, even if they do not belong to the said clans. Similarly, older people tend to associate themselves more with traditions. For the forest dependent communities, healthier forest mirrors their wellbeing. Therefore institutional arrangements that are put in place to regulate use of resources, is considered as regulation mechanisms for their survival, thus people are more willing to comply with those institutions. Due to the role played by traditional institutions, this study recommends that natural resources/forest management actors (the government and non-government organizations) formulate (or advocate) policies and actions that addresses the stigma associated with traditions, while recognizing and promoting the traditions related to forest resources management.

DECLARATION

I, **Sylvester Charles Haule** do hereby declare to the Senate of the Sokoine University of Agriculture that the thesis presented here is my own original work and that it has not been submitted for a degree award to any other university.

Signature: _____

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TABLE OF CONTENTS

| | |
|---|-------|
| ABSTRACT | ii |
| DECLARATION | iv |
| COPYRIGHT | v |
| ACKNOWLEDGEMENTS | vi |
| DEDICATION | viii |
| LIST OF TABLES | xv |
| LIST OF FIGURES | xvi |
| LIST OF PLATES | xvii |
| LIST OF BOXES | xviii |
| LIST OF APPENDICES | xix |
| LIST OF ABBREVIATIONS AND ACRONYMS..... | xx |
| CHAPTER ONE | 1 |
| 1.0 INTRODUCTION | 1 |
| 1.1 Background to the Study | 1 |
| 1.2 Problem Statement and Justification | 3 |
| 1.3 Objectives..... | 5 |
| 1.3.1 Overall objective..... | 5 |
| 1.3.2 Specific objectives..... | 5 |
| 1.4 Research questions | 6 |

| | | |
|-------------------|---|----|
| 1.5 | Challenges underlying the study | 7 |
| 1.5.1 | Gate keeping | 7 |
| 1.5.2 | Sampling Frame..... | 10 |
| 1.5.3 | Aligning with factions | 10 |
| 1.6 | Actions taken against challenges faced | 12 |
| 1.7 | Organization of the Thesis | 12 |
| CHAPTER TWO | | 14 |
| 2.0 | LITERATURE REVIEW..... | 14 |
| 2.1 | Definition of terms | 14 |
| 2.1.1 | Institutions as social organizations, structures and rules..... | 14 |
| 2.1.2 | Forest and forest resources | 15 |
| 2.1.3 | Forest as defined in the Tanzanian context | 17 |
| 2.1.4 | Community and Village Land Forests..... | 18 |
| 2.1.5 | Forest versus woodland versus wilderness | 19 |
| 2.1.6 | Management of forest resources..... | 19 |
| 2.2 | Forests in the Tanzanian context | 21 |
| 2.2.1 | State of forests in Tanzania Mainland | 21 |
| 2.2.2 | Types of forest reserves in Tanzania | 21 |
| 2.2.3 | Village Land Forest and Community Forest Reserves: Legal viewpoint..... | 22 |
| 2.3 | The role of traditional institutions | 24 |

| | | |
|--------------------|--|----|
| 2.4 | Taboos and beliefs: The traditional rules | 27 |
| 2.5 | Agricultural and Settlement land area against Forest land area | 29 |
| 2.6 | Use of traditional institutions in the management of forests | 31 |
| 2.7 | Theoretical Orientation..... | 33 |
| 2.8 | Conceptual framework | 33 |
| CHAPTER THREE..... | | 36 |
| 3.0 | METHODOLOGY..... | 36 |
| 3.1 | Description of the Study area | 36 |
| 3.1.1 | Location | 36 |
| 3.1.2 | Economic activities..... | 36 |
| 3.1.3 | Socio-cultural profile | 37 |
| 3.1.4 | Choice of South Uluguru Mountains as a study area..... | 38 |
| 3.2 | Methodological approaches..... | 41 |
| 3.2.1 | Approach in collection of qualitative data..... | 42 |
| 3.2.1.1 | Methods of qualitative data collection..... | 42 |
| 3.2.1.2 | Quality evaluation of qualitative data..... | 47 |
| 3.2.2 | Approach to quantitative data..... | 49 |
| 3.2.2.2 | Forest cover change data..... | 53 |
| 3.2.2.3 | Forest resources inventory | 53 |
| 3.2.2.4 | Waypoints and Tracks | 54 |

| | | |
|-------------------|---|----|
| 3.3 | Data analysis..... | 56 |
| 3.3.1 | Qualitative data analysis | 56 |
| 3.3.1.1 | Content analysis..... | 56 |
| 3.3.1.2 | Systematic accounting, quotation and paraphrasing..... | 58 |
| 3.3.2 | Quantitative data analysis | 58 |
| 3.4 | Validation of data | 59 |
| CHAPTER FOUR..... | | 60 |
| 4.0 | RESULTS AND DISCUSSION | 60 |
| 4.1 | Land use pattern: the context..... | 60 |
| 4.2 | Seasonal Calendar in South Uluguru Mountains | 62 |
| 4.3 | Types forests, Resources in the forests and Use of forests and other forest resources in South Uluguru Mountains | 68 |
| 4.3.1 | Types of forests..... | 68 |
| 4.3.2 | Resources in forestland..... | 70 |
| 4.3.3 | Important sites of sacred and buffer forests | 79 |
| 4.3.4 | Use of forest resources by the communities | 84 |
| 4.4 | Traditional institutions in South Uluguru Mountains..... | 88 |
| 4.4.1 | The belief in (and practices of) Mwenye-Kolero..... | 88 |
| 4.4.1.1 | Defining Mwenye-Kolero..... | 89 |
| 4.4.1.2 | Other components of Mwenye-Kolero belief system | 90 |

| | |
|--|-----|
| 4.4.1.3 The Structure of Mwenye-Kolero System | 91 |
| 4.4.1.4 Power relations among Mwenye-Kolero sub-systems..... | 94 |
| 4.4.2 Institutions governing relationship between the spirit medium and the community | 99 |
| 4.4.2.1 The traditional rules | 99 |
| 4.4.2.2 Ritual ceremonies | 101 |
| 4.5 Role of traditional institutions in governing forests | 107 |
| 4.5.1 How traditional institutions are used | 107 |
| 4.5.1.1 Values attached to traditional forests..... | 107 |
| 4.5.1.2 Socio-cultural protection arrangements | 108 |
| 4.5.2 Summary on how sacred forest of Mandeni is protected..... | 117 |
| 4.5.3 Reflections on the link between governance functions of CPR and TI..... | 118 |
| 4.5.4 Reflection on the link between traditional institutions and forest resources | 121 |
| 4.6 Compliance to traditional institutions | 123 |
| 4.6.1 Compliance index | 123 |
| 4.6.2 Sanctions associated with violating traditional institutions (non-compliance) . | 127 |
| 4.7 Robustness of traditional institutions in South Uluguru Mountains..... | 131 |
| 4.7.1 Forest cover change | 131 |
| 4.7.2 Reflection on the degree of withholding information by the community..... | 134 |

| | |
|--|-----|
| 4.7.3 TI standing against the test of modernity pressure | 136 |
| 4.7.4 Traditions that have conceded to change pressure..... | 137 |
| 4.8 Factors influencing performance of traditional institutions | 140 |
| 4.8.1 Formal organizations | 140 |
| 4.8.2 Influence of modern way of life | 143 |
| 4.8.3 Immigration | 144 |
| 4.8.3 Reflection on factors influencing traditional institutions | 144 |
| CHAPTER FIVE..... | 145 |
| 5.0 CONCLUSIONS AND RECOMMENDATIONS | 145 |
| 5.1 Summary | 145 |
| 5.2 Conclusions | 145 |
| 5.3 Recommendations | 146 |
| 5.4 Contribution/Lessons learnt | 147 |
| REFERENCES..... | 149 |

LIST OF TABLES

| | |
|--|-----|
| Table 1: Challenges encountered and actions taken | 12 |
| Table 2: Values and definition of religiosity levels | 51 |
| Table 3: Lubasazi village: Hamlet by age group profile..... | 52 |
| Table 4: Distribution of livelihood and socio-cultural activities relative to seasons | 66 |
| Table 5: Forest types in the study area..... | 70 |
| Table 6: Trees/climbers/shrubs of medicinal and cultural/spiritual importance | 73 |
| Table 7: Trees uses in traditional house construction | 74 |
| Table 8: Tree species used for construction of traditional houses | 75 |
| Table 9: Seasonality and distinguishing features of six Chasa-rupia forest mushrooms. | 76 |
| Table 10: Flying termites: Distinguishing features and mode of harvesting | 77 |
| Table 11 Use of forests in South Uluguru Mountains | 86 |
| Table 12: Traditional rules guiding relationship between Mwenye-Kolero and the Community..... | 100 |
| Table 13: Regression analysis on Respondent’s compliance to traditional practices | 127 |
| Table 14: Estimated tree cover change in SUM forests | 133 |
| Table 15: Cross tabulation of religious affiliation * Compliance to TI | 142 |

LIST OF FIGURES

| | |
|---|-----|
| Figure 1: Conceptual Framework | 35 |
| Figure 2: Distribution of external interventions in Uluguru Mountains. | 39 |
| Figure 3: Land use pattern in Lubasazi village | 61 |
| Figure 4: Seasons in Lubasazi village..... | 65 |
| Figure 5: Forests and important sites of South Uluguru communities | 83 |
| Figure 6: Structure of Mwenye-Kolero System..... | 93 |
| Figure 7: Sacredness of traditional forests | 108 |
| Figure 8: Clan settlement configuration and buffer forests: Fencing off sacred forest . | 111 |
| Figure 9: Defense lines of Mandeni sacred forest..... | 118 |

LIST OF PLATES

| | |
|--|-----|
| Plate 1: " <i>Nengu ilakala</i> " at Mzinge Hamlet | 65 |
| Plate 2: <i>Bulumundzu lye swila</i> - Alates harvested by digging out its ant-hill..... | 78 |
| Plate 3: Expanding farms in wooded areas of agricultural land..... | 87 |
| Plate 4: With descendant of <i>Mkubwa</i> (right) after the ritual ceremony | 103 |
| Plate 5: Communal harvesting of " <i>Bulumunzu lye swila</i> " on an individually owned/rented farm | 137 |
| Plate 6: Chasa-Moyo sacred grove - Standing African teak (<i>Milicia excelsa</i>) (left) and timber harvested for desk making | 141 |

LIST OF BOXES

Box 1: Governance functions of CPR.....25

Box 2: The role of taboos in African Society28

Box 3: The story of risen tree believed to be one of the "living-dead" in form of trees 116

LIST OF APPENDICES

Appendix 1: Luguru words/phrases used in communicating traditional institutions...159

Appendix 2: Checklist for the FGDs with Village Committees161

Appendix 3: Checklist for interview with Key Informants.....162

Appendix 4: Interview schedule for quantitative data163

LIST OF ABBREVIATIONS AND ACRONYMS

| | |
|---------|--|
| CBNRM | Community Based Natural Resources Management |
| CFR | Community Forest Reserve |
| CPR | Common Pool Resources |
| EMN | European Migration Network |
| FAO | Food and Agriculture Organization of the United Nations |
| FGD | Focus Group Discussion |
| FRA | Forest Resources Assessment |
| GFW | Global Forest Watch |
| GPS | Global Positioning System |
| JFM | Joint Forest Management |
| KI | Key Informant |
| KII | Key Informant Interview |
| LAFR | Local Authority Forest Reserve |
| NAFORMA | National Forest Resources Monitoring and Assessment (Tanzania) |
| NFR | National Forest Reserve |
| NGOs | Non-governmental Organizations |
| NR | Natural Resources |
| PFM | Participatory Forest Management |
| PFR | Private Forest Reserve |
| PO | Participant Observation |

| | |
|------|--|
| REDD | Reduced Emission from Deforestation and forest Degradation |
| SCBD | Secretariat of the Convention on Biological Diversity |
| SUM | South Uluguru Mountains |
| TI | Traditional Institutions |
| URT | United Republic of Tanzania |
| VEC | Village Environmental Committee |
| VLFR | Village Land Forest Reserve |
| VLUC | Village Land Use Committee |
| VNRC | Village Natural Resources Committee |
| WDC | Ward Development Council |
| WWF | World Wide Fund for Nature (formerly World Wildlife Fund) |

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

The importance of forests, woodlands and the wilderness in general as a basis for human survival, cannot be overemphasized. Likewise, forestry practitioners, those conducting research in forestry and those involved in making policy and advocacy are concerned with sustainable forest utilization. Sustainability in forest utilization is understood as use and stewardship of forests in such a manner that resources are maintained.

Despite the probable worldwide recognition that there is a dire need to utilize forest resources in a more sustainable way, there is a widespread destruction of these treasured resources, especially in developing countries. FAO (2010), for example, reported in its Forest Resources Assessment (FRA) report for 2010 that of the 4.06 billion hectares of global forest area in 2005 some 5.5 million hectares were lost by 2010, equivalent to an annual loss of 0.12%. In the Eastern and Southern African region, a much worse situation was reported. At a loss rate of 0.67% per year, of the 276, 679,000 ha of region's forest in 2005 about 1.8 million hectares were lost during the same period (FAO, 2010). In Tanzania an even worse situation was reported during the same period. FAO (2010) figures reveal that during the period, yearly forest area loss was about 403,000 ha or 1.16%, the rate that almost doubles that of the Eastern and Southern Africa region or nearly 10 times that of the global level.

Several conservation efforts have been in place for decades to curb the increasing rates of forest and woodland losses, notably efforts that emphasize community engagement. It has been observed that forest management strategies that are centralized are increasingly becoming less effective and hence the need to shift management efforts to community levels. At community level it implies utilization of indigenous knowledge.

Drawing from several studies, Kidegesho (2009) for example, noted the once thought inferior traditional and cultural (and spiritual) practices to gaining recognition as important complements to (or on their own being capable of) the conservation approaches on hand. To that recognition Shvidenko *et al* (2005) argues that forests, among others, play important cultural and spiritual roles in many societies, and hence a good reason for the local community to put efforts into conservation. In Tanzania, as Kajembe and Monela (2000) found, communities in Duru-Haitemba have had traditions since pre-colonial era that have guided relationship between the community and the forest resources. One such tradition, "*hymanda*", has served to control resource use among the communities to the extent that there has always been a balance between the communities and their forest resources.

South Uluguru Mountains (SUM), home to the eminent Mwenye-Kolero tradition, have communities which despite depending on their forest resources for livelihoods are known to strike a balance between use and resource health by employing long held traditional belief system. The communities may be described as forest dependent as they utilize forest resources, among others, for their subsistence. They live in the proximity of the forests and their traditions are embedded to forest and forest resources.

FAO (1997) describes forest dependent communities as those "... who live near forests, usually involved in agriculture outside the forest, who regularly use forest products (such as timber, fuel wood, bush foods and medicinal plants) partly for their own subsistence purposes and partly for income generation". An observation by Newton *et al* (2016) is that "forest dependency" is the term mostly used to denote natives and traditional people of forested areas in developing countries.

In South Uluguru Mountains, forest resources provide communities with fuel wood; weaving materials for baskets, mats and other art crafts; and food items such as mushrooms and wild fruits (Haule, 2011). Important is an observation that the communities are affiliated to the forests for cultural and spiritual purposes. For this reason communities have, over time, developed or revived traditional rules in form of taboos, values and practices to protect essential forest resources. The purpose of this study, therefore, was to gain a deeper understanding from the community's point of view, roles traditions play in keeping balance between resources and their use.

1.2 Problem Statement and Justification

There has been a widespread recognition of, and emphasis on, the utilization of local communities' abilities in managing natural resources within their proximities. Alden (1999) for example, underscored the importance of moving towards developing frameworks that support or recognize local people living close to forests as managers in their own right. In general, Community Based Natural Resources Management (CBNRM) is framed on the basis of the assumption that "land and other natural resources should be managed by those people who live with and depend on them" (World Wide Fund for Nature, 2006). Consequently, there is also an increasing

recognition and interest on the relationship between traditions, spirituality and conservation and promotional efforts on the use of traditional practices in the management of natural resources. To that end, Kidegesho (2009) argues that "communities can be actively involved in managing resources if their traditional practices are cherished".

There is a wide recognition and promotion of communities' capabilities in managing resources, including the value of traditional institutions in natural resources management. However, knowledge on the popularity of local community's traditional institutions among the local community members is lacking. Moreover, knowledge on whether local communities actually comply to the traditional institutions in a mutual understanding, for whom these institutions work, and whether they have evolved independently of external forces is somehow limited, especially in the Tanzanian context. On the one hand studies have delved more on official management categories (for example Participatory Forest Management and its variants) but much less on traditional institutions, and have utilized outsiders' rather than the insiders' point of view. On the other hand, what is known on the dynamics of managing natural resources by using traditional institutions is based on the outsiders' rather than the insiders' point of view. Consequently, what is known lacks the taste of the communities in question. Additionally, previous studies on the relationship between spirituality and conservation have used Common Pool Resources as the analytical framework. This study is based on the local community's point of view.

The study aimed to uncover the details of the local communities' conception of their culture in terms of rules, values, practices and systems of resource management. It also

sought to find out whether the local community at large are aware of the presence of traditional institutions, and how they work, and for whom they work for. By combining both emic (insiders' view) and etic (outsider's view) approaches, (inclining more to emic); this study examined the roles of traditional institutions played in governance functions of Community Based Natural Resources Management (CBNRM). Consequently, evolution, popularity and resilience of these institutions have been examined.

Findings of this study will contribute towards understanding the relationship between spirituality and natural resources conservation. Specifically, this work's contribution is on the ways governance functions of Community Based Natural Resources Management (CBNRM) can accommodate traditional institutions in the management of natural resources with a focus on forest resources. Additionally, methodology employed in this study will add value to the existing literature on the best approach to source data from communities in the traditional African context.

1.3 Objectives

1.3.1 Overall objective

The overall objective of this study was to establish the roles of traditional institutions in forest resources use and protection through emic and etic lenses.

1.3.2 Specific objectives

Specifically, the study sought to

- (i) To determine community's perceived important forest and associated resources,

- (ii) To map traditional institutions that are geared towards the use and protection of forest resources,
- (iii) To determine the predictors of compliance with traditional institutions among community members,
- (iv) To test the efficacy of traditional institutions in conservation of forest resources
- (v) To examine socio-economic and environmental factors influencing the performance of TIs.

1.4 Research questions

The study had the following research questions:

- (i) What are the perceived community's forest resources?
- (ii) What is the seasonality of resources?
- (iii) How are the resources patterned?
- (iv) How does the community use forest and associated resources?
- (v) What are the existing TIs related to use and protection of forest resources?
- (vi) How do different social and demographic groupings comply with the traditional institutions?
- (vii) How robust are the institutions?
- (viii) How do prevailing formal organizational institutions enhance or constrain traditional institutions?

1.5 Challenges underlying the study

The study was not free of challenges, which were not envisioned during planning stage. The most prominent ones were related to gate keeping, sampling frame and factions within the community. Flexibility in methodology was the primary solution to these challenges as described hereunder.

1.5.1 Gate keeping

Saunders (2006) defines "gatekeeper" (in social science research) as a person who controls access by the researcher to the research settings, subjects, and/or structure. Gate keeping is essentially arbitration by a responsible person for researcher's access to the community of research focus. However, this work has observed yet another mode of gate keeping. Gate keeping that is entrenched in the community members themselves. This form of gate keeping can be referred to as "second level/higher level gate keeping" whose arbitration is in the hands of the researcher himself.

During the first three months of fieldwork, everything seemed to work well. It seemed the research team was well received, experiencing no difficulty in contacting individuals for causal talks as well as interviews. It was thought, as a research team, had access to all sorts of information the study needed as long as the research team was abiding by the local rules of conduct. However, a month later, upon comparing the information collected thus far, it was apparent that the research team had been misled in many ways. There was no consistency in the information gathered thus far. For example, a phenomenon, event or taboo issue would be available in up to five different versions, each taking its direction. It was thus necessary to shift the attention from data collection to understanding the underlying reasons for the data incongruence.

Later it was understood that it is a taboo to unveil community's issues, especially the ones related to traditional belief system to less strangers. If a somewhat familiar stranger (a researcher for example who has already spent sometime in the area) happened to have certain knowledge on the subject that he/she is interviewing, there are two possibilities depending on the depth of his/her understanding of the issue. He/she may be deliberately misled. Community members are keen to capture what is an outsider's intent and how far he/she knows about it. It was a common scenario for an interviewer to be turned an interviewee, thereby by being asked a number of questions for each question an interviewer asks, purposely to capture to what extent the stranger knows about their "issues".

Once the "supposed" interviewee has gathered from the researcher or interviewer what they already know, efforts would be made by the interviewee to divert from what they believe as the truth. This is done, when, what is already known by the stranger is still superficial. One prominent elder had this to share when he was convinced that the research team was innocent and posed no threat to the community:

"We have a tradition here that our traditions are for our own consumption. Unless you become part of the community, you will not be able to access 'the right' information regarding our traditions, especially those related to our belief system. There are a few people who can talk about our traditions without being haunted by the ancestors. However, they need to trust and accept you as innocent, with no bad intentions to the people and to the tradition itself. There are also special elders who have been sworn in to not talk about our traditions. These are the ones who know the inside of the traditions. No matter what, they will not reveal anything. By revealing, they risk their own lives.

In your case, apart from the taboo of reserving information for trusted members of the community, there are a number of reasons explaining why you as outsiders have experienced difficulties in accessing the right information. First, in the beginning we were not sure as to whether you were not government agents, who should harvest information that will be used against the community. It has happened in the past. Someone came to this village and stayed here for about three months. When he left, some of our youths were arrested on the allegations that they were involved in poaching in the nearby Selous Game Reserve. Secondly, even if people may believe that you do it for academic purposes, the report might lead to one or more of our forests being taken by the government (referring to district or central government). This would mean no more community access to forest resources from which we access a variety of products. Our traditional forests are very important to us. To prevent the outcome in any case, you are supposed to be deprived of information you seek lest the community might bear some consequences. And finally, we have a tradition here since the time of Bibi, we do not let strangers know our inner traditions. You are still strangers here. The community is yet to consider your team part of the community."

The other possibility is that you may be given limited truth, but in a very cautious way. This occurs only when community members satisfies themselves that either they have very little to hide from you, meaning you have already gathered enough facts about their tradition, or when they have finally concluded that you are not a threat to the community.

In this community, and most likely other rural communities with similar settings, gate keeping is more than a couple of responsible persons controlling access. The larger community forms even a more complex gate, whose arbitration requires researcher's perseverance and immersion in the particular setting and structure. To become an acceptable part of the community is what it takes to get through this type of community gate.

1.5.2 Sampling Frame

During piloting at a nearby Bungu village, it was learned that the village had no register and an attempt to randomly select individuals as respondents for the survey was not rewarding. The village Chairperson offered to prepare a village register from which we could use to draw a sample of respondents. Unfortunately, the list he came up with was more or less a sample, even though it did not qualify to be a random sample. For the purpose of piloting, we decided to use it lest we disappoint him for he was too busy with other activities. It was learned later that most of the interviewees were relatives and friends of the Chairperson. He might have chosen them because of convenience or maybe he had anticipated some financial or material inducements that might come out of the process and hence wanted his close circles to be the beneficiaries.

This experience necessitated for the twist in the procedure for drawing respondents for interview, to include a kind of 'village census' so we could develop a village profile, which later was organized to constitute a sampling frame.

1.5.3 Aligning with factions

Though the nature of the study required to a forest biologist in the research team it turned out to be difficult to have one. The failure to engage the forest biologist for the

forest trees identification and forest resources inventory, in part was attributed to the power struggle between the ward councilor and the village chairperson. At some point, community members were advised not to cooperate with the researcher since the research team had worked with the village chairperson. Since there was a division between the village chairperson and the ward councilor, working with any would incite the other, and hence lose the subsequent support.

Working without proper acceptance by either the village chairperson or the ward councilor would limit the scope of data collection since they had more or less equally divided support from the local community. While leaning to one of them would distance the supporters of the other from the study, the only option was to freeze data collection for some time so that the district officials could resolve the dispute. Three months later the district authorities had ironed out the differences between the ward councilor and the village chairperson.

1.6 Actions taken against challenges faced

Table 1 summarizes the actions taken against the challenges encountered.

Table 1: Challenges encountered and actions taken

| Challenge | Action Taken |
|--|--|
| Gate Keeping: In the form of community holding information | Adjusting study time to provide for "prolonged engagement" with the community and hence forge "community membership". |
| Sampling frame: The village leadership offering a list consisting close friends and relatives for them to be part of the sample. | Devised a village profile which resulted into a list of all village members with necessary attributes for consideration in setting sampling frame. |
| Aligning with factions in the community: Working with members of one group risked denial of working with the other group. | Waited for the district authority to sort out the differences between the two main groups before proceeding with data collection. |

1.7 Organization of the Thesis

The rest of thesis is divided into literature review, methodology, results and discussion and conclusions and recommendations. The literature review chapter commences with a section devoted to defining the concepts related to forest and forest resources, revisiting literature on forests in Tanzania in terms of size of forest land, types of forests and their management. Additionally, in this chapter, literature related to traditional institutions focusing on taboos and beliefs is reviewed. Literature related to empirical evidence on the roles of traditional institutions is reviewed. The chapter concludes by looking at the ratio between agricultural and settlement against forest land in Tanzania, by

emphasizing the importance of recognizing traditional institutions underlying the management of forest resources.

Chapter Three provides the methodology of the study related to fieldwork and data analysis. Choice of study area, approach, data collection methods and analysis of data is described and justified. The presentation and discussions on the research findings appear in Chapter Four. Finally, conclusions and recommendations drawn from the findings are presented in Chapter Five.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Definition of terms

2.1.1 Institutions as social organizations, structures and rules

Despite the long history of the use of the concept "institution", there isn't an agreement among scholars as to what the concept precisely refers to (Hodgson, 2006). Ostrom (1990), however, summarizes the various conceptions of the concept institution into three categories.

“Institution can refer to a specific organization in a particular country, such as the Department of Irrigation; it can describe established human relationships in a society such as the family structure (the institution of the family); or it can denote the rules that individuals use to order specific relationships with one another” (Ostrom, 1990).

For some, an institution can be considered as a social organization. Khalil (1995) for example considers such social organizations as firms, colleges, hospitals or state entities to be institutions as these have preferences and objectives. For others it can denote a social structure. For example, Uphoff (1986) in Zahabu (2009), describes it as a structure of recognized and accepted roles of individuals in a social group. And yet to others, and probably many, it is the rules of social relationships. Hodgson (2006), for example, defines institutions as "systems of established and prevalent social rules that structure social interactions".

Notwithstanding the non-unanimity of the concept, it is widely held that the concept "institution" refers to "the rules of the game". North (1990) defines institutions as “rules and norms that constrain human behaviour”. For the purpose of this study, we adopt the concept of institution as the rules and practices that define the order of relationships

either between individuals or between individuals and their environments. These rules are put in place to give rights to individuals or constrain certain human behaviour related to forest resource use.

Dore (2001) in attempt to define traditional institutions describes what people consider being their own long time established practices and rules governing access to natural resources surrounding them. This is opposed to what has been introduced or has been established by the influence of the outside spheres like the government or non-government organizations in form of interventions. Consequently, the study adopts Dore's conception of traditional institutions for natural resource management.

2.1.2 Forest and forest resources

While dictionary definition for the word "forest" is simplified to mean a "*large area of land with trees growing closely together*", there are as many definitions as there are the types and species of vegetation that form them, and hence a complex word to define. Lund (2016), for example, identified about 1000 definitions of the word "forest" as used in different countries worldwide. Accordingly Lund (2016) interprets definitions to range from those based on **designation** by relevant authorities as forests, through those based on **land cover** and **land use** to those based on ecology in which the forests or ecosystem managers are fond of.

A **designated** forest is a forest reserve declared by the relevant authority as provided by the relevant laws of a country particularly for legal or administrative purposes. An area can be declared forest regardless of whether there are trees/wooded plants at the time of declaration. For example, Cap 38:03, the Botswana Forest Act (1968) defines a "forest

reserve" or "reserve" as "... *any area declared as a Forest Reserve by the President in pursuance of the provision of this Act (Botswana Forest Act)*". As cited by Lund (2016), Cyprus Department of Forest defines a state forest as "*State land declared as forest according to the Forest Law disregarding whether there is any vegetation on that land or not*". Forest biologists, however, challenge these definitions since they do not recognize forest cover (an important element in forest assessment) and ecosystem of the forests which determines a forest land to be considered a forest.

Land cover definitions are based on threshold percentage of canopy cover of the vegetation in a given area. Thresholds range from around 5% to over 60% of crown cover, with some cases including land area size, mostly the minimum size being 0.5ha. The widely adopted and adapted Food and Agriculture Organization (FAO)'s definition incorporates the thresholds of canopy cover, tree size and land area. These parameters make forests amenable to assessment. FAO, thus defines forest as "... land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ". It does not include land that is predominantly under agricultural or urban land use" (FAO, 2012). However, this definition does not appeal to ecologists and biologists since it does not account for the ecological dimension of forest.

Ecologists and biologists consider a forest as an ecosystem. Few countries have adapted definitions that base on **ecology** of the forest land. As Lund (2016) noted, the government of Indonesia defines forest as "... *a unit of ecosystem....comprising biological resources, dominated by trees in their natural forms and environment....*". Proponents of ecologically related definitions, such as the Global Biodiversity Outlook,

argue that since there is a difference in terms of forms, densities and ecosystems in which trees appear, defining forest outside the sphere of ecology is subtle (Shvidenko, 2005). Accordingly, the Secretariat of the Convention on Biological Diversity (SCBD) (2001) defines forests as “ecosystems in which trees are the predominant life forms”.

2.1.3 Forest as defined in the Tanzanian context

The term forest is defined in both the Forest policy (1998) and the Forest Act No.7 (2002). The Tanzania Forest Policy of 1998 defines forest as "*all land bearing a vegetative association dominated by trees of any size, exploitable or not, and capable of producing wood or other products of exerting influence on the climate or water regime or providing shelter to livestock and wildlife*". This definition takes note of both land cover and ecology, but does not provide for the thresholds to be used in forest assessments. A definition of forest by the Forest Act No. 7 of 2002, however, takes care of that. "*Forest means an area of land with at least 10 % tree crown cover, naturally grown or planted and or 50 % or more shrubs and tree regeneration cover and includes all forest reserves of whatever kind declared or gazetted under this Act and all plantations*". Although this definition suffices the requirements of FAO's forest resource assessment, it lacks the ecological recognition of forest.

For the purpose of this work, we consider a forest definition to include the legal requirements, the actuality (presence of trees and/or woods) and the ecology (forest as an ecosystem) to follow a Tanzanian context. We thus define forest both as an ecosystem (a wooded area with significant number of trees/woods and including other macro and micro-organisms and related abiotic factors) as defined by Tanzania laws.

Accordingly such variants as national forest reserves through village land reserves to community forest reserves are covered in the definition.

2.1.4 Community and Village Land Forests

According to the Tanzanian Forest Act No. 7 of 2002, Community Forest Reserve (CFR) is a forest reserve within the village land that is managed by a group of persons who may be members of that particular village, and/or persons who are living in or at the proximity of the forest or any other persons who in some ways are connected with the ownership, use and management of the forest (URT, 2002).

Accordingly, in this study, a community forest is defined as forest land that is of traditional and spiritual importance to the respective community, and is managed by community members who are in some ways affiliated to it. A community forest is thus managed by traditional institutions. This study also recognizes another kind of community forest, the "buffer forest" which is primarily meant to absorb shock related to use that would otherwise impact the community forest. Buffer forest is amenable to both traditional institutions and formal institutions by the village government.

Village Land Forest Reserve (VLFR) is defined by Forest Act No. 7 of 2002 as either a declared under sections 32 and 33 and/or gazetted under Section 35. It is a forest reserve managed by village council through one of its committees or an especially established village land forest committee (URT, 2002).

2.1.5 Forest versus woodland versus wilderness

IUCN defines wilderness as a "large area of unmodified or slightly modified land, or land and water, retaining their natural character and influence, without permanent or significant habitation, which are protected and managed so as to preserve their natural condition" Dudley (2008). A natural forest, for example, which has been declared a reserve, qualifies, according to the IUCN definition, to be wilderness.

Woodland or "Other wooded land" as categorized by FAO's Forest Resources Assessment 2010 is defined as "land spanning more than 0.5 hectares; with trees higher than 5 meters and a canopy cover of 5–10 percent, or trees able to reach these thresholds *in situ*; or with a combined cover of shrubs, bushes and trees above 10 percent. It does not include land that is predominantly under agricultural or urban land use" (FAO, 2010). Essentially woodland or wooded land is that land dominated by trees and shrubs and is currently not under agriculture production. Notwithstanding the many variants of forest definitions, a quick glance will suggest that the three concepts (forest, woodland and wilderness) bear some commonage and hence are used interchangeably in this work.

2.1.6 Management of forest resources

Management of natural resources, forest resources included, is related to how the resources are managed. Consequently, concepts such as "conservation", "protected areas", "sustainable forest utilization" are commonly used to denote "use of" and "protection" of the resources (Bhagwat and Rutte, 2006; Treue *et al* 2014). Resource management, as Gumo *et al* (2012) put it, is about regulating the use of the resource in question.

For the purpose of this study, we define management of forest resource in terms of use and protection of the resources. It includes actions, values, practices related to controlling or regulating use of forest resources.

2.2 Forests in the Tanzanian context

2.2.1 State of forests in Tanzania Mainland

The National Forest Monitoring and Assessment of Tanzania Mainland (NAFORMA) conducted between 2009 and 2014 is the first ground based forest inventory exercise whose result on the state of forests are considered more accurate compared to studies using remote sensing alone. Accordingly, the assessment found that forests and woodlands of Tanzania mainland to stand at 48.1 million ha, equaling 54.8% of total land area (URT 2015). NAFORMA figures are higher by over 40 % compared to previous estimates. Accordingly, they indicate a per capita forest of 1.1ha, based on the 2012 census. NAFORMA figures further indicate that of the total forest and woodland area in Tanzania, about 45.7% is owned by villages, making villages in Tanzania the main owners of the forest and woodlands.

NAFORMA figures further indicated that 372,871ha of forest are lost annually. Compared to previous estimates of about 403,000ha of forests lost each year, NAFORMA figures are low by 8%. Even with this new figures which show much higher forest stocks and slightly lower rate of annual loss compared to previous estimates, forest resources are still at risk of overexploitation if their management are not overseen properly. It is important to note that much of the forests and woodlands are under village ownership where communities are more likely to embrace traditional practices that control resource use.

2.2.2 Types of forest reserves in Tanzania

According to the Tanzania Forest Act No. 7 of 2002, forest reserves may be classified on the basis of administrative levels or on the core functions of the forests.

Administratively, forest reserves are managed at national, district (local authority) or village levels. Depending on purpose, national and local authority forests may be reserved for production (of timber and other resources), protection of soils, watersheds and wild plants or for conservation of nature (and scenic areas) (URT, 2002). Accordingly five types of forest reserves can be identified. These are National Forest Reserves (NFRs), Local Authority Forest Reserves (LAFRs), Village Land Forest Reserves (VLFRs), Community Forest Reserves (CFRs) and Private Forest Reserves (PFRs).

At village or community level, purposes for which VLFRs and CFRs have been or could be established include controlling declining forest area in the villages, restoration of forest areas which previously had forests and sustainable harvesting of economically potential resources in the forests (URT, 2007). However these legal documents do not explicitly recognize the cultural and spiritual roles of forests to the surrounding communities, and which implies that cultural and spiritual functions are not recognized as part of forest management mechanisms.

2.2.3 Village Land Forest and Community Forest Reserves: Legal viewpoint

Section 12 sub section 1 (a) of Tanzania Village Land Act, 1999 provide for communal village land to be available for various community wide interest use including village and community forests. Forest Act No. 7 of 2002 provides for declaration of part of village land by village council "a village land forest reserve" in Section 33 Sub-section 1 paragraph (a), and in paragraph (b) initiate a process to gazette a declared village land forest. The law also provides for ways in which village land forest may be managed. In section 34 subsection 4, among others, the law provides that declared or gazetted village

land forest reserve may be governed by (c) by-laws and rules be made by the village council and (e) customary rules and practices applicable to forest use and management within the area.

2.3 The role of traditional institutions

Borrowing from Cox *et al* (2014), this study is motivated by other studies on CBRM on the one hand, and the relationship between spirituality and resource management on the other. The focus was thus to find how traditional institutions were implementing the governance functions. Box 1 presents governance functions against which the institutions were tested to determine how they are implemented.

Box 1: Governance functions of CPR

| Governance function | Description |
|---------------------------------|---|
| User boundaries | Clear boundaries between legitimate users and non-users |
| Resource boundaries | Presence of clear boundaries defining resource system as separate from larger biophysical environment |
| Congruence with local condition | Appropriation and provision rules are congruent with local social and environmental conditions |
| Proportionality | The benefits obtained by users from a CPR are proportional to the amount of inputs incurred |
| Collective-choice | Most individuals affected by the operational rules can participate in modifying the operational rules |
| Social monitoring | Monitors monitor the appropriation and provision levels of the users |
| Resource monitoring | Monitors monitor the condition of the resource |
| Sanctions | Appropriators who violate resource governance rules are likely to be assessed sanctions |
| Conflict-resolution mechanism | Appropriators and their officials have access to low-cost local arenas to resolve conflicts among resource users |
| Local autonomy | The rights of the resource users to devise their own institutions are not challenged by external governmental authorities |
| Nested enterprises | Essential governance activities are organized in multiple layers of nested enterprises |
| Appropriation | Rules exist regarding the appropriation of the natural resource and the specific means by which appropriation is constrained |
| Benefits | Benefits are provided to resource users other than those material benefits that are obtained through the normal use of the resource |
| Leadership | Leadership position with authority regarding natural resource use and governance are present |
| Social capital | Strong social capital among resource users exists that facilitate effective resource management |

Source: Adapted from Cox *et al* (2014)

According to Cox *et al* (2014), "a governance function is implemented by religion if there is an explicit appeal made to a supernatural, non-human authority that has power to affect human actors in ways beyond full understanding of those actors". Cox further explains that another way is in case human actors mediate authority, which in the first place, their authority has been discerned from the supernatural beings (Cox *et al*, 2014).

2.4 Taboos and beliefs: The traditional rules

In this work, taboos and beliefs make the most institutions that are of interest in this study. It is thus worth to discern taboo as seen by other authors. Cambridge English Dictionary defines taboo as a word or action that is avoided for social or religious reasons. Derived from the Oceania languages, "*tapu*" (Tongan) or "*tabu*" (Fijan) the term taboo literally translates to "forbidden" or "prohibited".

For anthropologists, taboo represents the "unthinkable" action, such that even thinking of violating a taboo prompts a punishment (Fershtman *et al*, 2011). Taboos are considered an outcome and indicators of a belief system and broader culture in general. As Fershtman *et al* (2011) argue, in addition to rational decisions by an individual, his or her behaviour is equally governed by society's values and standards. These standards are thus typical of rules or taboos.

Osei (2006) argues that, behind mystical explanations of taboos there are rational explanations with notable implications for biodiversity.

Box 2 presents the role of taboos in a traditional African society as conceived by Omobola (2013).

Box 2: The role of taboos in African Society

- They provide a set of rules serving as a moral guidance or a law in the community to ensure that peace and security were present in the community. preventing people from doing wrong things, helping them to focus on what was encouraged in the society. ...breaking of a taboo was associated with an automatic punishment – one did not have to be caught to be punished;
- They help in the upbringing of children and provided rules for marriage: ... described as 'teaching aids' when explaining some moral principles to them. ...taboos, were expressed at various occasions such as circumcision, marriage negotiations and funeral rites.
- ... a means of social control and without them there would be chaos: The motivation for abiding by the normative principles are provided and reinforced by the religious sanctions from the gods and the ancestors or directly from the Supreme Being.
- Keeping of taboos ensured good harmony between the visible and the invisible world: Taboos represent the main source of the guiding principles regulating and directing the behavior of individuals and the community towards the Supreme Being and especially the gods and the ancestors in Yoruba society. Those found guilty of serious moral or legal violations are made to undergo ritual cleansing as a means of moral or ontological purification and transformation.
- People seemed to be aware that behind prohibitions laid the true meaning of taboos – preserving harmony and well-being in and of the community.

Source: Omobola (2013)

Cultural beliefs are understood to be the shared ideas, opinions and attitudes of members of a particular social system. These beliefs, in a way shape the way of life of that particular social group, much as through reasoning, members of the social group shapes the beliefs. Belief systems, on the other hand, are structures of norms that are interrelated and are used by a society to make sense of their world, individually or collectively (Usó-Doménech & Nescolarde-Selva, 2016).

2.5 Agricultural and Settlement land area against Forest land area

The importance of wilderness to the society cannot be overemphasized. Several world class programmes including Reducing Emissions from Deforestation and forest Degradation REDD+, in a way, are promoting for increased wilderness (which in this case would be responsible for carbon storage). Apart from serving as carbon sinks, the wilderness provides to the surrounding communities wild foods of high nutritional value. A study by Lyimo *et al* (2003) for example, identified over thirty types of indigenous vegetables of high nutritive value, preferred over other exotic vegetables by up to 90 percent of persons surveyed. Moreover, protected wilderness serves as sanctuary for some endemic plant and animal species. Rufo *et al* (2002), for example, alongside promoting the use of wild plants with nutritional value as food, emphasizes the importance of conserving the environment in which these wild foods are found.

Based on the previous remote sensing estimates (prior to NAFORMA inventory of 2009-2014), Tanzania with a total land area of 885,800 sq. km, by year 2005 had a forest cover of 352,570 or about 39.9% of total land area with an estimated 0.99% annual loss of forest and woodland habitat (Tanzania forest data 2005). Agricultural and settlement area accounted for about 44% which is thought to increase conversely to reduced forest and woodlands. This is not healthy for a country whose economy is highly dependent on natural resources. Compared with Japan, for example whose total land area is estimated at 364,560 sq. km (The World Bank Group, 2016), forests and mountain area account for nearly 70% of total land area. Agricultural and settlement is concentrated in slightly less than 25% of the land area.

So while Tanzania's population of about 44 million (2012 census) is settled and produces in about 389,400 sq. km area (an area bigger than total land area of Japan), Japanese population of about 127,000,000 (nearly three times the population of Tanzania) is settled and produce in an area of about 91,140 sq. km. (about 23% of their Tanzanian counterparts). Although it might appear unfair to compare countries with extreme economies, the difference in terms of what percent of land area each individual need to settle and produce is worth noting. In other words, more action is needed to waive considerable pressure that is exerted to our forest and the wilderness at large.

One of the courses of action could be to recognize and promote the traditions that have, from the past, being responsible for forest resources management. Taking the analogy of Tanzania and Japan further, traditions in Tanzania are undermined not only by the government, but also by the new religions including Christianity and Islam where as in Japan, their traditions are part and parcel of their main religions of Shinto and Buddhism, and are responsible for their philosophy of nature and beauty, which is observed on how their forest resources are protected.

Although the preservation of forest resources by traditional institutions is largely the outcome of the myths and entrenched fear (from taboos and beliefs), it has actually worked within their contexts. Notwithstanding the current situation where majority of people might be aware that behind the taboos there is actually nothing to fear, as a nation, there is a need to understand roles which these traditions play in management of forest resources. This understanding will pave the way to their acceptance and promotion towards the goal of protecting the wilderness.

2.6 Use of traditional institutions in the management of forests

As noted in section 2.4, traditional institutions in form of taboos and beliefs are responsible for shaping individual and collective behaviour of a society in question. Behaviour of forest dependent communities towards forest use is equally shaped by these same institutions.

A study by Winter (1997) in Ecuadorian Amazon found that integrating traditional institutions in form of different cultural perspectives in natural resource management is important to sustainable utilization of forest resources. As a result Winter argues that conservation of culture and conservation of environment should be viewed as the same process, since cultural elements such as values and taboos play an enhancement role in utilization and conservation of resources.

Fairhead and Leach (1995), tested the long held assumption by governments, Non-Governmental Organizations (NGOs) and international organizations that a forest community in Guinea was responsible for deforestation and they assumed the amount of forest cover had decreased because of local mismanagement and overuse. To the contrary, Fairhead and Leach's research showed that actually there were more forests than there had been previously, largely because of the communities' deliberate forest management efforts powered by their traditional institutions.

In Africa, the dominant regime of natural resources conservation was culturally and traditionally based, where traditions are still widely held. The study in Limpopo Province in South Africa by Anthony et al (2011) revealed that "ntumboloko", the worldview of the Tsonga people despite the bits of conflicts it may have with the official

conservation management, it can best form synergy with it and thus play a crucial role in natural resources management. Anthony et al (2011) thus conclude on the importance for conservation agencies to "philosophically and practically understand and integrate local/traditional worldviews into their biodiversity conservation and socio-economic objectives" (ibid).

These past researches on the use of traditional institutions on the management of natural resources including forests have employed etic (an outsider's perspective) rather than emic approach and hence lack this understanding from the insiders' perspectives. Forest management efforts at community level that are based on the understanding of how the forest dependent communities interact with their surrounding forests from their point of view are more likely to be successful.

Borrowing from Lett (1990) conception, emic approach refers to the accounts, descriptions and analyses by the local people under study. With emic approach, the researcher describes and analyzes concepts and phenomenon from the insider's point of view. He/she looks at how the people perceive their world. Emic approach enables the researcher to analyse context specific phenomena. On the other hand, Lett (1990) conceives etic approach as accounts, descriptions and analyses of the local people by the outsider (scientist), most likely using an existing theory to see if it exists in the new setting. The etic approach allows for comparing contexts. So while in the insiders perspective observations are recorded in a rich qualitative form that avoids imposition of the researchers' constructs (Morris et al, 1999), it offers to capture the underlying reasons of the culture in question to act or behave in that way. This way, the roles that the traditions play would be understood consistency with the environment in which they

have evolved. However, some observed phenomena may need to be compared with in other settings, something emic lacks. This is why this study sought to combine emic with etic to bridge that gap.

2.7 Theoretical Orientation

The analysis of this work has been inspired primarily by the work on "The Role of Religion in Community-based Natural Resources Management (CBNRM)" by Cox *et al* (2014) and several other works on social capital, Common Pool Resources and relationship between spirituality and natural resources management (as adapted from Cox *et al*, 2014).

Cox *et al* (2014) note that although religious beliefs, when examined outside their social context seem to be unfounded, they can indeed lead to adaptive natural resource governance in their respective environment. Religion can have an adaptive function if it helps to implement attributes that are necessary in achieving and maintaining cooperation in CBNRM (Cox *et al*, 2014). Accordingly Cox *et al* further explain that religion can be used to implement governance functions. Since the "Belief in and practices related to Mwenye-Kolero", which is the focus of this ethnography, is a traditional religion, it was necessary to determine whether this tradition indeed leads to adaptive forest resources management.

2.8 Conceptual framework

Since the study in part, adopted quantitative approach, a conceptual framework for analyzing quantitative data had to be framed. It was conceptualized that sustainable use of forest resources relies on mutual trust, connectedness and associated social rules,

rooted in culture, of the actors (South Uluguru Mountains community) in pursuit of common interests and needs. It depends on how traditional institutions regulate access, use and protection of the forest resources. Institutions provide rights and control to community members on the use of the forest resources, and thus they are essential for determining how much forest resources are in the forest for regeneration.

On the other hand institutions on their own cannot work, if the actors do not meet the terms. Thus, while institutions work to shape human behaviour, actors also shape institutions to suite their common interests or needs. Actors, on the other hand, are also shaped by external agents such as religious organizations, mass communication media, village government and its various organizations.

This study presumes that these external agents may be in favour of or against the existing traditional institutions, and hence influence them through the actors. Similarly, taboos, rules and practices influence each other. It thus depends on institutional resilience, backed by the social capital of actors, if forest resources are to be used sustainably.

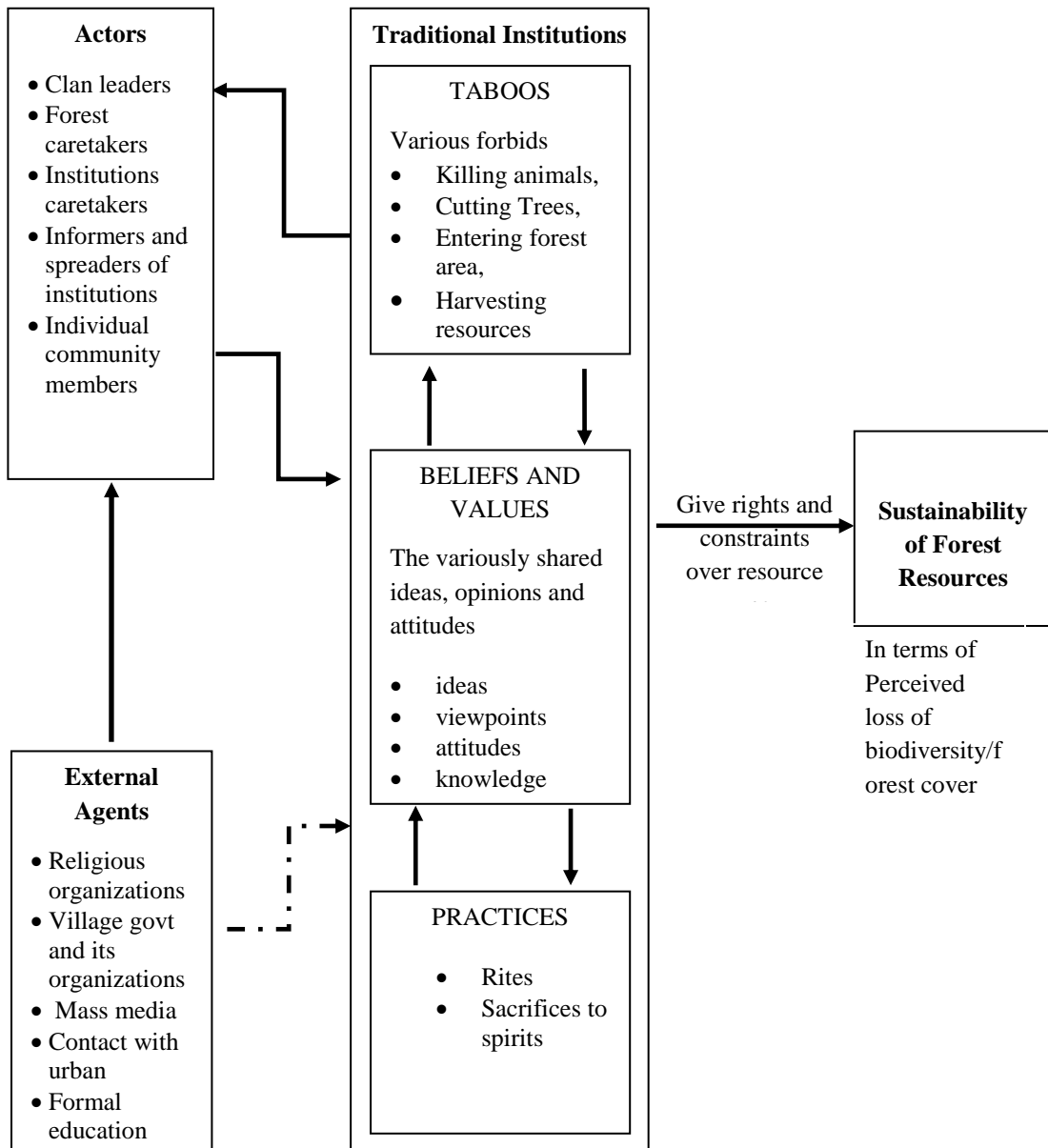


Figure 1: Conceptual framework

CHAPTER THREE

3.0 METHODOLOGY

3.1 Description of the Study area

3.1.1 Location

The study on the role of traditional institutions in forest resource management was conducted in South Uluguru, part of the Uluguru Mountains. The Uluguru Mountains is an important mountainous block of the Eastern Arc chain of mountains of Tanzania and Kenya. It is home to at least five gazetted forest reserves and woodlands that provide haven for wildlife, some of which are endemic to this block. Administratively, South Uluguru Mountains comprise of three wards: Bungu, Kasanga and Kolero of Mvaha Division in Morogoro District, Tanzania. This area is located some 120 km south east of Morogoro town. It lies at an altitude ranging from around 200 to over 2500 m.a.s.l. making a remarkable terrain variation, with slopes ranging from 10 to over 90% (Mvena and Kilima, 2009).

3.1.2 Economic activities

Communities in South Uluguru Mountains, like their counterparts in Eastern and Western parts, are predominantly agrarian, whose economy is based on agriculture. Main crops produced include maize, cassava, bananas and sorghum which make staple of their diet. Other crops grown for food and for cash include rice, wild finger millet, pulses, yams, sesame and to a lesser extent sunflower. Sorghum apart from serving as a staple, it has cultural importance as it is used in preparing local brew for traditional and spiritual ceremonies.

Livestock keeping is also part of the economic or livelihood activities the communities depend on. Keeping of local chicken is an important economic activity, with almost all households having at least a few. Other livestock kept include pigs and to a lesser extent, goats. Art craft is another important activity of economic or livelihood importance.

3.1.3 Socio-cultural profile

Residents of South Uluguru Mountains are predominantly Waluguru, who either have their origin in the village (the majority) or have immigrated to the village from other villages within Morogoro District. Traditionally, residence is organized in terms of clans. Although currently there are more than 20 clans to which individual community members claim allegiance, about six clans have their roots in the area, and as such are affiliated to the cultural traditions. The clans of *Wahega*, *Wamlali*, *Wachungu* and *Watumbika* are affiliated to *Mwenye-Kolero* spirit medium and the traditional belief system (which forms the main part of the findings of this study) of South Uluguru Mountains communities. Other clans are *Wamasenga* and *Wanyeta* who are said to be affiliated to *Wachungu* and *Wamlali* respectively. This means, the clans of *Wamasenga* and *Wanyeta* are indirectly affiliated to the spirit medium. Direct affiliation to the spirit medium means the clans are entitled to parcels of land as detailed later.

South Uluguru Mountains is also known to be a home to traditional socio-cultural activities, including ritual ceremonies and traditional medical practices. Lubasazi village is considered to be the center of traditional healing practices by the surrounding communities. Sourcing and reviving traditional medical practicing skills by traditional medicine practitioners is done in this village.

3.1.4 Choice of South Uluguru Mountains as a study area

Communities in the southern part, unlike their counterparts in Eastern and Western Uluguru Mountains, are known to be underserved in the district in terms of access to services including agricultural extension, roads and development interventions (Haule, 2011). According to Chamshama *et al.* (2009), this area received at most three interventions compared to Western and Eastern Uluguru Mountains (with the number of interventions exceeding 24) for the period ending 2008. Figure 1, shows distribution of interventions in Uluguru Mountains, with an approximate SUM area encircled in a thick dark blue boundary.

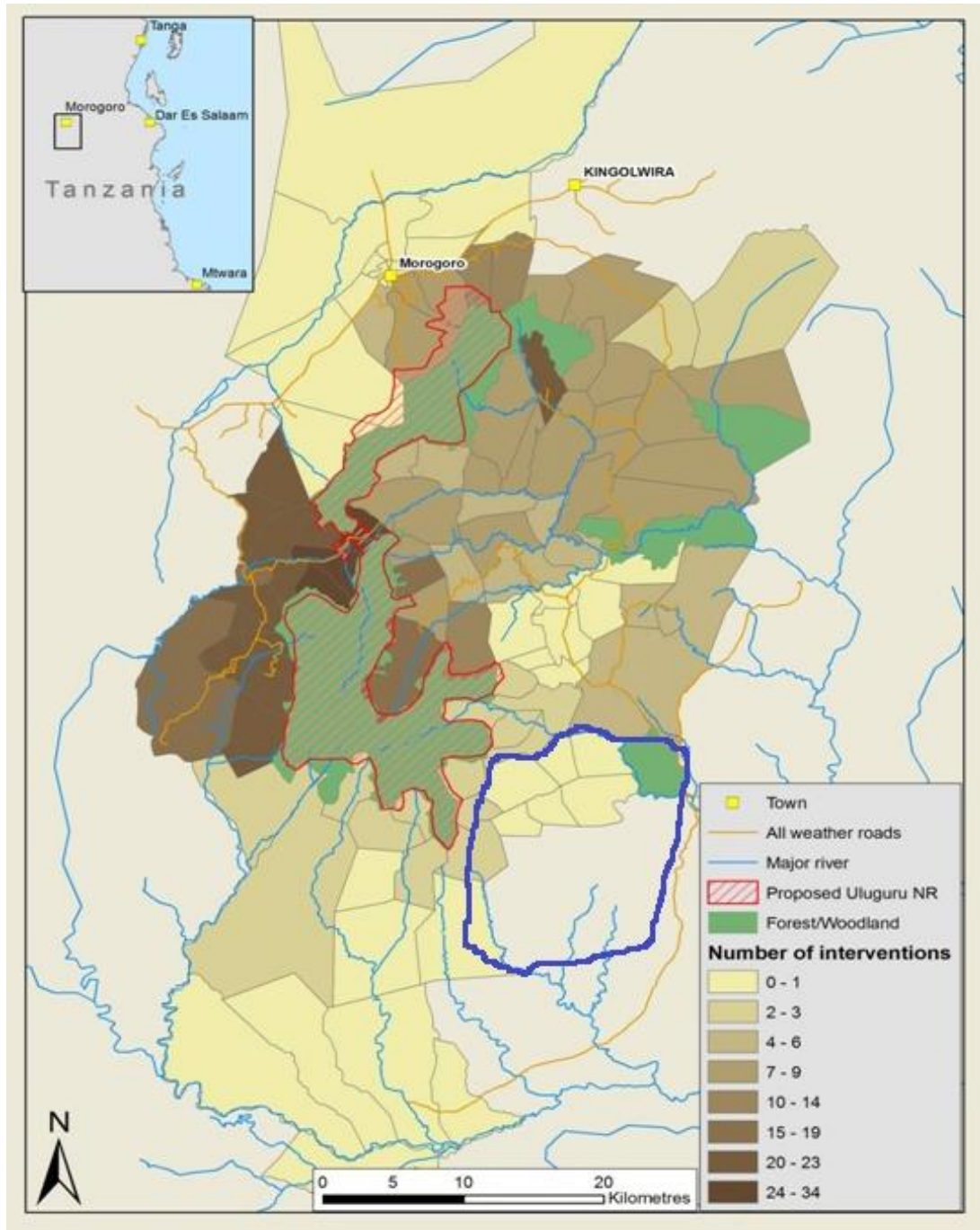


Figure 2: Distribution of external interventions in Uluguru Mountains. Blue bounded area represents the SUM. Adapted from Chamshama *et al* (2008)

Since formal institutions are more functional in areas where the rate of interventions is fairly high, as development interventions are meant to empower the local people (Anyonge *et al* 2013), it was logically assumed to be an appropriate study area and

hence the choice of this area as a case, that the community is leaning to traditional or informal institutions for the use and protection of forest resources. Consequently, the decision was made to focus the study on the forests surrounding Lubasazi village in Kolero ward where the rate of interventions is very low resulting in slower pace of cultural change.

Another reason for choice of SUM as a study area is its rich cultural and spiritual history in relation to Mwenye-Kolero tradition. Over the years, Lubasazi village has been the center of yearly traditional rituals that attract Luguru people from across the mountains. This yearly practice is linked to the way traditional or community forests are managed. The main forest of cultural and spiritual importance is Mandeni traditional and sacred forest in Lubasazi village. Other traditional forests of spiritual importance are in the villages of Bungu and Mihange in Bungu ward and Kolero village in Kolero Ward.

3.2 Methodological approaches

Of the three approaches to data collection (quantitative, qualitative and mixed methods approaches) this study can be considered to use qualitative approach although some quantitative data was collected. It inclined more toward qualitative rather than quantitative data. Qualitative study approach was found to be appropriate for it is used in research that seek to explore socially attributed meanings by community members (Cresswell, 2014). Prowse (2010), borrowing from Woodhouse (1998) and Murray (2002) maintain that qualitative methods are good at addressing the *how* and *why* research questions, and therefore are good at capturing ways of life, which in part was the focus of this study.

In order to explore the roles of TI in forest resources use and protection, case study design was found appropriate. The design permits a combined use of both insider's and outsider's approaches to capture socially attributed meanings. Lubasazi village as a case was found to have the characteristics and therefore chosen in order to study the phenomena in question.

The earlier plan was for the researcher to spend about nine months in the field as participant observer, so as to capture social meanings, ordinary activities and practices related to use and protection of forest resources. However, it turned out that, the first six months were not enough as there were challenges related to gate keeping which were to be sorted out before the researcher could be accepted as a "harmless" guest in the community. By the end of March 2015, some qualitative and quantitative data were collected but were not enough for meaningful analysis. The data, however, shed light on

the presumptions made earlier. The data collection time had to be extended to 24 months.

3.2.1 Approach in collection of qualitative data

Primary qualitative data were collected based on the insider's point of view. Accordingly, collection was through Participant Observation (PO), Focus Group Discussions (FGD) and Key informant interviews (KI). Transcripts of interviews with KI, discourses of FGD (recorded texts and voice) and directly observed phenomena including their protocols of observation were collected. Resource mapping and seasonal calendar were developed during FGD sessions and verified by community elders responsible for traditions and community forest as key informants. In this subsection, description of evaluation of quality of qualitative data is presented.

3.2.1.1 Methods of qualitative data collection

a) Focus Group Discussions (FGD)

FGDs are methods of data collection involving discussions on a given topic, of five to ten individuals moderated by the facilitator (researcher) who works to ensure the discussion is kept focused, non-threatening and as much as possible a 'natural-feeling' (Jakobsen, 2012). It is one of the best qualitative research tools researchers use to understand processes as opposed to result of a phenomenon under study (Barbour, 2007). Furthermore, it has been observed that for communities whose members have a tendency of 'reservation to non-community members' they feel more secure when they have to share what is considered community sensitive issues and experience in a group rather than on face-to-face interview, since the ultimate blame, if there has to be any, will rest upon the group (and thus a group responsibility) rather than an individual person.

In this study, FGDs were designed to collect data on the various processes that are happening in the village, related to forest use and protection. These processes ranged from formal process of formalizing village land forest to traditional processes of using traditional forest resources. During FGDs sessions, resource mapping and seasonal calendar were developed. Generally, FGDs were designed to shed light on the way of life of the community in relation to seasons, resource use and associated norms.

Five FGDs have been conducted, the first three as originally planned, to collect qualitative data whereas the last two were meant to collect data that could not be collected through a resource inventory activity. Of the three FGDs, one was done with the village environmental committee (VEC) (nine participants), another with village land use committee (VLUC) (seven participants) and the last with the combined VEC and VLUC including village chairperson (12 participants). The discussions centered on the various formal and traditional practices in-use by the community for accessing forests and use of forest resources. The discussion also revolved around village land area, village land forests as opposed to community forests in the village, process of formalizing village land forest, resources in both village land forests and community forests. Seasonal calendar and resource inventory were developed. Formal institutional arrangements in the village for using forest resources were discussed. Finally FGDs provided some insight on who should be consulted for in-depth interviews, the elderly persons who are known to take care of traditional rituals and sacred forests, and those who are clan leaders. The last two FGDs were done towards the end of the fieldwork, one with elders of the sacred forest and the other again with the combined VEC (5 participants, all male) and VLUC (12 participants) for resource inventory.

b) Interviews with Key Informants (KI)

In the context of this study, key informants were individuals within the community perceived to be more knowledgeable (than the rest of community members) on specific issues of research interest. Key informants were envisaged to provide information related to clans and clanship allegiance, traditional and sacred forests, ritual practices and on the history of sacred forest caretakers. These cultural attributes required adept individuals on history and traditions of the community. Thus respondents for the KIs interviews were drawn by non-probability method in order to ensure persons with required know-how are selected. They were suggested by participants from the earlier conducted FGDs. Specifically, KI included clan leaders, persons identified as forest caretakers and persons central to traditions of the forests. They provided in-depth descriptions of the structure and practices of the spirit medium Mwenye-Kolero system, the main tradition of the South Uluguru Mountains community. KI also informed the study on the related taboos, rules and routines related to sacred forests and their related meanings.

Check-lists were used, with a total of nine interviews conducted. Three interviews for each of the following categories: clan leaders, persons identified to take care of forests and persons identified as central to the traditions of the forests. The number of interviews (9) refers to the number of people interviewed, and should not be equated to the number of sessions. For each interview, sessions ranged from 4 to 10, depending on various factors including, researcher's perceived willingness of the respondent (when the interviewee was perceived to be less cooperative, the interview was postponed to a later time) and time available for the interviewee (since interviews were conducted in an

informal way, without pushing the interviewee to talk). The duration for each visit also varied from within a few weeks to several months. The last visits were especially fruitful as interviewees were already acquainted to the researcher. Most of the earlier visits were for familiarization and establishment of sufficient rapport.

c) Participant Observation

According to Denzin and Lincoln (1964), participant observation as a methodology refers to observation carried out when a researcher is playing an established role in the study scene. Junker (1960) and Gold (1958, 1969) cited by Jorgensen (1989) and Denzin and Lincoln (1964) identified four roles that may be assumed by a participant observer, depending on situation and nature of the study. These are: complete participant (participating fully in the society's activities); Participant as observer (being a fully functioning member of the society but taking part in some phases of the community's activities); observer as participant (doing a lot of observations/interviewing with very little participation in activities); and complete observer (not involve oneself in any interaction with research subjects except direct observation). While on the one hand, functioning as a complete participant might lead to being very subjective (and the researcher be part of the researched), on the other, being a complete observer might mean that researcher somehow distances oneself from the study and thus ignoring viewing the reality from the perspective of the subjects. This study thus adopted the third role of participant observation, where the researcher participated in some activities such as meetings, selected ceremonies, and visiting forest areas at times some members were visiting for various purposes and could grant permission.

The researcher had the opportunity to attend various activities such as village meetings, village environmental committee meetings, selected ward meetings, initiation ceremonies, clan sacred ceremonies and annual traditional and sacred ceremonies. Attending the sacred ceremonies had a big impact on understanding the culture of the community. It was both challenging (as the researcher had to endure the practices that he had not done before, neither did he believe in some rituals) and interesting. At some events the researcher was excited on being able to perform acts that were thought to be difficult.

In order to be able to interpret the observations, four assistants from the community were recruited and trained, and sometimes worked as facilitators. They were (at the time of data collection) middle aged community members who had spent most of their life in the village, making them aware of many things that have and are happening in the village. They also had spent considerable amount of time in other places, thus able to reflect and hence making them insightful interpreters and provide balanced insights. In the last four months, the researcher was always with at least one of them, whenever paying a visit to a person to be interviewed or when taking part in any event. As Whyte (1979) suggested, a researcher should not necessarily try to figure it all alone and hence is bound to find one or more persons who are well informed and have high chances of being involved in events taking place in the community. The chosen local assistants precisely meet these criteria. Furthermore, at times some elders were not willing to talk to the researcher, local assistants collected information on researcher's behalf. This was especially useful in the final days of data verification. Some information had to be verified and only a handful of interviewees had the required knowledge. Since not all of them were yet to

accept the researcher as "harmless", they were willing to talk freely to the assistants, who were familiar and found it easy to talk to.

Participant observation formed the main data collection method. Data related to practices and taboos, and meanings attached to by the community members were collected. It was through this tool that data regarding kinds of forest resources available, their use and trends were collected, relying on community members' perception. Where accepted and allowed voice recorder and a field notebook were used to collect resource use data. On a limited basis, still picture camera was used.

3.2.1.2 Quality evaluation of qualitative data

In order to achieve the necessary level of rigor, the study adapted the widely used trustworthiness model in naturalistic studies proposed by Guba (1981). This model primarily addresses the questions of *truth value*, *applicability*, *consistence* and *neutrality* by means of credibility, transferability, dependability and confirmability. The model was applied in the various stages of research, from design through data collection to analysis and reporting of findings as described below.

a) Credibility

As a criteria to address trustworthiness of the study, credibility address the issue of truth value, as Guba (1981) put it "How can one establish confidence in the 'truth' of findings of a study... ". Guba suggestion was on the methodology which should incorporate, among others, prolonged engagement with research subjects, persistent observation and triangulation. The 22 months of fieldwork enabled the researcher and assistants to overcome the "graduated gate" and hence being able to cross the barrier of misleading

information. At the analysis and writing levels, 'truth value' has been addressed by placing the study site and findings within the societal and cultural context incorporating perspectives of all categories of research participants as suggested by Armstrong (2010).

b) Transferability

Guba (1981) equate transferability in anthropological studies to external validity in rationalistic studies which seeks to generalize findings of one context to others. While Guba notes that generalization in rationalistic paradigm are subject to affected by time and places. Hence in naturalistic, the question is applicability and that should be considered in terms of time and place of findings. In order to consider for transferability between the transferring and the receiving end, thick descriptions of contexts in question are required (Guba, 1981).

The context has been thickly described (Shenton, 2004), ranging from the interaction between the various activities and resources against seasons in form of seasonal calendar, through the various resources that form part of their culture to cultural traditions (traditional institutions) that form the focus of this work. By the words of Shenton (2004) thick descriptions "helps to convey the actual situations that have been investigated and, to an extent, the contexts that surround them".

c) Dependability

Dependability criteria are the equivalent of reliability in rationalist paradigm which addresses the question of obtaining similar results if the study were replicated in similar environment using the same methods (Shenton, 2004). In naturalistic paradigm, however, dependability "may be achieved through the use of 'overlapping methods', such

as the focus group and individual interview". Apart from direct observation, the study has relied considerably on overlapped techniques, more importantly being focus group discussions, individual interviews with key informants and structured interviews with individuals across the community.

d) Confirmability

Confirmability aims at containing researcher's bias. To that end, Miles and Huberman in Shenton (2004) consider the researchers to admit their own inclinations. Triangulation of "collecting data from a variety of perspectives, using a variety of methods, and drawing upon a variety of sources ..." (Guba, 1981) serves as efficient way of containing researcher's bias. As noted earlier, this work has employed multiple perspectives in data collection and analysis. Both insider's and outsider's perspectives have been combined, one reason being to ensure the study does not fall in bias.

3.2.2 Approach to quantitative data

Quantitative data were collected and/or used mainly as a way of triangulation. Primary quantitative data were collected through use of Interview schedule and Global Positioning System (GPS) unit. Secondary data related to forest cover change were obtained from Global Forest Watch (GFW)'s interactive tool. Forest resources inventory and their use was supposed to be collected as quantitative data, however, due to technical challenges, they have been collected as qualitative data through use of FGD as perceptions.

3.2.2.1 The interview schedule

A small scale survey was conducted in order to measure community members' compliance to traditional institutions in terms of level and nature. Specifically, interview questions were designed to yield, in part, information needed to address the research question "*How do different social and demographic groupings comply with traditional institutions?*".

The survey was also used to determine factors that influence compliance to traditional institutions. Since community members who were part of the traditions were also claiming allegiance to modern religions, measure of religiosity was theorized to determine influence of modern religions on ones adherence to traditions. Religiosity was measured as individual's frequency of attendance to religious services (<http://wiki.thearda.com/tcm/concepts/religiosity/>).

Prior to construction of survey tool, interview with leaders of religious groups (specifically Roman Catholics, Muslims, Lutherans and Pentecostals) in the village were conducted to establish base frequency of attendance that would constitute low to high levels in their respective groups. In order to subject all religious groups into a standard measure, it was decided that the categories non-practicing (for those whose attendance to services was 10% or less), Low (with attendance of between 11 to 40%) Medium (whose attendance ranged from 41 to 70%) and High (with attendance of 71 to 100%) be used.

Although the attendance in religious services differs from one religious group to the other, use of percentage attendance enhanced the notion of relativity and hence being able to measure across the groups. Table 2 presents the scores for the various religiosity levels considered. In order to determine what attendance percentage a respondent has

scored, each of the five religious leaders suggested what was considered full attendance (times per day, per week or per month) for that particular group. Respondents were then asked as to how many times per given time do they attend religious services which were compared to the standard and hence place the individual in appropriate category.

Table 2: Values and definition of religiosity levels

| Religiosity level | Percentage range | Definition |
|--------------------------|-------------------------|-------------------|
| 0 | 0-10 | None practicing |
| 1 | 11-40 | Low |
| 3 | 41-70 | Medium |
| 4 | 71-100 | High |

The Interview schedule with mostly closed ended questions was administered to sample of 179 community members.

Sampling procedure and sample size for the small scale survey

The final sampling unit was individual community members in their various social/demographic groups. The small scale survey was meant to inform the study on the level and nature of compliance by community members to traditional institutions. Compliance or the state of being in accordance with traditional practices was presumed to be easily captured by employing quantitative tools, and hence a small scale survey. The small scale survey was preceded by pre-testing for the instrument (individual person's interview schedule) and the logistics behind. Thus, it was imperative to segregate respondents in terms of demographic characteristics, the most important being age, sex, clanship and hamlet of residence (geographical location). It was assumed that, compliance might vary with these parameters.

A mechanism was devised so that a more objective sampling frame is obtained and put into use. A “kind of census” was conducted, through use of hamlet leaders, enlisting and detailing household members in each of the eight hamlets. The details included individual household member’s name, sex, year of birth, highest level of education reached and claim to clanship allegiance. This resulted into eight household profile registers, one for each of the hamlets. Then, community members within each hamlet were stratified into four age based strata. Since clans were roughly equally distributed among the hamlets, drawing respondents from all the hamlets would include members representing all clans in the village. The hamlets were Lubasazi Shuleni, Tavi, Kidai, Sanga, Lugoba, Kivumba, Salali and Mzinge. Table 3 presents a consolidated village household profile resulting from the village household profiling exercise.

Table 3: Lubasazi village: Hamlet by age group profile

| Hamlet | Less than 17 Years | 17-29 Years | 30-49 Years | 50 Years & More | Missing age | Total |
|---------------|-------------------------------|------------------------|------------------------|--------------------------------|------------------------|--------------|
| Kidai | 54 | 24 | 33 | 14 | 2 | 127 |
| Sanga | 36 | 24 | 28 | 37 | 2 | 127 |
| Lugoba | 72 | 20 | 34 | 24 | 3 | 153 |
| Mzinge | 42 | 17 | 34 | 11 | 0 | 104 |
| Shule | 128 | 38 | 66 | 36 | 5 | 273 |
| Tavi | 40 | 18 | 27 | 27 | 2 | 114 |
| Salali | 130 | 53 | 49 | 50 | 0 | 282 |
| Kivumba | 182 | 61 | 93 | 58 | 6 | 400 |
| Total | 684 | 255 | 364 | 257 | 20 | 1580 |

Field data December 2014

Stratification by age was done in order to include in the sample three age categories. These were younger group, aged between 17-29 years; middle age group aged between 30-49 years and an elderly group those with 50 years and above. Those below 17 years were left out, considering that they were too young to have an adequate comprehension

of cultural issues. A stratified random sampling was then done, drawing seven respondents from each age category and from each hamlet, making a total of 21 respondents per hamlet and 168 respondents in all eight hamlets. In order to account for non-response cases, in addition, one respondent per age category per hamlet was included making 24 additional respondents that made the sample of 192. Non-response was 13 thus making the number of respondents reached and interviewed being 179.

3.2.2.2 Forest cover change data

In order to be able to make attributions of forest conditions to the traditional institutions, percentage of forest cover change for forest patches that were both traditionally managed and those that were not, forest cover change data were required.

Forest cover change (loss or gain) was determined by the help of Global Forest Watch (GFW). GFW has an interactive online platform that offers specific and generalized data that enables monitoring of forests. Prior to using the interactive tool, coordinates of respective forests were taken by using a GPS unit and maps of the forests developed using GPS Expert software. Maps of forests in the form of zipped shape files were then uploaded to the interactive tool, specifying period of reference. Cover change for the particular map/area is provided in terms of percentage loss or gain for that specified period. The percentage of net loss/gain was then divided by the number of years in reference to determine average annual loss/gain (rate of change).

3.2.2.3 Forest resources inventory

It was one of the aims of this study to identify and describe forest resources both that are frequently and less frequently, and directly/indirectly used by the village community.

This activity was expected to be carried out by involving a forest biologist and elder guardians of community forests. The aim was to establish resource conditions of the two forests that are managed differently and hence being able to attribute their conditions to the way they are used and managed. However, community forest elder guardians did not accept bringing into the forest experts in fear that their forest would further be put into pressure of foreigners.

An alternative had to be sought which was to engage two more focus groups, one with Mandeni forest elders (for the Mandeni sacred forest resources) and the other with combined VEC and VLUC (for Uhamvi VLFR Forest resources). Participants were asked to identify what they perceived as important resources in the respective forests. First participants were asked to provide own list (on a piece of paper assisted by local assistants where necessary). Then the facilitator displayed them all on the flip chart so through discussion, categories, importance and trend for each of the resource category was decided. Seasonal calendar and resource map that were earlier developed in a participatory way with VEC and VLUC served as the base for resource inventory.

3.2.2.4 Waypoints and Tracks

Various maps have been used throughout this work to indicate various points of interests. Maps serve as illustrations for the descriptions of the various traditional sites and resources, forest boundaries and forest land against agricultural and settlement land. Maps have also made it possible to uncover one of the hidden institutional arrangements, that this study dub it as "clan fence line".

To create maps, two types of data were collected using calibrated Global Position System (GPS) device; 'waypoints' and 'tracks'. Waypoints were taken as coordinates of points of interests in order to precisely position the various points of interests on maps. Tracks, a series of waypoints, were taken along trails, roads and rivers for the same purpose of positioning these features on related maps. Tracks were also taken along the perimeters of forests and fields in order to create their borderlines.

Waypoints and tracks were then downloaded in a computer using Expert GPS software and subsequently creating desired maps. For the purpose of establishing pockets of land occupied by respective clans, tracks were drawn on the map based on descriptions by key informants of the key natural features that the researcher had been able to collect their locations. For this reason, the indicated pockets of land occupied by clans should be considered as estimates only. While utmost care was taken when converting the descriptions of clan occupied land by key informants into tracks, human errors cannot be ruled out since no actual ground truthing was done for this purpose.

3.3 Data analysis

3.3.1 Qualitative data analysis

The challenges of gate keeping necessitated modifications on how data should be collected and its subsequent analysis, especially for the qualitative data. Key informants were observed to be uncomfortable to report or narrate issues to the research team when the researcher (the interviewer) was taking notes while interviewing. Data in form of field notes, had to be recorded after the interview (which were later modified to be a casual talk) session with an interviewee. Two level analysis was thus devised. Level one analysis was done when recording data. At this level, data from one interview session was sorted and recorded on the base of their themes or following research questions. In the subsequent interview sessions (with the same interviewee), data would be recorded under the same themes. In this way valuable data that were missed in any one interview session (it was not possible to remember, without noting everything worth noting), would be recovered in the forthcoming ones.

Level two of analysis was thus done during writing, aiming at bigger picture. Qualitative data were analyzed using content analysis, paraphrasing of accounts and by making use of narratives and quotations.

3.3.1.1 Content analysis

Content analysis was conducted in a view to preserve meanings of phenomena as envisioned by the local community. Primarily, data that was subjected to content analysis came from the FGDs, KI interviews as well as direct observations.

Type of institutions, definitions and meanings attached to them in form of transcripts, texts and photographs have been analyzed using content analysis as suggested by Mayring (2000). The analysis involved four levels. Level one was done at note taking soon after conversation (purportedly interview) with an interviewee. The researcher tried to recall the entire conversation figuring out what major themes or topics emerged. The observed themes were noted in separate sheets. Then, on each theme, the researcher recorded everything that could be remembered. When the same interviewee was to be revisited, the corresponding sheets would be used to continue the emerging issues. However, if new themes emerge from the same interviewee, new sheets were added.

At level two, comparison was made to different interviewees' information to identify whether similar themes have been captured. For those that were similar, contents under the same themes were compared. Comparison was made along the same categories of interviewees (for example clan heads, tradition caretakers). At level three, themes were slightly modified to merge those that appeared more or less similar and hence picking related sub themes and sub-sub themes together to the main themes as seen to fit better. At level four, patterns and concepts were identified and reorganized based on themes. Colour codes were used to differentiate the emerging concepts and phenomena. These included buffer forests, clan fence line, and various systems and practices. For example, when data revealed presence of buffer forest, then this concept is coded deep green. For each of a subsequently identified phenomenon or information related to it will be shaded light green. In this way, concepts and their descriptions were uncovered.

3.3.1.2 Systematic accounting, quotation and paraphrasing

Other methods used to analyze qualitative data included systematic accounting, quotation and paraphrasing of narrations and folklores. Some of these have been presented as stories in boxes and quotations. It should be noted that code names have been used in order to protect privacy of Key Informants.

3.3.2 Quantitative data analysis

A small scale survey conducted during the third quarter of fieldwork time generated quantitative data primarily aimed at capturing awareness of traditional institutions among community members, distribution of compliance to institutions among community members and some data related to factors influencing TI. Two level analyses had been done, using descriptive statistics and a linear regression. Awareness and distribution of compliance have been analyzed by simple descriptive statistics such as frequencies and cross tabulations. A regression analysis was used to determine the compliance of the respondents to traditional practices and look at factors influencing traditional institutions.

3.4 Validation of data

In order to verify some claims by some key informants and the community at large on various aspects of culture and traditions, verification discussions were held with people with the background of Luguru culture outside the community. Specifically, the chairperson of Morogoro Traditional Healers Association, the Head of Traditional Affairs of the Roman Catholic Church, Diocese of Morogoro, and a traditional healer who is said to have acquired his healing powers from the traditions of SUM were met individually. All of these are based in Morogoro town. Furthermore, a validation focus group discussion was conducted with six members of Morogoro Region Traditional Healers Association.

Feedback meetings were also conducted towards the end of the fieldwork, primarily to share findings with the community so that they could pinpoint any flaws in interpretations. Four feedback meetings were conducted. Two meetings were conducted in Lubasazi village, one with all community members and the other with "*Walunga*" (Singular "*Mlunga*"), elders responsible for traditional practices such as ritual ceremonies. Similar meetings were conducted in Bungu village to see if there would be different opinions.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 Land use pattern: the context

Traditionally, land is parceled into *forestland, agricultural and settlement land*. "*Imighulo*" (singular "*mughulo*") is a Luguru word for the wilderness, be it a forest or woodland. Literally, the word translates to a collection of trees in the wild. In Lubasazi Village and the surrounding areas, the wilderness forms the largest of the forestland which is divided into 'village forest land' and 'community forest land'. Community forest land is sub-categorized into 'traditional/sacred forest land', 'buffer forest land' and 'wooded land' in agricultural and settlement land. Types and uses of resources and institutions governing forests in these lands are detailed in sections 4.3 and 4.4.

Agricultural and settlement land is all other land apart from the forestland. This is the land where the communities have their settlements and from which they produce food crops and raise livestock. The land is covered by trees and other woody plants. Shifting cultivation enables regeneration of wooded plants in the agricultural and settlement land. Similarly, a large portion of agricultural land is still wooded. Wooded areas of the agricultural and settlement land can be viewed as an extension of buffer forest land. Fig. 3 shows land use pattern in Lubasazi village. It is important to note that forestland area is slightly bigger than agricultural and settlement land.

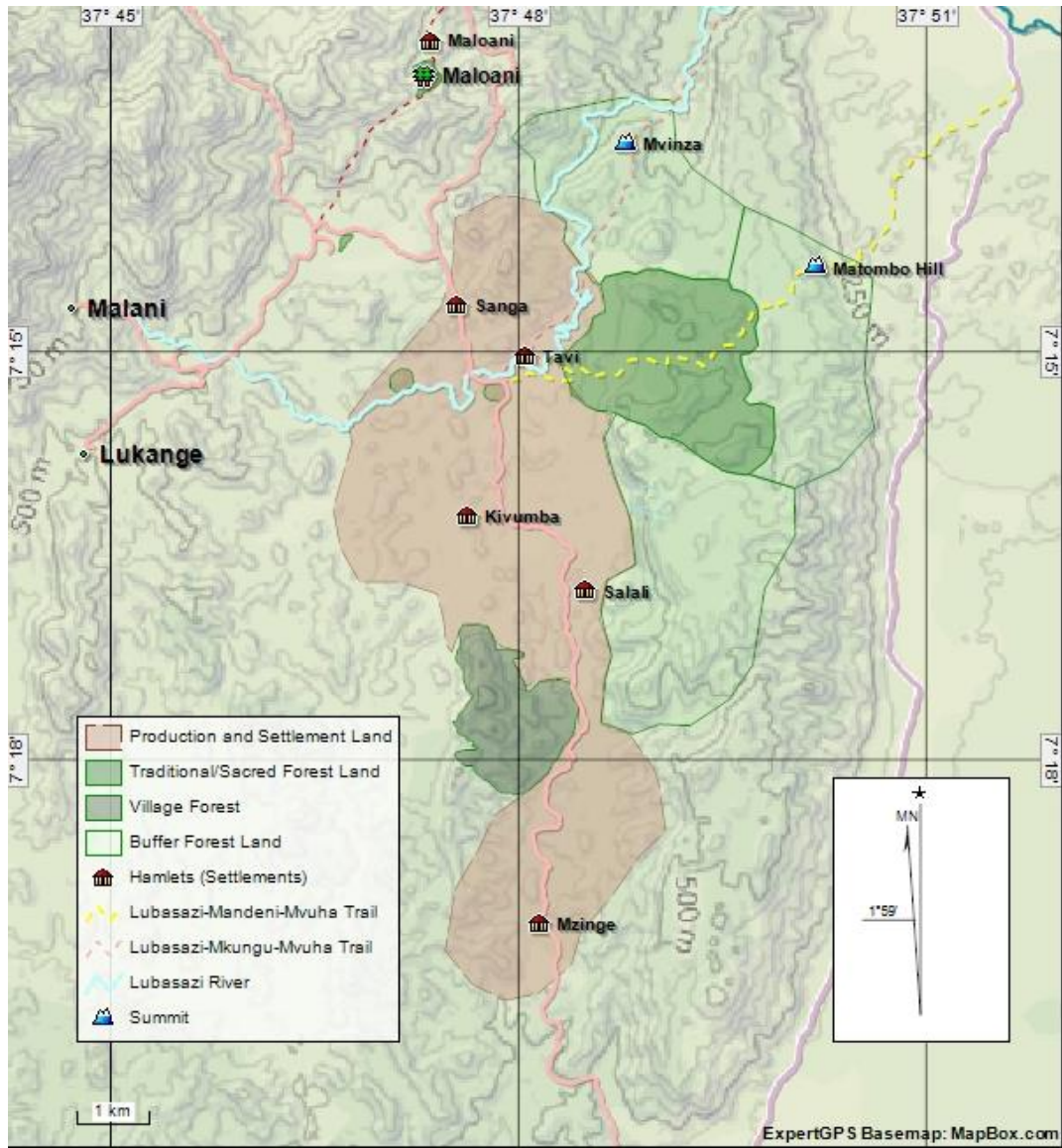


Figure 3: Land use pattern in Lubasazi village

4.2 Seasonal Calendar in South Uluguru Mountains

Traditional institutions governing resource use were observed to follow seasons similar to seasonality of resources (defined here as seasonal occurrence of resources). Seasonality of resources, thus, go in line with cultural practices such as ritual practices in sacred forests. Understanding community's seasonal calendar was therefore found to be key to opening up the doors to the various resources of the forests of food, spiritual, socio-cultural and economic importance. As Green *et al* (2010) note, seasonal calendar helps in understanding the various economic and social activities such as hunting, fishing and farming and the many cultural practices taking place in a community.

Lubasazi village seasonal calendar emerged out of the FGD with the combined Village Land Committee and Village Environmental Committee. Initially, FGD members offered an entry point to understand the various faces traditional institutions take in relation to seasonality of resources (for example edible insects, wild animals, fruits, vegetables and wild tubers).

Lubasazi village, like many other parts of Uluguru Mountains, experiences two main seasons; the *wet* and the *dry* seasons. These seasons are further divided into sub-seasons; short rains (“vuli”) season and main rains (“masika”) season for the wet season and cool dry season and hot dry season for the dry season. It should be noted, however, that, there are dry spells during wet seasons as there are some rains in the dry seasons. During the otherwise dry season, there are "*Mvula ye mlao*", the "*mlao*" rains in June and July. These rains are heavier in high altitude areas of South Uluguru and some people use them to grow crops as they do with short and long rains. Towards the end of September or early October, there are also rains known to suppress the forest fires which have been

burning since end of August. These rains are known as "*Zhima mazinga*" meaning putting off fire on the burning logs.

Short rains that start in November through January (and February) are used to grow annual crops that are planted in early to mid-November. Annual crops grown during the main rainfall season are also planted towards the end of short rains (in January). During this period wild food such as mushrooms, "*Bulumunzu*" a species of flying termites and "*vhiboa mwevu*" wild potatoes, are harvested by the community from the forests. Socio-cultural and spiritual activities are also concentrated in this season. Girls' initiation, which starts in September/October, climaxes during the short rains. The great annual festival of *Mwenye-Kolero* tradition is conducted in early December. While Figure 3 summarizes the events taking place in the four sub-seasons, Table 4 details the distribution of socio-cultural and livelihood activities in their relative seasons.

"*Zhua la kubhili*" and "annual crops of main rains planted during short rains season" are phenomenon/events worth noting. "*Zhua la kubhili*" is literally translated as the scotching sun of February. In February, prior to the onset of main rains, the area experiences "a kind of dry spell" with hot sunny days. While this phenomenon is useful for the farmers who grow short rains crops, as it offers a dry spell required to ease harvesting, it might be seen to suppress young annual plants. It was a surprising finding that annual crops of main rainfall season were actually planted during short rains (or more specifically towards the end of short rains) just before the "*Zhua la kubhili*", in mid to late January. The annuals, especially maize and sorghum, withstanding *zhua la kubhili* grows vigorously soon after the onset of main rains. Some of these annuals, however, depending on the timing, dry out and have to be replanted at the onset of the main rains.

Seasons determine the resource availability in the four forest land patterns described in the previous section. The traditional institutions in form of practices such as ritual ceremonies and initiation rites follow the seasonal calendar so as to coincide with the availability of some resources that follow seasons.

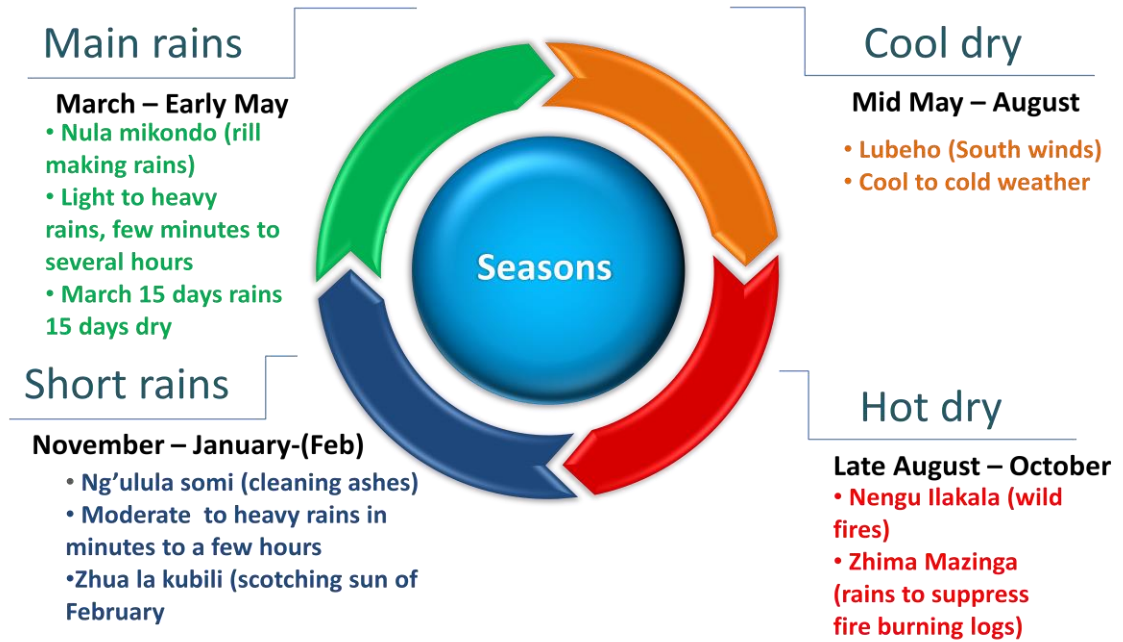


Figure 4: Seasons in Lubasazi village



Plate 1: The practice of "Nengu ilakala" at Mzinge Hamlet - September 22, 2014

Table 4: Distribution of livelihood and socio-cultural activities relative to seasons

| Month | Seasonal marker | Livelihood activities | Socio-cultural activities |
|-----------|--|--|---|
| January | End of short rains | Planting long rains crops (maize, sorghum, sesame and upland paddy) Harvesting Mushroom, <i>Bulumunzu</i> | Ending " <i>kunema mwali</i> " (girls' initiation) ceremonies |
| February | <i>Zhua la kubhili</i> (The scotching sun of February) | Harvesting annual crops planted in short rains. Planting annual crops for the long rains (sorghum, sesame and finger millet) Weeding (maize) | |
| March | Main rains start <i>Nula mikondo</i> (The rain that opens up rills) | Planting lowland rice Weeding maize, sorghum, sesame Harvesting <i>dedema</i> | |
| April | Peak of main rains | Weeding continues Harvesting <i>dedema</i> continues Harvesting <i>ng'umbi</i> begins | |
| May | End of Main rains South-North winds (<i>Lubeho</i>) | Scaring birds in paddy fields Harvesting potatoes, cassava, beans | Construction of houses (mud houses) |
| June | Cool dry begins | Harvesting of long rains crops (maize, sorghum, sesame and rice) | Rituals to ask for safe initiation rites Boys initiations |
| July | Cool dry continues | Harvesting of annuals continues | |
| August | Cool dry ends Hot dry begins <i>Nengu ilakala</i> (wild fires) | Hunting of <i>Vyunzu, Melele, Ndedzi</i> , wild pigs) | |
| September | Wild fires (Nengu ilakala) | Hunting continues | Family and clan ritual ceremonies |
| October | Hot dry continues <i>Zhima mazhinga</i> rains | Preparing short rains farms following blossoming of misufi and mangos Planting cassava (taking advantage of | Girl initiations begins |

| | | | |
|----------|---------------------------|--|----------------------------|
| | Misufi and Mango blossoms | <i>zhima mazhinga</i> rains) | |
| November | <i>Ng'ululasomi</i> rains | Hunting continues | Girl initiations continues |
| | Short rains | Planting short rains annuals | |
| | | Harvesting mushroom, <i>Bulumunzu</i> | |
| | | <i>Viboa mwevu</i> | |
| December | | Hunting | Girl initiations continues |
| | | Harvesting of Mushrooms, <i>Bulumunzu</i> and <i>Viboa mwevu</i> | The great annual rituals |

4.3 Types forests, Resources in the forests and Use of forests and other forest resources in South Uluguru Mountains

Traditional institutions regulate human behaviour towards use of forests and associated resources. Since the resources vary in terms of their socio-cultural and economic values, institutions governing them also vary in accordance to their types and how they are used. This section is devoted to the discussion of the various types of forest in South Uluguru Mountains, types of resources found in the forest lands and how the various resources are used.

4.3.1 Types of forests

The 2607ha of village land area primarily in Lubasazi village, but also in Bungu, Mihange and Kolero villages, forms forests whose resources are the subject of this study.

Types of these forests follow the land use pattern described in land use pattern subsection. Based on land use pattern, there are two main categories of forest. These are Community Forests and Village Forest or prospective Village Land Forest Reserve.

Community forests may be considered to be in a continuum of sacredness, that is, from highly sacred forests to less sacred ones. Accordingly, there are community's traditional/sacred forests, buffer forests and woodland in agricultural and settlement land. Sacred forest falls in the more sacred end of the continuum.

While traditional/sacred forests fall under the most sacred end of the continuum when comparing them with buffer forests and wooded areas of agricultural and settlement land, there is a variation in sacredness among the sacred forests themselves. Sacred forests that have the status of *Kitala* are considered to be more sacred than those that are

not. Forests of *Mandeni*, *Pango*, *Maloani*, *Chasa-Moyo* and *Mihange* form community's traditional forests and therefore sacred. Mandeni and Maloani have the status of *Kitala* and therefore are most sacred.

Within buffer forests there are sites that are related to the sacred forests. For this, buffer forests are considered sacred although their sacredness is considered less compared to that of sacred forests, but are more when compared to wooded lands in agricultural and settlement land. Forests of *Chasa-Rupia*, *Matombo* and *Mkungu* forms community's buffer forests.

Woodlands are wooded areas within the agricultural and settlement land. These lands are also considered sacred although their sacredness is the least compared to buffer and sacred forest. Since all land belongs to the spirit medium, the community believes that all what is owned by the spirit medium is sacred. Moreover, wooded lands in agricultural and settlement land are considered as an extension of buffer forests.

About 240 ha of woodland in agricultural and settlement land have been converted to Village forest. Dominated by "*Mihamvi*" trees, *Milletia dula*, (singular *Mhamvi*), the forest came to be known as "*Uhamvi*" a place with "*Mihamvi*". Different Tanzania legal frameworks provide for village councils to declare part of their village land that meets certain criteria (as detailed in subsection 2.2.3) to become village land forest reserves. The frameworks also provide for the management at village level of declared forest (URT, 1998 and URT 2002). Uhamvi forest is still under the process of being registered as 'Village Land Forest Reserve'. Currently, the Village Environmental Committee is responsible for overseeing governance of resource use in this forest. Table 5 summarizes

type and size of forests in South Uluguru Mountains and Fig. 5 shows locations of the forests and their related resources in South Uluguru Mountains.

Table 5: Forest types in the study area

| Forest Type | Forest Type | Size (Ha) | Location |
|--------------------|--------------------|------------------|---|
| Mandeni | Sacred/Traditional | 524 | Lubasazi village |
| Maloani | Sacred/Traditional | 12 | Bungu village |
| Mihange | Sacred/Traditional | 19 | Mihange village |
| Chasa-Moyo | Sacred/Traditional | 2 | Kolero village |
| Chasa-Rupia | Buffer forest | 913 | Lubasazi village |
| Pango | Sacred/Traditional | 7 | Lubasazi village |
| Pango Kuyu | Sacred/Traditional | 8 | Lubasazi village |
| Uhamvi | VLFR (Prospective) | 240 | Lubasazi village Lubasazi/Kilengezi Village |
| Matombo | Buffer forest | 580 | Village |
| Mkungu | Buffer forest | 620 | Lubasazi village |

4.3.2 Resources in forestland

Resources in forestlands are categorized as water, plants, insects and wild animals. These resources, together with important sites of forestlands (discussed in section 4.2.3) are of socio-cultural significance to the people of South Uluguru Mountains.

a) Water

With several springs and rivers, both seasonal and permanent, water would have been considered an abundant resource to require specific managerial rules. However, the community considers some springs, or "*ng'obambe*", streams and portions of Lubasazi River to be sacred. Lubasazi River is at the centre of water resource base. The source of Lubasazi River is *Tumbika* hot spring in Malani Village, some 10 km upstream from Lubasazi Village. Several other tributaries begin as rills and channels from the villages of Kolero, Bungu and Lubasazi itself. The river then meanders through Lubasazi village

to join Mvuha River further downstream. The river, its tributaries and springs have both spiritual and economic importance to the community.

Of spiritual importance are the sacred springs of *Mapanga*, *Ndetemi* and *Mikuyu* inside Mandeni forest. These springs have been known to provide water even during the driest periods, thus have specialized spiritual function. They are used to pray for rains when drought hits the land. In Uhamvi forest there are springs of *Chihemuhemu* and *Mlogozi*, both springs are of spiritual value. These also serve as the source of meandering Mzingo river.

b) Plants

Plants or vegetation in general are considered by the community as the most important forest resource of the community and thus are a subject of some significant taboos and rules. Vegetation in the forest offers primarily food, building/art craft materials and medicines for the community. Some trees, shrubs and grasses are used as wild foods in the form of tree leaves, tubers and fruits. Vegetation also provides herbs from roots, barks and fruits or seeds of certain trees. Furthermore certain plants have cultural and spiritual values.

The community underscores the importance of plants, especially trees, and thus they have evolved various taboos and restrictions on use of various plants in relation to community needs. This is what respondent KIM₁ had to say:

"We have three types of trees that correspond to their uses. There are those that provide us with what we need to eat (food), those that take care of our health (medicines) and at times there are those that are the source of poison, both to humans and other living

organisms. Moreover, some trees have cultural and spiritual value to our community. Some trees in some places are actually ancestral spirits. We are therefore directed to use trees in accordance with what they have to offer in a wise manner. We elders, thus have a big responsibility of letting the new generation know the importance of trees and plants in general".

i) Plants of medicinal and cultural/spiritual value

While traditional healers and "*Iwapoghodzi*" (elders responsible for collecting medicines from the forest) have specialized knowledge about plant types and their parts that are of medicinal value, the community at large is aware of the common and medicinal plants. "*Mangala*", any parasitic plant growing on another plant for example, is a highly valued medicinal plant and is common knowledge to the community members. Popular is the "*mangala ghe mseghese*", "*Mangala*" whose host tree is "*Mseghese*" used for treatment of several abdominal ailments for women.

Fruits and tubers form two categories of wild plants of nutritional importance. *Kibungo Ng'wakwa*, *Lubungo* and *Gobenzi* are the most important wild fruits obtained in the buffer forests. From the buffer forests also are "*vhibhoa mwevu*", the wild tubers resembling round potatoes. Table 6 summarizes trees/climbers/shrubs of medicinal and cultural importance which are considered common knowledge to community members.

Table 6: Trees/climbers/shrubs of medicinal and cultural/spiritual importance

| Local name | Scientific Name | Plant type | Food | | | Medicinal | Cultural | Poison | Signal |
|------------------|----------------------|------------|------|----|----|-----------|----------|--------|--------|
| | | | Fr | Ve | Tu | | | | |
| Mkunju/Mjabali | N/A | Tree | | | | √ | | | |
| Mkole | <i>Grewia spp</i> | Tree | √ | | | √ | | √√ | |
| Kibungo | <i>Saba</i> | Tree | √√ | | | | | | |
| ng'wakwa | <i>comorensis</i> | | | | | | | | |
| Lubungo/Mbungo | <i>Landolphia</i> | Climber | √√ | | | | | √ | |
| Mtomoko | N/A | Tree | √ | | | √ | | | |
| Mcharaka | N/A | Tree | | | | | | √ | |
| Mvuga | N/A | Tree | | | | √ | | √√ | |
| Lutamba | N/A | Climber | √ | | | √√ | | √ | |
| Gobenzi | <i>Aframomum</i> | Shrub | √√ | | | √ | | | |
| Mzhimulamondo | <i>angustifolium</i> | | | | | | | | |
| Mtitu/Nyachititu | N/A | Tree | | | | √ | | | |
| Mdughutu | <i>Diospyros</i> | Tree | | | | | | √ | |
| Mbapu | <i>mespiliformis</i> | | | | | | | | |
| Msamvu | N/A | Tree | | | | √ | | √√ | |
| Vibhoa mwevu | N/A | Climber | | | | | | | |
| Mfuru | | Tree | √√ | | | | | | |

√√ Especially for this purpose

Fr Fruits

Ve Vegetable

Tu Tubers

N/A Not Available (Scientific name could not be established).

ii) Trees and other plants for construction purposes

As for construction, a tree provides different products such as sawn logs, columns, ridge beam, rafters, purling and ropes/tying materials. Walls and roofs of traditional Luguru houses were made both from poles and grasses. The different types of poles used to make the round huts are presented in Table 7, and in Table 8 tree species used for construction of traditional houses are presented. Although the traditional round huts, with thatched walls and roofs are currently a rare sight, materials such as poles and thatch grasses are still used in construction of houses.

Table 7: Trees uses in traditional house construction

| Luguru name | Equivalent to |
|--------------------|------------------------------|
| Mighamba | Ridge beam |
| Mabani | Sawn log for various use |
| Ngudzo | Columns/central pole support |
| Msimilo | Wall columns |
| Mhaghalilo | Rafters |
| Fito | Purlings |
| Mizhabhi | Tying material |

To serve as *Mighamba*, *Ngudzo*, *Misimilo* and *Mibani*, trees have to be fairly straight. *Ngudzo* and *mighamba*, especially must be termite resistant. Table 8 shows tree species used for construction of traditional houses.

Table 8: Tree species used for construction of traditional houses

| Local Name | Scientific Name | Migham ba | Maba ni | Misim ilo | Fi to | Mizhab hi | Mihaghal ilo/miho mo | Ngud zo |
|-------------------|--------------------------------|--------------|------------|--------------|----------|--------------|----------------------------|------------|
| Mtalula/Muwindi | N/A | | √ | √ | | | √ | √ |
| Mvumba | <i>Terminalia brownii</i> | | √ | | | | | |
| Mhamvi | <i>Milletia dula</i> | √ | √ | √ | √ | | √ | √ |
| Mtitu | <i>Diospyros mespiliformis</i> | √ | | √ | √ | | √ | √ |
| Mkole | <i>Grewia spp</i> | √ | √ | √ | √ | √ | √ | √ |
| Msani | N/A | | | | | √√ | | |
| Mninga | <i>Pterocarpus angolensis</i> | | √ | | | | | |
| Mcharaka | N/A | √ | √ | √ | | | | |
| Mvuga | N/A | √ | | √ | √ | | √ | √ |
| Chibwe | N/A | √ | | √ | √ | | √ | √ |
| Mhimbangubi | N/A | √ | | √ | √ | | √ | √ |
| Mlelawana | <i>Manilkara mochisia</i> | √ | | √ | √ | | √ | √ |
| Mtomoko | <i>Annona denegalensis</i> | √ | | √ | √ | | √ | √ |
| Mzhimulamondo | N/A | √ | | √ | √ | | √ | √ |
| Mhembeti | <i>Sterculia quingueloba</i> | | √ | √ | | | | |
| Lubhungo lubhuli | <i>Landolphia spp</i> | | | | | √√ | | |
| Kibhungo ng'wakwa | <i>Saba comorensis</i> | | | √ | | | √ | |

√√ Especially for this purpose
 N/A Not Available (Scientific name could not be established).

iii) Wild plants of food value

The main traditional forests of Mandeni and the surrounding Chasa-rupia are endowed with abundant plant species, some of which are sources of food such as vegetables, fruits, tubers and mushrooms. Locally known varieties of mushrooms such as *Ulalala*, *Ususu*, *Uyogha nembo*, *Uyogha fufu* and *Uyogha chibelege* are a delicacy obtained from the traditional forests. During the short rains season in the months of November and December mushrooms are harvested in the reserved area of *King'okwa* (see Figure 5) in

Chasa-Rupia forest. In Table 9 four mushroom varieties are presented in their local names, highlighting their characteristic features, and estimated time of harvest.

Table 9: Seasonality and distinguishing features of six Chasa-rupia forest mushrooms

| Mushroom variety (in Luguru) | Features at Maturity | Seasonality |
|------------------------------|---|----------------------|
| Ulalala | Cap size: Diameter approx. 6mm Stalk size: Diameter approx. 2mm Grows on anthills of <i>dedema alates</i> in dark forest Grows many in a stand | March through May |
| Ususu | Cap size: Diameter approx. 8cm Stalk size: Diameter approx. 6mm Grows on floor of dark forest | December through Jan |
| Uyogha nhembo | Cap size: Diameter approx. 30cm Stalk size: Diameter approx. 5cm Grows on floor of dark forest One to two in a spot | October through Jan |
| Uyogha fufu | Cap size: Diameter approx. 20cm Stalk size: Diameter approx. 2cm Grows on floor of dark forest Four to six at a spot | October through Jan |
| Uyogha kibeleghe | Cap size: Diameter approx. 15cm Stalk size: Diameter approx. 1.5cm Grows on 15-20 in a stand | October through Jan |

Note: 1. Size based on estimates by FGD members
2. Scientific names for the locally named mushrooms could not be established

c) Edible Insects

Flying termites (the *alates* stage of termites) called locally as "*Bulumunzu*", "*Dedema*", "*Ng'humbi*" and "*Whotambeghu*" depending on their species and seasonality, are considered an important gift from Mwenye-Kolero and would be offered to the community at the onset and throughout the rain seasons. While *Bulumunzu*, *Dedema* and *Ng'humbi* are used as food, a flying *whota-mbeghu* signifies a time to sow seeds during short rains season. The word "*Whota-mbeghu*" is a combination of two Luguru words: "*whota*" meaning germinate or make it to germinate and "*mbeghu*" meaning seeds. The

swarm of "*whota-mbeghu*" thus warns the community to immediately plant their maize fields as actual short rains have started. "*Whotambeghu*" are not used for food, and are believed to cause loss of hearing if consumed. Table 10 presents the distinguishing features, the approximate season of swarming, harvesting and mode of harvesting (for the food alates). Plate 2 shows how *Bulumunzu* at harvesting.

Table 10: Flying termites: Distinguishing features and mode of harvesting

| Alate specie (in Lug) | Features/Season | Mode of harvesting |
|--------------------------|---|---|
| <i>Bulumunzu</i> | <ul style="list-style-type: none"> - Body: Reddish brown - Wings: Darkish brown - Size: Considered biggest - Months: Oct., Nov. Dec. - Swarming: From 4.00pm/after it has rained | <ul style="list-style-type: none"> - Digging anthill (resulting <i>bulumundzu la swila</i>) - Building a trap at the opening of their anthill |
| <i>Dedema</i> | <ul style="list-style-type: none"> - Body colour: Grayish - Wing colour: Gray - Body size: similar to <i>Bulumunzu</i> Months: March, April, May - Swarming: When it is raining (day or night) | <ul style="list-style-type: none"> - Digging anthill - During the day collecting while it is raining |
| <i>Wotambeghu</i> | <ul style="list-style-type: none"> - Body colour: Grayish - Wing colour: Gray - Body size: smallest of all - Months: Nov./Dec. - Swarming: 5-6PM | |
| <i>Ng'umbi</i> | <ul style="list-style-type: none"> - Body colour: Grayish - Wing colour: Clear/colourless - Body size: Medium - Months: March - Swarming: Anytime in the day when it has just stopped raining | <ul style="list-style-type: none"> - Picking individual alate as they appear - Trapping swarms with a specialized trap "<i>Chiledza</i>" |

Note: Scientific names for the locally named alates could not be established



Plate 2: *Bulumundzu lye swila* - Alates harvested by digging out its ant-hill (Nov 8, 2015)

d) Wild animals and fish

"Melele", a variety of hare (*Lepus spp.*) and "Vyunzu or Nzulenzule", an epaluetted fruit bat species of East African region (*Epomophorus spp*), resides near and in the caves of "ng'angalumbi" respectively. These animals together with "ndedzi" a cane rat variety (or any of *Thryonomys spp* and "ngubi" or wild pigs, forms important hunted animals during "nengu ilakala", a period between mid-September and early November when much of the wilderness is burnt during the yearly occurring wildfires. Lugurus of South Uluguru Mountains are not hunters per se. However, because of "nengu ilakala" which makes it easy to roam around the bush, majority of young men resort to hunting. Being an off-season from farm work is an added motivation to engage in hunting. Sardines are harvested between May and September in Lubasazi River on the section adjacent to *Mkungu* forest. "Mangala" a kind of catfish are also harvested as fish. These are harvested in the drying water bodies previously flooded by streams and Lubasazi River

during heavy rains. As water recedes and water holes dry up, "*Mangala*" are easily harvested.

f) Other forest products

Other forest products include honey from the caves of Chasa-Rupia forest (*Wakubwa* must be involved to make special prayer to let bees release the honey), gemstones such as gold and tourmaline are also found along river Lubasazi in the stretch that runs adjacent to Mandeni forest. These gemstones are highly associated with *Mzimu* (*Mwenye-Kolero*).

"*Ng'hwang'hudzi*", a traditional spoon or more precisely cooking pot scraper, is made from certain species of snail shells. The snails reside in Mkungu forest. The word "*ng'hwang'hudzi*" is a combination of two words; "*ng'hwangula*" to scrap and "*ng'hudzi*" (also *ng'oko*, or in Kiswahili "*ukoko*") the food crust in the cooking pot after cooking of "*ugali*" or rice. "*Ng'hudzi*", golden coloured, although a leftover, is considered a delicacy and requires special utensil, "*ng'hwang'hudzi*" to remove it from the bottom of the pot. The snails, therefore, whose shells were used to make "*ng'hwang'hudzi*" were highly valued. Nowadays, however, after the introduction of the alternative modern table spoons, "*ng'hwang'hudzi*" are no longer used in people's homes.

4.3.3 Important sites of sacred and buffer forests

a) Kitala

The word "*Kitala*" has its origin in another Luguru word "*Kutalanguka*" which literally translates to "something difficult..." either to access or to work on. If what is referred to be a place, then it means "a difficult place to reach/access", and if it is referring to an

area intended for cultivation, then it means "difficult to cultivate". However, in the context of the spirit medium, *Kitala* refers to sacred sites within traditional forests. This place serves as home or settlement of the spirit medium and that of "*Mlunga Mkulu*", the main custodian of ritual practices in the sacred forests. Because of their spiritual value, the two *Kitalas* are out of reach of many ordinary community members. It takes special rituals and vow to be purified for accessing these residences. This is why these residences are referred to as *Kitala*.

b) Chaloni and Mangani

Mangani or *kunemanga* is literally '... to the Manga', a place where people present problems requiring attention of the spirit medium. Every traditional healer has two places, "*kune Manga*", at the Manga (or simply 'Mangani' and "*Kunechalo*" at the *Chalo* (or *Chaloni*). *Chalo* is a place where foretelling is done. When a person with some unexplained problems arrives, they are first taken to the "*Chalo*" so that it is understood what went wrong. *Chalo* may be considered as the equivalent of medical laboratory in modern medicine. When the source of the problem is figured out, necessary rituals will be conducted and prescriptions provided at the "*Manga*". *Manga* therefore is the equivalent of treatment or doctor's room. Basically, all traditional healers have these sites in their "places of work".

In relation to the community's traditions, *Mangani* was a place with a very big and supposedly old tree, with roots protruding above the ground. The roots were used as stools for visitors as they were waiting for their turn to be attended. *Mangani* and *Chaloni*, unlike *Kitala*, are open to the public as long as rules of access and entry to the sacred forest are observed.

c) *Dagho* of *Ng'angalumbi*

Dagho is a spacious cave, the cave with its width and height permits people moving in easily. At *Ng'angalumbi*, located within *Chasa-rupia* forest there are caves and rocky outcrops. The rocks are estimated to stand the same height as a four storey buildings. The space in the caves is so big that half of the village population is believed to be able to take refuge, should there be a need. It is believed that, in the past, these caves served as hideouts for the people at times of war. *Ng'angalumbi* caves is a home to "*vyunzu*", one of the fruit bat species that are hunted for food by the community.

d) *Mughu* of *Chasarupia*

As opposed to *dagho*, *Mughu* are deep caves, or rather wide and deep holes within the rocks. They are believed to be places where in the past; some elders kept or hid their magical items. Getting too close to these kinds of caves, one risks being affected by magical powers. However, given the depth of *Mughu* and slippery nature of the surrounding rocks, it should be dangerous to get too close as one would slip into the deep caves and may not be easily rescued. One prominent *Mughu* is the *Mughu* of *Chasarupia* in *Chasarupia* forest. Within this, some elders also hid rupees (in Kiswahili *rupia*) which was never recovered, and hence the name *Chasa-rupia*, the place where rupees were lost.

e) Burial sites

At the entrance and within *Mandeni* forest, there are five grave yards that also serve as ritual sites during the "grand *Mwenye-Kolero*" festival. In each grave yard, one previous *Bibi* was laid to rest. It can be construed therefore that five *Bibi* have been ruling the

forests, contrary to the popular belief that there have been seven Bibi's in the history of Mwenye-Kolero tradition; this is according to key informant KIM1.

f) King'okwa

King'okwa is an area famed for *ng'obambe*, the spring that is believed to dry up once in ten years. This spring of spiritual importance is located in *Chasa-rupia* forest close to Mandeni forest border. Spiritually, the spring is the center of rituals for praying for rains. Special rain making ceremonies were held in this spring, and it is believed that no ceremony that was performed under the leadership of Bibi that was not granted. Soon after the ceremonies, as participants were getting to their homes, heavy rains would follow. Nowadays, however, it is reported that prayers are not guaranteed. It is held among the community members that the elders, *Wakubwa*, either are not clean enough or the community has increasingly incited the deity to the extent he has reduced his commitment to the community. *King'okwa* is also a common place where wild vegetables are harvested.

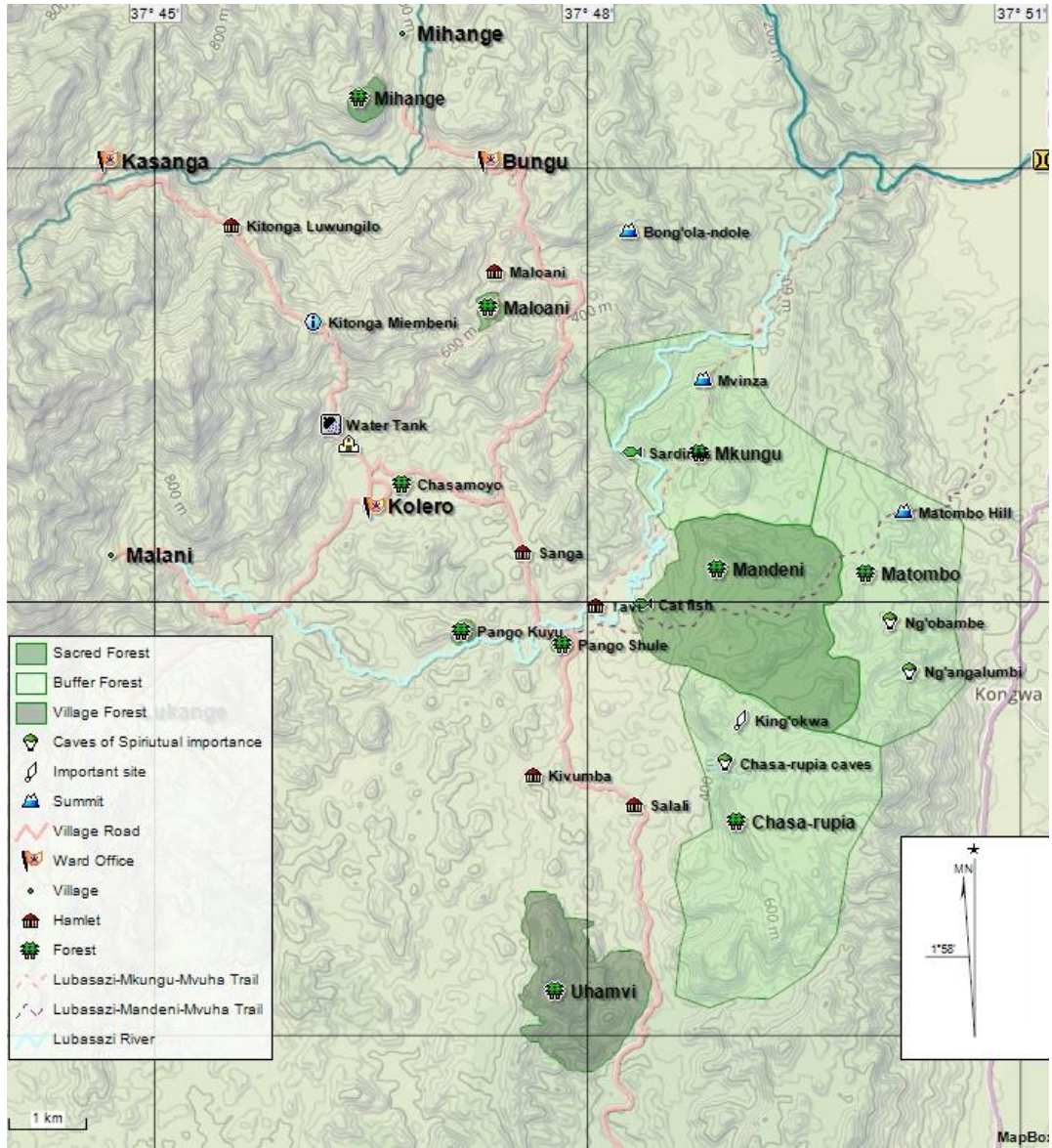


Figure 5: Forests and important sites of South Uluguru communities

4.3.4 Use of forest resources by the communities

The importance of forests to the community is defined in both *cultural-spiritual* and *physical* senses. Accordingly, the community's use of forest resources follows the values attached to the forests. Thus, forests and associated resources are divided, used and protected by the community in line with their cultural-spiritual and physical values. As noted in the previous section, community forests fall under traditional forests, buffer forests and woodlands in agricultural and settlement area.

The community's traditional forests, houses sacred sites and hence referred in this study as sacred forests. They are exclusively used for cultural and spiritual purposes. These forests serve as home and resting grounds of the spirit medium and custodians of the traditions. Being a home of the spirit medium, the forests, especially Mandeni forest, are reserved for ritual ceremonies of various kinds, including those to seek the spirit medium for blessings and plead for forgiveness. The forests are also used for sourcing high end traditional medicines for use within and outside the community. Harvesting of traditional medicines from sacred forests follows special procedures set by the spirit medium and administered by the traditional forest and traditions custodians, the selected elders from the Mlali clan. One important rule is that medicine from sacred forest should be harvested by "*Iwapogodzi*", the category of traditional healers who have specialized knowledge and have been entrusted with harvesting traditional medicine. Mandeni and Maloani traditional forests have the status of "*Kitala*", the residence of the deity and/or his immediate assistants (custodians of the traditions).

The buffer forests surround the greater part of the main traditional forest of *Mandeni*, and hence used as a screening facility. As detailed in subsection 4.5.2, *wakubwa*

frequently visit the buffer forests for the purpose of harvesting medicine and screening entrants to the sacred forest. To the north Mandeni is surrounded by Mkungu buffer forest, to the east by *Matombo* buffer forest and to the south by *Chasa-rupia* buffer forest (see Fig. 5). These forests serve to absorb the shock that would otherwise affect the traditional forest of *Mandeni*. The forests are open to the community for various uses of its physical resources, including construction and art craft materials and wild foods. Buffer forests are also a home to traditional sites of cultural and spiritual value. Caves of *Chasa-rupia* in the *Chasa-rupia* buffer forest for example, were used by elders to hide "*Maghanga*", items with magical power. To prevent unauthorized access to the traditional forest of *Mandeni*, selected elders from the clan of *Wamlali* take turns in patrolling around the buffer forests. Buffer forests thus, have also been used as patrolling lane for the traditional forest.

Woodlands in agricultural and settlement areas are also used by the community the same way as forests. Woodlands are considered an extension of buffer forest and therefore their use follows traditional institutions. Primarily, woodlands are used for expanding farms. They are also part of the shifting cultivation practices. Table 11, summarizes how the community uses the different categories of forests in South Uluguru Mountains.

Table 11: Use of forests in South Uluguru Mountains

| Forest category | How used | Governors of use |
|------------------------|---|---------------------------------|
| Traditional forests | Hosting ritual ceremonies | Traditional forest custodians |
| | Sourcing high end traditional medicines | <i>Iwapogodzi</i> |
| Buffer forests | Sourcing construction materials | Traditional forest custodians |
| | Wild foods | Village Environmental Committee |
| | Shielding traditional forest | |
| Wooded land | Sourcing construction materials | Head of clans |
| | Wild foods | |
| | Expansion of crop land/shifting cultivation | |
| Village forest | Sourcing construction materials | Village Environmental Committee |
| | Wild foods | |



Plate 3: Expanding farms in wooded areas of agricultural land

4.4 Traditional institutions in South Uluguru Mountains

4.4.1 The belief in (and practices of) Mwenye-Kolero

The belief in and the tradition of "*Mwenye-Kolero*" is the key traditional institution upheld by communities of South Uluguru Mountains. This can also be referred to as the '*Mwenye-Kolero* System'. The belief in '*Mwenye-Kolero*' is the fundamental traditional institution, around which the rest of the beliefs, values, taboos and practices emanate and secure their sustenance. *Mwenye-Kolero* is a kind of deity, the Supreme Being, from whom, and through specialized rituals, ceremonies and upon fulfilment of certain obligations, communities obtain protection and blessings. On the contrary, going or living against this belief system, the communities believe they risk curses and serious natural and sometimes man-made disasters, directly or indirectly as a result of the angered *Mwenye-Kolero*.

The belief in *Mwenye-Kolero* guides the day to day practices, including using and protecting forest resources, and around which traditional rules and associated taboos and values are organized. The forests that are directly associated with *Mwenye-Kolero* belief system are "*Mandeni*" (the main traditional and sacred forest) in Lubasazi village, *Maloani* traditional forest in Bungu village, *Mihange* traditional forest in Mihange village, *Chasa-Moyo* traditional forest in Kolero village and two *Pango* traditional forests in Lubasazi village. The forests of *Uhamvi*, *Chasa-rupia*, *Mkungu* and *Matombo* in Lubasazi are considered as extension to the traditional forests and thus have an indirect association to the belief system. Below is an account defining *Mwenye-Kolero*, describing the structure and power dynamics of *Mwenye-Kolero* system, and an account of norms associated with *Mwenye-Kolero* tradition and system.

4.4.1.1 Defining Mwenye-Kolero

Primarily, in Lubasazi village and the entire South Uluguru Mountains area, "*Mwenye-Kolero*" is regarded as the "Deity", the "supreme being" and the source of all "supernatural powers". Literally, "*Mwenye-Kolero*" translates to the "owner of Kolero". While the origin and meaning of the word "*Kolero*" could not be established, it was elucidated to imply either the spiritual miracles associated with the traditional forest of *Mandeni*, or the mystical forest itself. The miracles are spiritual based. As the spirit medium, the community thus worship to *Mwenye-Kolero*, from whom they (according to what they believe) fundamentally draw their livelihoods.

Mwenye-Kolero thus could be understood as the owner and the controller of the forests, its associated miracles and all land (and resources in it) in the surrounding communities, with Lubasazi village community being the headquarters. For this purpose, elsewhere in this work, "*Mwenye-Kolero*", the "supreme being", the "Deity" and "spirit medium" are used interchangeably.

The community also uses the term to describe their main belief system, the belief in *Mwenye-Kolero*. As a belief system, *Mwenye-Kolero* comprises of four components; *Mwenye-Kolero* himself, *Bibi*, *Wakubwa* and the larger community. Consequently, *Mwenye-Kolero* as a belief system is also regarded as traditional religion of the community.

As the Deity, *Mwenye-Kolero* had powers even beyond Kolero, Bungu and Kasanga wards, and could communicate with other supreme beings in other places, notably Kinole and Kisasi (in Maji Mzumbwi, Wigu area) in Morogoro District and as far as

Unguru in Mvomero District. This connection would thus place *Mwenye-Kolero* system in an even wider system. It is believed that, each of the supreme beings in these places had specialized functions, and in case one of them is faced with an issue outside his specialty, would send messengers to the concerned supreme being. *Mwenye-Kolero* was specialized in rain making and resolving other family related problems. Wigu in Kisaki specialized in removal of "*Lung'wawa*", armyworms (considered to be a serious problem for cereals), measles and eye ailment locally called "*Malembwe*".

4.4.1.2 Other components of Mwenye-Kolero belief system

i) Bibi

"*Bibi*" is a Kiswahili word for "grandmother". In *Mwenye-Kolero* tradition, Bibi is regarded as wife of the spirit medium, and therefore the grandmother of the community. She is also the main traditional healer. As a "human" wife of the spirit medium, she communicates directly with him, taking to him community's pleads and prayers. As a grandmother of the community, she is regarded as the wisest of all and the grandmother of all community members regardless of their age. As the main traditional healer, she is both a source of healing powers and a broker of healing powers from *Mwenye-Kolero* to other traditional healers.

ii) Wakubwa

Wakubwa, singular *Mkubwa*, is a Kiswahili word for elders (or the grownups). The Luguru word is *iwabala* (singular *Mbala*). The preferred and commonly used word, however, is the Kiswahili version. *Wakubwa* are the special elders of the community who are directly or indirectly associated with the day to day functioning of *Mwenye-Kolero* system. Among the *Wakubwa*, there are subordinates of the Deity who work as

his messengers and patrollers of the forests, assistants of *Bibi* who assist her in carrying her duties, clergymen who lead or assist *Bibi* to lead the various ritual ceremonies and traditional healers whose practicing knowledge and skills have been sourced from *Mwenye-Kolero* system. *Mkubwa* or *Wakubwa* are designated statuses by the deity through the various mechanisms within the system. No wonder some *Wakubwa* are not necessarily old aged or elderly per se as the term suggests.

iii) *Iwapoghodzi*

"*Iwapoghodzi*" (singular *mpoghodzi*) are special *Wakubwa* responsible for collecting medicines from the forests. They are essentially assistants of traditional healers including *Bibi*, the chief traditional healer. They have special knowledge required to identify various trees of medicinal and/or spiritual importance alongside parts of plants that provide medicine, and ailments for which the medicines are required. "*Iwapogodzi*" are also believed to have the knowledge to distinguish trees that stand as ancestors from those that are not prominent *Wakubwa* who died some generations ago are believed to have come back as ancestors in the form of trees and live in the sacred forest. This knowledge is not common to the entire community.

4.4.1.3 The Structure of *Mwenye-Kolero* System

Mwenye-Kolero as a system comprises of three levels. In level one, level of *supernatural powers*, the system is comprised of *Mwenye-Kolero* (the Supreme Being) and his supposed human wife, "*Bibi*".

Level two is the *intermediary*, providing for *transfer* of supernatural powers from *Mwenye-Kolero* subsystem and transfer of requests from community subsystem. This

level is composed of 'Bibi' and 'Wakubwa', who are also part of level one and three respectively. This overlap is what makes the *Mwenye-Kolero* system powerful and strong till now, even though one of the main components (*Bibi*) has been missing for over five decades. A specially selected Mkubwa from the Mlali clan has been ordained to take over her roles. The community believes that, having someone carrying over her role would amount to coming of another Bibi. This however, is subject to the will of Mwenye-Kolero.

Level three comprise of the larger community and includes special elders called 'Wakubwa'. Although there are several clans currently living in Lubasazi village, the clans of *Wahega*, *Wamlali*, *Wachungu* and *Watumbika* have a direct connection to *Mwenye-Kolero* as they have specialized functions in *Mwenye-Kolero* culture and tradition. The larger community receives and makes use of blessings alongside what is required of them and fulfill accordingly. On the other hand, they make requests in cases of disasters, man-made or natural. This is the level of *beneficiaries* of supernatural powers.

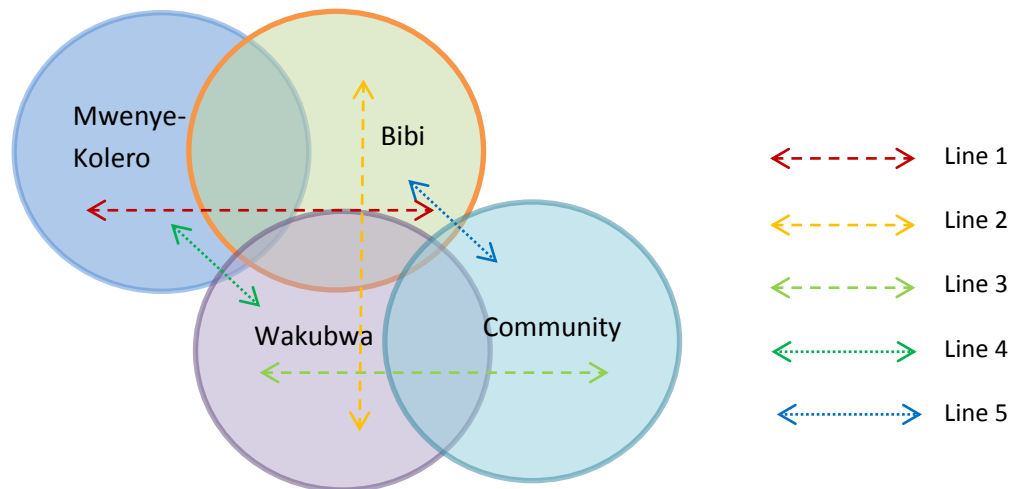


Figure 6: Structure of Mwenye-Kolero System

Three Primary command lines, represented by much big sized area of intersections, these being: *Mwenye-Kolero* and *Bibi* (1), *Bibi* and *Wakubwa* (2) and *Wakubwa* and *Community* (3).

Two secondary command lines are represented by small sized areas of intersections, these are: *Mwenye-Kolero* and *Wakubwa* (4); and *Bibi* and *community* (5)

Notes for the diagram:

1. The area size of intersections between the two adjacent circles corresponds to the extent of linkage between the corresponding systems, which also means that where there is no intersection between the adjacent (opposite) circles, there is no direct linkage between the corresponding sub-systems.
2. Line two represent the category in the system which is middle most, and have the most of influence. The two systems, equal amounts of linkages to the rest of the system parts, although in opposite directions. While, *Bibi* is leaned to the *Mwenye-Kolero*, *Wakubwa* are leaned to the *community*. However, there is a balance between them, and thus they make the systems' anchorage. While the presence of *Bibi* makes the system works in its fullest, her absence remarkably reduces the efficiency of the system. Most of the warnings (from the Deity) and the plea (from the *community*) would not reach their target since *Wakubwa* have a limited access to the deity.

4.4.1.4 Power relations among Mwenye-Kolero sub-systems

Power is defined in this work as possession of influence and control of actions of those under one's jurisdiction area. Power relations among the three Mwenye-Kolero sub-systems follow a hierarchy model, with lower level sub-systems having limited margins of autonomy (Nuijten, 2005 and Lemke 2003 in Manyika, 2015) compared to higher levels. This type of power relations is conceived by Manyika (2015) as structural or domination power. Each Mwenye-Kolero sub-system is a power house, however, amount of power decreases as one move down the subsystems, with highest power in Mwenye-Kolero sub-system to the least in Wakubwa sub-system.

The words "core" "extended" and "peripheral" have been used in two ways. First, to describe the amount of power in each entity of a particular sub-system. Each of the three subsystems (Mwenye-Kolero subsystem, Bibi subsystem and Wakubwa subsystem) has three entities each, "core entity", "extended entity" and "peripheral entity". Accordingly, in a particular subsystem, "core" is the most powerful while "peripheral" the least powerful.

Secondly, the concepts are used to denote the source and flow of power. In this case, "core" is the center of power in that particular subsystem flowing down to "extended" and "peripheral" entities. Certain entities serve dual purpose roles in relation to power possession. The entity with dual roles (for example *Wakubwa*) may serve as "extended" (meaning medium power) and/or "peripheral" (meaning with low power) while in higher level subsystem, and serve as "core" (with high amount of power) in lower level subsystems.

a) Mwenye-Kolero Sub-system

As a sub-system, Mwenye-Kolero is composed of three sub-power entities. These are core *Mwenye-Kolero*, the extended *Mwenye-Kolero* and the peripheral *Mwenye-Kolero*. Core *Mwenye-Kolero* is the supreme being oneself, and hence the name of the sub-system. Only the extended and peripheral *Mwenye-Kolero* are entitled to see him in person.

Core *Mwenye-Kolero* is the owner of all supernatural powers, all land and its associated resources. When he is happy or when made to be happy, he provides blessings to the community. On the contrary he provides curse. He also provides for remedy of natural disasters when asked by the community, channeled to him through *Bibi*. Core *Mwenye-Kolero* would provide immediate solutions to such disasters as the feared diseases, drought and excessive rains, up on request by the community.

The extended *Mwenye-Kolero* is '*Bibi*', wife of the Supreme Being. *Peripheral Mwenye-Kolero* is formed by a specially selected elder from the *Wahega* clan and the ancestors from clans that are considered custodians of Mandeni forest. In the diagram, extended *Mwenye-Kolero* occupies the area of intersection of '*Wakubwa*' and *Mwenye-Kolero*, excluding area by *Bibi*. *Hega* is said to be the facilitator of *Bibi*'s marriage to *Mwenye-Kolero*. He was also responsible for organizing a group of elders from among *Wakubwa* to be sent to other systems that are connected to *Mwenye-Kolero*.

The area of intersection of *Wakubwa*, *Mwenye-Kolero* and *Bibi* represents extended *Wakubwa* the ancestors. These are ancestors of *Wahega*, *Wamlali*, *Wachungu*, and *Watumbika* clans. These ancestors are believed to be patrolling the clan designated

parcels of land and buffer forests. They are believed to roam unseen for the purpose of ensuring that no unauthorized persons enter the buffer zone and eventually the sacred forests.

Entities of *Mwenye-Kolero* sub-system live in special sacred forests called *Kitala*. *Kitala* is a home of core *Mwenye-Kolero* and his human assistant, an elder from *Wahega* clan. There are only two *Kitalas*, one in Mandeni forest and the other in Maloani forest. Core *Mwenye-Kolero* and *Bibi* lives in *Kitala* of Mandeni sacred forest whereas *Hega* resides in *Kitala* of Maloani sacred forest in Bungu village, which also serves as the main stop of *Bibi* as she travels to her to be husband, during courtship (details are in subsection 4.5.1.1). *Kitala* of Maloani is some 10 Km (road distance) from *Kitala* of Mandeni. Since *Kitalas* are also a symbol of power, Maloani forest enjoys almost the same level of respect and protection as Mandeni forest because it houses power.

b) Bibi Sub-System

While *Bibi* serves as ‘extended *Mwenye-Kolero*’ in the *Mwenye-Kolero* sub-system, she forms a sub-system of her own. It comprises of ‘core *Bibi*’, the ‘extended *Bibi*’, and the ‘peripheral *Bibi*’. Core **Bibi** is *Bibi* herself and her inner circles. Since *Bibi* is drawn from afar, where she was previously married to another person, and had two sons from that marriage (a candidate for *Bibi*'s position must have been married previously and have had two sons), her children are periodically allowed to live with her within her compound in Mandeni forest. These are her inner circles. Although *Bibi*'s sons do not have formal role in healing rituals, their presence in *Bibi*'s compound is said to enhance *Bibi*'s healing powers.

As a core entity, *Bibi* serves as the main traditional healer. She has a special area within the forest where she performs healing rituals called *Chaloni* and *Mangani*. She is also responsible for bestowing healing powers to a few individuals as it might suite the core *Mwenye-Kolero*, following their personal requests to him for the same. Core *Bibi* is also the main custodian of the sacred forest and its associated rituals. She provides for linkages between the invisible power (*Mwenye-Kolero*) and the community. *Bibi* herself possess the supernatural powers, and would use them in accordance with the discretion of core *Mwenye-Kolero*.

The 'extended *Bibi*' consists of two categories. In category one, is a male elder, *Mkubwa*, selected from Wamlali clan who reside within the compound of *Bibi* (in Fig. 6, he occupies the area intersecting *Bibi* and *Wakubwa*). He is an assistant of *Bibi* in healing rituals. The other category of 'extended *Bibi*' is a group of elders, also from the Mlali clan who reside within the community. They function as the bridge between *Bibi* and either the community or visitors from afar who need attention of *Bibi* in person. In Fig. 6 these elders are represented by the area of intersections of *Bibi*, *Wakubwa* and the community.

Peripheral *Bibi*, are a few community members who are responsible for organizing and taking different presents and foodstuffs to *Bibi* sub-system. It is mainly the elderly women of the community and may not necessarily be part of *Wakubwa*.

c) Wakubwa sub-system

Wakubwa are the forefront clergy who would take the community prayers to *Mwenye-Kolero*, mostly indirectly through *Bibi*, but directly at some occasions. *Wakubwa* will

also form part of the messengers to be sent to other supreme being systems that are connected to *Mwenye-Kolero*, at times *Mwenye-Kolero* would like to communicate with them. The messengers will carry important messages to and from these other supreme beings. It was, or may still be, an utmost honour to performing an emissary function to the extent that those who were selected to do it would do it with exceptional loyalty.

As with the other two sub-systems, *Wakubwa* subsystem also comprises of 'core', 'extended' and 'peripheral' *Wakubwa*. Core *Wakubwa* are of two categories and are those who also serve as the peripheral *Mwenye-Kolero*. Category one is a special elect elder, *Hega*, from *Wahega* clan residing in *Kitala* of Maloani sacred forest in Bungu village. Category two is the ancestors from the clans of *Wahega*, *Wamlali*, *Wangulumi* and *Watumbika* with their residence in Mandeni sacred forest. As a core *Mkubwa*, *Hega* is believed to communicate directly with '*Mwenye-Kolero*'. He is also believed to have been given the mandate by *Mwenye-Kolero* to foresee overall control of access to land for agricultural and settlement. He is also responsible for choosing a messenger among *Wakubwa*, should the core *Mwenye-Kolero* want to send special message to other supreme beings.

Special elders from *Wamlali* clan serve as 'extended *Wakubwa*'. Included in this is the *Mlali* elder who is *Bibi's* assistant in the healing rituals and a group of elders from *Wamlali* clan who reside within the community. They are responsible for making sure that the community receives information regarding their obligations as prescribed and/or proscribed by the 'Core *Mwenye-Kolero* and Core *Bibi*'. They are also responsible for organizing annual rituals that are for both thanks giving and plea making.

Peripheral *Wakubwa* are all traditional healers, within and outside the community who have acquired their healing powers from *Mwenye-Kolero* system. Primarily, they source their medicinal plants from Mandeni sacred forest and its peripheral sacred and buffer forests through "*Iwapoghodzi*", *Wakubwa* responsible for collecting medicines from the forest.

4.4.2 Institutions governing relationship between the spirit medium and the community

Relationship between *Mwenye-Kolero* (including *Midzimu*, the ancestors) and the community is governed by two types of institutions. Type one is a set of rules in form of taboos and beliefs which provide proscriptions and prescriptions to the part of community members. Type two are the practices in form of ritual ceremonies that provide for communication between the community and either the deity or other ancestral spirits.

4.4.2.1 The traditional rules

The community adheres to a set of taboos and beliefs that regulate their relationship with the ancestral spirits and the deity, *Mwenye-Kolero*. Table 12 summarizes these key traditional rules of relationship. Some of these taboos and beliefs are embedded in the everyday way of life of the community members. They are presented in Luguru dialect with English translation and their embedded meanings.

Table 12: Traditional rules guiding relationship between Mwenye-Kolero and the Community

| Luguru version | English Translation | Entrenched meaning |
|---|---|---|
| <i>Uleke kusima Mwenye-Kolero vhiyali hela kwakwambuka.</i> | It is forbidden to speculate the appearance of <i>Mwenye-Kolero</i> , likening him with anything. | |
| <i>Munuhela ng'osimulila au kumlangusa imugheni kuyali Bibi we mila. Mwiko ghendo kulonga chiwonile kune ku mughulo gwe mila.</i> | It is forbidden to declare to "strangers" the whereabouts of Bibi and the secrets of the traditions. | Those who have been able to enter "Mangani," part of Mandeni forest, take oath of preserving the secrets of the "Manga" |
| <i>Mwikoghendo mgheni kughenda kunemila kughuzhukila kanamatamu mlukuli lwake.</i> | It is a taboo for a visitor to go to the " <i>Manga</i> " with a conjured problem. | Stories of <i>Mwenye-Kolero</i> traditions are believed to inspire many people who would like to go and see by themselves. Since the priority to get to the traditions is given to those with difficulties like sickness, bad luck or jinx, it was expected some curious people may visit with made up concern. |
| <i>Mwikoghendo waghongo wa mundamughati kwitingana chitala. Watumbika na Wangulumi waghongo wa mundamughati wa zhikoo zhe mila, woghomigwa waleke kwingila kune mila. Ng'onde yao ing'ulu kumalizhila nhambiko ziliukaye.</i> | Members of <i>Watumbika</i> and <i>Wangulumi</i> clans are forbidden to enter or cross the sacred forests since they are a sacred "watani" (those that are in the joking relationship) of Mlali and Hega clans respectively. Their role in the ritual ceremony is to finalize the procession back at home. | Although the clans of <i>Watumbika</i> and <i>Wangulumi</i> are affiliates of <i>Mwenye-Kolero</i> , they are barred from entering the sacred forest as a punishment for the crime committed by their ancestors. It had happened that brides <i>Watumbika</i> and <i>Wangulumi</i> clans did not accept <i>Mwenye-Kolero</i> for their husband. They thus became " <i>Watani</i> " to the clans of <i>Hega</i> (the clan of the Deity) and <i>Mlali</i> (the wife of the Deity) |
| <i>Nhambiko haibambikigwa wanu wosi kulima mwiko mbhaka nhambiko haikwivha.</i> | It is forbidden to work on fields during the "Great week" including the ritual day. | It serves to remind the community the importance of the tradition. That <i>Mwenye-Kolero</i> is the sole proprietor of all land, forests and its associated resources. |
| <i>Nhambiko haibambikighwa mwiko kumghala imugheni yenematamu kunemanga mbhaka nhambiko haikwiva.</i> | It is forbidden to take a person in need to the sacred forests (Chaloni or Mangani) during the "Great week" | This one also serves to remind the community and visitors the value of the tradition and its associated resources. |
| <i>Munu mfulumudzi ng'akwingila kune kumughulo gwe mila. Na</i> | It is forbidden to enter or transit through sacred forest if you are | It serves to remind the community and visitors alike that traditional forests are sacred and thus they |

| | | |
|--|--|---|
| <p><i>ukwingila uleke kuvhala vinhu kama utunda, ukoja, mkufi na fubalo vhilekile kulawa chitala. Na hubamigwa naukwingila chitala uvhute banghi, ung'we mbwali na uleke kuwa na inda.</i></p> | <p>"unfit".</p> <p>Aspects that render someone as unfit to enter or transect through the sacred forests. These include a person who has smoked marijuana, he who has drunk <i>mbwali</i>, an alcoholic drink, the previous day, he/she who has had sex with partner the previous day/night, in possession of witchcraft, with bad intentions to people or property and people wearing prohibited items like shoes, necklace and "<i>fubalo</i>" (a kind of amulet) which did not originate from <i>Mwenye-Kolero</i> tradition. Pregnant women are also considered as unfit.</p> | <p>need to be respected and protected with due conscientiousness.</p> |
| <p><i>Isambo ye kuvywala kune mila ni isambo initu. Isambo indunghu ng'ibamighwa ghendo.</i></p> | <p>Dressing code of sacred forest is Black <i>kaniki</i>. Any red dress is highly prohibited</p> | |
| <p><i>Chighembe chikuka, wanu wosi tibwele umakaye.</i></p> | <p>When more than one person are cultivating field using hand hoes (<i>chighembe</i>) side by side, and it has happened that the two hoes has accidentally knocked each other to the extent one's hoe head has stepped from the shaft (<i>chikuka</i>) then everybody who was cultivating in that day should stop, and go home.</p> | <p>"<i>Chighembe chikuka</i>" was declared by special elders when temperatures of the rising sun become unbearable for people to continue working on fields. This was measured by expanding hole of the hoe shaft which will let a hoe head draw out of the shaft. The elders will declare <i>Chighembe chikuka</i> and spare people from working on the scotching sun.</p> |

4.4.2.2 Ritual ceremonies

Ritual ceremonies known as "*nhambiko*", are community's way to communicate with either the deity or the ancestral spirits of a clan or of an individual family. The communication may be aimed at appeasing, in case the deity or the ancestors have been incited; appealing for the fortune and good luck of the community (or individuals);

and/or as part of healing procedures. Ritual ceremonies are performed as: a) community wide events or b) specific to the clan or family.

a) Community wide ritual ceremonies

Community wide ritual ceremonies are performed for thanks giving, appeasing or plea making purposes. They are understood as community-wide since the outcomes of the ceremonies are likely to affect the entire community, even if participants were not necessarily the entire community. In some cases, the participants may only be the responsible *Wakubwa*. Consequently three types of community wide ritual ceremonies have been identified: i) once every two years ritual ceremonies; ii) special conciliatory ceremonies; and iii) special pleading ceremonies.

i) The once every two years ritual ceremonies

The once-every-two-years ritual ceremonies are marked every second year in the first or second week of December specifically to give thanks to the Deity, *Mwenye-Kolero*. This festival takes about eight days, beginning with preparations that necessitate all other social and economic activities in the community to be brought to a standstill.

This ceremony ordinarily attracts participants from across the Uluguru Mountains; the preparatory activities serve to remind the community and all other participants' values of the forests, the "home" of their deity. *Iwapogodzi* would harvest and put on display the various types of traditional medicine for healers from different places. Special local brew, brewed from sorghum, is also prepared in the span of seven days prior to the climax of the festival. The festival is culminated by a procession at the eighth day, when participants line-up and head towards five praying stops in and outside the sacred forest.

In each stop, prayers to thank *Mwenye-Kolero* for offering people with land and life are made. Other pleas are also welcome. The participants in the ceremony may easily exceed five hundred.



Plate 4: With descendant of *Mkubwa* (right) after the ritual ceremony, Dec 2014

ii) Special conciliatory ceremonies

These make the most common ritual ceremonies, although they may go unnoticed by the majority of community members. Only a few *wakubwa* perform it after they have been informed of the existence of a violator who may have abused use rights of the forests. They are performed to appease the Deity in an event the entire community, or some members of the community have, in some ways, offended the Deity by violating the proscriptions (by doing what they were not supposed to do) and/or prescriptions (by not doing what they were supposed to) in connection with the use of natural resources. Although the violator is expected to be punished, the community may have its own share

of punishment for failure to prevent the violator from offending the Deity in the first place unless a conciliatory ceremony is held. Conciliatory ceremonies are performed by special elders at *Kitala*, the supposed home of the Deity.

iii) Special pleading ceremonies

The most significant community wide plea making ceremony is praying for rains. The leader usually takes the community who are participating in the event to *ng'obambe ye King'okwa*, the spring of *King'okwa*, at the border of *Chasa-rupia* and Mandeni sacred forests. This *ng'obambe* is the rain praying site. All participants make a circle around the spring while the leader fetches water from "*ng'obambe*" with "*chisesele*", a utensil made of gourd and used for taking medicines. The leader then splash water to the land and to the participants while uttering some words related to asking the Deity for rains. When the prayer is over, heavy rains are expected as the participants are just about to reach their homes.

Other ceremonies of pleading nature involve few participants with various concerns such as those resulting from experiencing low harvest, having no children and a feeling of bad luck. These ceremonies for solving personal or family problems are conducted at the *Chalo* or *Manga* depending on the nature of the problem.

b) Clan or family rituals

The community believes that, past family and/or clan members who played significant roles in the community continue to live with them in the form of unseen ancestral spirits. It is widely believed that family and clan ancestors are responsible for the security and wellbeing of their respective family and clan members. The ancestors warn members ahead of danger and take part in protecting property, especially crops. On their part, ancestors expect to be honoured and remembered by their respective families/clans. In order to continue this relationship, clans and families make various types of ritual ceremonies. Accordingly, two types of ritual ceremonies are commonly performed for the purpose of: i) appreciating the support and presence of their ancestors, and ii) affirming a family or clan member on taking the role or status previously held by the forefathers (their current ancestors).

Ritual ceremonies intended to remember the dead, or ancestors are performed at a road junction (or that of footpaths) different from the assumption that this would be in their respective burial sites. Ancestors are believed to be mobile and not stationed at the burial site. The seating plan at the junction ensures that all four ways are not blocked by the attendees so that the oncoming ancestor, up on hearing their prayers, would join and leave them as easily as they wish. Ancestors are remembered and asked for protection during or when the families are about to initiate boys/girls, protection of a pregnant women so they can deliver safely and even protection of crops in fields.

At times an ancestor would like to pass on role or status he/she was holding to a living member of the family or clan, he/she will advance the selected member with signals of some sort. When a member of the family or clan is observed to experience unexplained

difficulties, like loss of sleep or nightmares, it is considered a warning by the ancestor that the affected is called upon to take over the roles of one of the ancestors. The roles range from being a traditional healer to being a clan head. In order to verify whether the unexplained difficulties are warning from the ancestors, the affected person is taken to *chalo* so that rituals can be performed to foretell which role or status the affected person is supposed to take. Once this is figured out, rituals of accepting the roles by the chosen person to the responsible ancestor will be arranged and performed. Rituals to accept roles and status related to the clan or family are performed at the doorway of the house where the designated person lives. As a sign of having accepted the role/status, the responsible member accepts the name of the particular ancestor, and from there onwards he/she inherits the items associated with that particular role/status.

4.5 Role of traditional institutions in governing forests

4.5.1 How traditional institutions are used

One outstanding finding was the observation that some forests are considerably more important to the extent that they have complex and multiple institutions for their protection. Traditional forests derive their importance from the spiritual value the community attaches to them. The various levels of fencing arrangement signify the importance of protecting the forest and therefore the value of the forest (spiritually) to the community. Fencing arrangements are not necessarily physical but can be socio-culturally defined fences or boundaries. The discussion on the use of traditional institutions in forest management is thus centered on value attachment and socio-cultural protection arrangements.

4.5.1.1 Values attached to traditional forests

For the Luguru people in South Uluguru Mountains, some forests are regarded as residences of their spiritual beings. Sacred forests are considered homes of the spirit medium, Mwenye-Kolero, his "human" wife (Bibi) and of his immediate assistants (a clan man from *Wahega*). The temporary residence of Bibi as she travels from her original home to Mandeni forest (during courtship) is also sacred and considered important. Usually forests that serve as temporary residences are small in size ranging from 2ha to about 10 ha. In general, regardless of the size, level of importance of a forest is determined in terms of whether the forest serves as a residence. Furthermore, permanent forest residence is considered more important than a temporary one.

Where the spirit medium himself resides, the forest is considered most sacred and therefore the most important, such that violation of rules related to that particular forest is severely punished. Where the forest is in the land the spirit medium has designated as agricultural and settlement land, the forests or woodlands are considered less sacred and therefore less important (spiritually), and they can be cleared for expanding agricultural production. Fig. 7 shows the continuum of sacredness/importance of the various forests of South Uluguru Mountains. These forests are: 1) *Mughulo ghwe kitala ye Mandeni*, the *Kitala* of Mandeni forest, home of the deity and his human wife; 2) *Mughulo ghwe Kitala ye Maloani*, *Kitala* of Maloani forest, home of the of immediate assistant of the deity; 3) *Nzila ye Bibi*, forests that forms part of Bibi's stop as she travels to Mandeni forest residence (during courtship); 4) *Imighulo ye midzimu*, forests of the ancestors, home of the ancestors and sites of traditional and spiritual importance (the buffer forests); and *imighulo ye mighunda*, forests of the agricultural and settlement land.

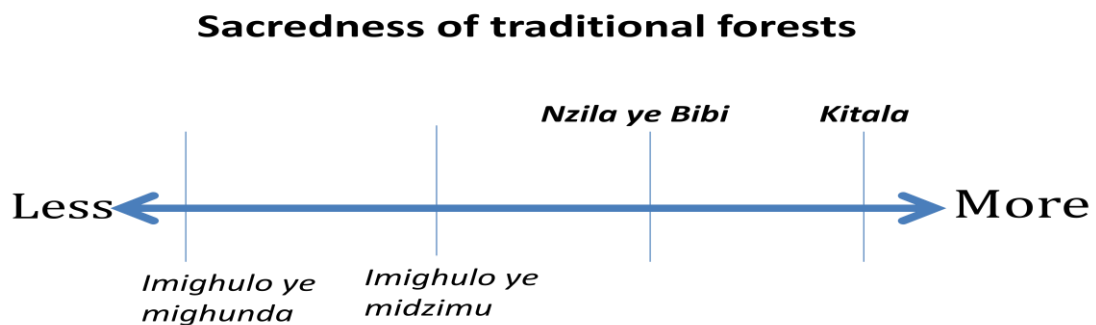


Figure 7: Sacredness of traditional forests

4.5.1.2 Socio-cultural protection arrangements

Forests with the status of *Kitalas* are highly protected from clearing trees since doing so amounts to stripping off the deity of his clothing or rather rendering him and the ancestors "naked". Stripping off the spirit medium is considered an extremely horrible

act. This is why the traditional forest of Mandeni is protected from either intrusion by non-community members, or overexploitation by community members through specialized socio-cultural arrangements. The arrangements take the form of a) Clan fence line, b) Buffer forest fence, c) Reminder of forest values through the "Preparation week", d) The belief that ancestral spirits are enforcers of traditions of the forests, and e) The belief that some trees are ancestral spirits and hence need not be cut.

a) Clan fence line

As noted earlier, all natural resources are believed to be owned by the core *Mwenye-Kolero*. *Mwenye-Kolero* would then give some power to manage these natural resources to *Wakubwa* and their related clans. In general terms, forest land (and its resources) was (and still is) under the authority of *Wamlali* clan whereas lands for economic activities and residential areas are managed by the *Wahega* clan. *Wakubwa* from *Wamlali* clan, who are also the traditional forest caretakers are responsible for giving access rights to the traditional sacred forest. The forest custodians are also entitled to grow food crops in a selected area within the boundaries of the traditional sacred forest.

Wahega clan allocates agricultural and settlement land to clans that have a direct affiliation to *Mwenye-Kolero* tradition. While the clans use the land for settlement, it has been observed that they (the clans) also serve as a "fence" by being aligned South-North along the non-buffer forest area (and part of buffer forest of *Chasa-rupia*) hence directly fencing off the western side of the sacred forest of Mandeni and *Chasa-rupia* forest. The clans of *Wahega*, *Wamlali*, *Wachungu* and *Watumbika* (main affiliates of *Mwenye-Kolero*) and the welcomed clans of *Wamasenga* and *Wanyeta* forms the "clan fence line" separating the main entrance road to South Ulugurus and the sacred forest as shown in

Fig. 8. As a fence, the clan prevents access to the forest by unauthorized individuals and strangers. Even for the village community members, they will need a good reason to go through this fence.

Recently, however, members of different clans can be found settled or carrying out agricultural production activities in parcels of land that was designated to one of the four clans. It has been observed that newcomer clans adhere to the traditional values of the host clans, implying that the host clans are influencing their traditions to the newcomer clans. This explains why the functionality of the "clan fence" continues to exist and hence making it difficult, especially for "outsiders" to access Mandeni sacred forest.

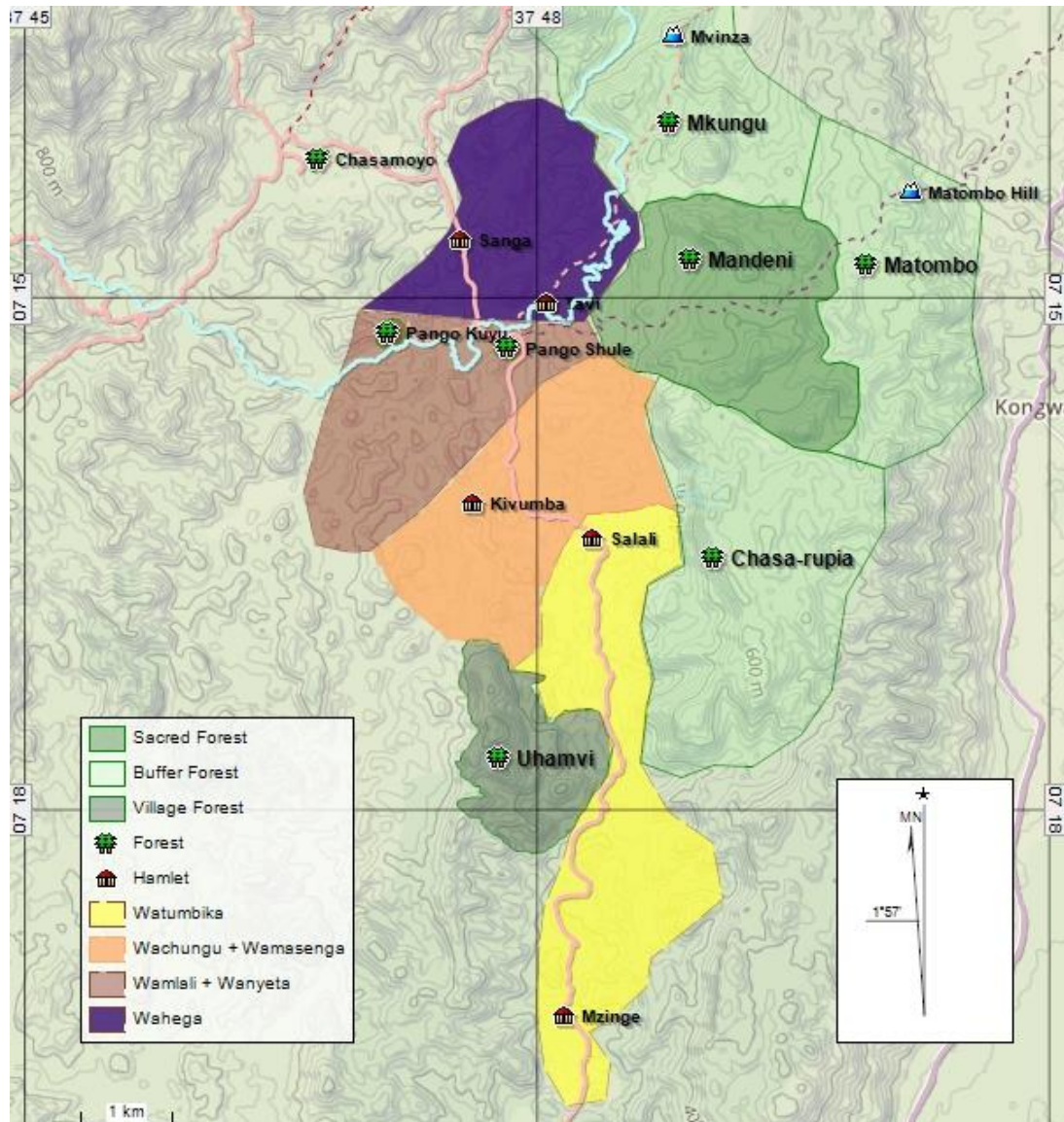


Figure 8: Clan settlement configuration and buffer forests: Fencing off sacred forest

Regression analysis (Table 13) indicated that among the clans (*Wahega*, *Wamlali*, *Wachungu* and *Watumbika* and the welcomed clans of *Wamasenga* and *Wanyeta*) which form the "clan fence line", *Wahega* was found to have a more positive influencing effect to the newcomers on complying with traditions. This is probably because the Deity is believed to belong to the *Wahega* clan, and thus clan members associate with the Deity by observing the traditions to the extent they have a more influencing effects to newcomers than the rest of the clans. However, the results have also come as a surprise.

Wamlali clan has the same level of affiliation as *Wahega*. While *Wahega* are the custodians of both agricultural and settlement land, *Wamlali* are the custodians of the traditional forests and traditions. "Extended Bibi", the *Wakubwa* from *Wamlali* clan reside within the traditional forest and have been allocated agricultural land within the sacred forest. It was expected, therefore, that among the clans that are associates of *Mwenye-Kolero*, *Wamlali* would have the same or more positive influencing effect as *Wahega*.

b) Buffer forest fence

This study coins the term "buffer forests" to mean forests that absorb the shock that would otherwise have negative effects to the sacred forest. The forests of *Chasa-rupia*, *Matombo* and *Mkungu* (see Fig. 8) serve as buffer zones to Mandeni sacred forest. These forests run South-North on the eastern side of Mandeni sacred forest. The buffer forests actually serve dual purposes. First, they serve as traditional forests themselves, having in them sacred/traditional sites and resources. *Wakubwa* are constantly present in these forest primarily collecting herbs but also serve to patrol the forests. As they collect herbs, they also screen those who are harvesting resources in the forest.

Secondly, the buffer forests are open to communitywide use. The community is welcome to harvest medicinal plants, building and art craft materials and wild foods. In some parts of the buffer forest, controlled farming is practiced. In one portion of *Mkungu* forest, for example, *Wahega* are allowed to cultivate crops but strictly once in four years. That particular piece of land must rest for at least three years before putting it into agricultural production again. The buffer forests and clan fence line, almost entirely surround the sacred forest of Mandeni, hence protecting it from unauthorized access.

c) The preparatory week: Continuous reminder of the value of the forests

The "preparatory week" for the people of South Uluguru Mountains, is the seven days preceding the "great annual rituals" (*Nhambiko ye Mwenye-Kolero*) held in the first or second week of December of every second year. The seven days of preparations and the actual day of rituals changes the usual village social landscape and atmosphere, driving every participating individual, locals and guests alike, to the feelings of valuing forests. All sorts of medicines, harvested in the buffer and sacred forests by "*Iwapogodzi*" will be on display for the traditional healers to take to their places. The rules and requirement to enter the forest will remind participating individuals that they are about to get into the very sacred place and, as such, the memories of the event would last longer.

While in normal circumstances accessing Mandeni forest would be difficult and reserved to the guardians/custodians and in rare cases the very needy individuals, during *Nhambiko* day everyone (except for the clans that are forbidden) is welcome to the forest as long as one adheres to the requirements. The preparatory week thus serves to remind the community and the guests the value of the forests for their wellbeing. Accordingly, participants are expected to act in favour of the forests.

d) Ancestral spirits: Enforcers of the sacred forest rules

There is a widely held belief that the ancestors, especially those who were *Wakubwa* from the four clans, share some supernatural powers with the Deity, and are assisting the Deity in patrolling the forests. Their main role, according to the belief, is to safeguard the sacred resources in Mandeni forest, and administer punishment instantly for those who in some ways violate the norms of the sacred forest. The resources in question

which symbolize power and are the tools of rituals include "*kigoda*", a traditional three-legged stool, "*Usinga*", the flywhisk and "*Lukota*" a kind of walking stick all used by *Bibi* and are believed to have magical power and authority. According to the legends of the near past, traditional men from Malawi were aware of the presence of these symbolic items and wanted them for use in their traditions. They thus sent people to negotiate with the guardians, *Wakubwa*, so that they could buy those treasured traditional equipment. Failure to resist money temptation, some *Wakubwa* decided they would sell the items to the strangers, thinking after all, *Bibi* the owner was no more there.

The narratives have it that, the stool and flywhisk miraculously came back from Malawi, and everyone involved in the transaction died, including the buyers. This is believed to be the job of the ancestral spirits, the guardians, who oversee and punishes whoever violates rules of conserving the sacred forest and its associated antiquities.

e) The belief in "the living dead", the ancestors

The taboo of prohibiting cutting of trees in the sacred forest is rooted in the ancient belief that some trees are actually the community's ancestors, people who lived in the past but reincarnated into the form of trees, "the living-dead". These ancestors are residing in the sacred forest of Mandeni and forms part of the forest itself. The belief has it that it is these ancestors who make the forest sacred. This is why it is a serious taboo to cut down a tree or cut off branches of a fallen tree within the sacred forest. Essentially, it is a taboo to enter Mandeni sacred forest with cutting tools such as machete and axes, except for the authorized *Wakubwa*. On the connection between traditional forest and ancestors, respondent KIM₁ had this to say:

"We believe that some trees in the traditional forest are actually our ancestors who once worked as special Wakubwa in this very forest. They come back to us as trees to take care of and protect us. We therefore need to protect them so that in return they continue protecting us. Only certain Wakubwa have been revealed which trees within the forest that are actually ancestors. Since many other people do not know which tree serves as ancestors, the easiest is to forbid anyone else from cutting trees in the forest". KIM₁
August 2015.

Box 3: The story of risen tree believed to be one of the "living-dead" in form of a tree

It was around 4.00 pm, the bell had just rung and we were assembling to end the school day" recalls TFC₄, a now resident of Lubasazi village. "As we gathered to the assembly point, we suddenly heard an enormous big and terrifying bang, that sounded like a huge grenade has gone off may be like some 10 meters away. We didn't know what it really was. We were very scared and every one of us was in panic. The teacher on duty hurriedly sent us to our homes".

TFC₄ was then in standard seven at Lukange Primary school (some 10 km from Mandeni forest). This made it easy to know which year it was, since most of the people who talk about this event, seldom remember when it exactly happened. TFC₄ completed standard seven in 1982. So this is the story of the dry season of 1982. This was somewhere between the month of July and September.

TFC₁ remembers most of what happened during the fateful event. He says three men from Ilula, Iringa came to the village for the sake of finding trees to make timber. They had learned that, in the village (Lubasazi) was forests with sizeable Mvule trees (*Milicia excelsa*), one of high value timber trees. The village leadership introduced them to clansmen who were part of the sacred forest guardians. The clansmen were divided on whether to let them harvest trees. Proponents thought it was all right for them to sell one or two trees and get some easy cash. After all, Bibi who should be feared is not there for some time. Opponents however, had the feeling that selling one or two trees could be the beginning of the end of their sacred forest, as it will be opened for further future cutting of trees. Eventually, three *Wakubwa* decided they were ready to bear consequences, should there be any, and volunteered to show the timber men some tree they thought would be tolerable to be cut.

The three men were led to the forest by their three hosts and were shown trees they would cut. With excitement of the size of the trees, they embarked in cutting to fell one of them. Spending almost the whole day, the tree could not be felled. Coming back the following morning, there was no sign that a tree was cut, on the tree itself or on the ground. That was unbelievable. So they asked their hosts to perform some rituals before they proceed. The second day, thus, was spared for some rituals and felling of the tree continued on the third day. They started in the very early hours of the day, and by 4.00pm the tree fell down.

Three mysterious things happened as the tree fell down. A big boom sound was heard up to the third village. That is approximately the radius of 15 km. In the mid of the tree there was a hole that once the tree fell, it oozed water. So much water came out to the extent of making a water pool of approximately one acre. The last thing to happen was a kind of accident. Two of the three hosts, each was struck by a piece of wood. One was struck in the left eye while another on the private parts.

Observing this, all the six men ran back to the village. They reported the matter to the most senior *Mkubwa*. He told them that they have been to the backyard of *Bibi's* home. Water that they have seen was actually from her bathtub. The *Mkubwa* was not ready to initiate any rituals to cool down *Mwenye-Kolero*, until when he goes to seek his approval of the ritual.

The following day, some *Wakubwa* went to see if there were any changes in the fallen tree. They found the once fallen tree standing, with no sign that some people had been there to cut. The tree had risen. Then, for the next three weeks, the tree timber men died, one in every same day of the week. A month later, one of the three hosts also died. It was the one who was spared of hit by the cuttings of the tree. The one who was hit by a cutting in the eye, had his eye gorged out and hanging. Then the senior *Mkubwa* claimed he had been welcomed to initiate rituals. So the last two men were spared after the rituals, however, they sustained lifelong injuries. He who was hit in the eye had lost his left eye, whereas he who was hit in private part was left impotent.

I was able to meet TFC₅ the one who was hit by a piece of wood on the eye, to talk to him about *Mwenye-Kolero* tradition in general. He is one of those people described as not ready to share what they know about *Mwenye-Kolero*. I think, if we take the story as true, it is because he had learned the lesson the hard way.

Trees in the sacred forest of Mandeni are thus protected on the view that they are actually people who lived before some generations ago. It requires special elders (through *Mwenye-Kolero* miracles) to understand which trees are normal trees and which ones are ancestors.

4.5.2 Summary on how sacred forest of Mandeni is protected

Access to Mandeni forest is limited to spiritual and healing purposes. During the yearly ritual ceremonies, everyone is invited. However, only those who have genuine problems will be allowed in between yearly rituals. For this, Mandeni forest is seen to have three lines of defense as shown in Fig. 9.

Defenders in line one are clansmen who are surrounding the forest in the western side. This is the side with the main entrance to the village and the whole of South Ulugurus. Line two defenders are *Wakubwa* who are frequent visitors to the buffer forests. They patrol the buffer forests as they pick herbs and medicines, and for *Wahega* while they farm in the North Eastern Mkungu buffer forest. Defenders in line three are the ancestral spirits in Mandeni forest. They are believed to work together with the Deity, *Mwenye-Kolero*, to ensure the Deity's home, *Kitala*, is protected.

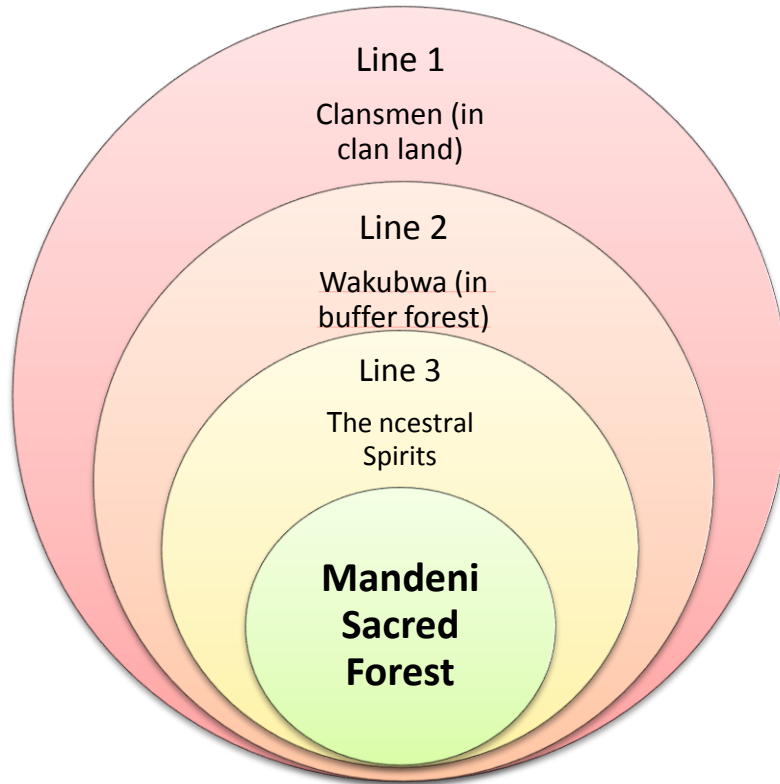


Figure 9: Defense lines of Mandeni sacred forest

Agricultural production and settlement for Bibi and her inner circles was done within Mandeni traditional forest. While Bibi was not a producer per se, her inner cycles were given land within the forest for production. Currently, since there is no one settled within the forest, Wakubwa from Mlali clan who are custodians of the forest and traditions are allowed to grow crops in the designated crop production area within Mandeni forest as a way of keeping the tradition.

4.5.3 Reflections on the link between governance functions of CPR and TI

A meta-analysis by Cox *et al* (2014) on implementation of governance functions of CPR found that several governance functions are implemented as religious practices and through beliefs in the supernatural. These findings suggest that there may be a link between some or all of the CPR governance functions with traditions. Using this framework, this study has observed the following linkage between some of the CPR

governance functions and belief in supernatural, or more specifically belief in *Mwenye-Kolero*.

User boundaries

Users of sacred forest are graduated on a scale of importance, ranging from those who use it as a home and thus lives within the forest to those who should have a genuine reason to enter the forest for spiritual, cultural and healing purposes. Apart from the spirit medium and ancestors, *Bibi* and her inner circles and her immediate assistants from Mlali clan forms the most important users of the sacred forest. The Mlali clan members, for example, are offered agricultural land within the sacred forest. On the other hand, *Wakubwa* who have the role of liaising between *Bibi* and the entire community would form the second important users. Third important are the *Wakubwa* who are constantly in buffer forests. These would be followed by the rest of the community members and those who are outside the community in that order. Traditional institutions in SUM have put in place not only the boundaries between legitimate users and non-users, but have also graduated the users in terms of their importance and therefore the extent of use for each user category. Furthermore, agricultural and settlement land have traditionally been parceled clan wise. Boundaries for the respective clans were well known, thus use in terms of economic activities and settlement would follow those boundaries.

Resource boundaries

While it might be difficult for the visitor to notice boundaries that separate the traditional forests from the larger environment, this is clearer to the community members. Having land that is earmarked for economic activities and settlement (of the

larger community) against forest land, it suffices to observe that traditional institutions in SUM have defined the boundaries associated with sacred forests, buffer forests and wooded agricultural land.

Congruence with local condition

Taboos, as part of traditional rules, and practices related to traditional forests have their origin in the belief in *Mwenye-Kolero* system. *Mwenye-Kolero* is honoured by the community complying with the traditional rules, taboos and practices. Compliance leads to dual effects. On the one hand it enhances health of the forest. On the other it ensures the community blessings from the spirit medium. Blessings are a reward to the community for protecting the deity's home. The forest (the environment) thus serves as the convergence between the spirit medium (*Mwenye-Kolero*) and the community's social and cultural wellbeing. It can thus be argued that the traditional institutions are congruent with local social and environmental conditions.

Proportionality

This function works on the principle that the benefits users obtain from a resource environment are proportional to the efforts expended (Cox *et al* 2014). In SUM, apart from abiding to the rules (some in form of taboos) that are related to the traditional forest and the tradition of *Mwenye-Kolero*, they also have compulsory practices. These include the various rituals they perform, short of which blessings from *Mwenye-Kolero* are believed to be deprived.

4.5.4 Reflection on the link between traditional institutions and forest resources

These findings on traditional institutions underscore the link between forest resources and the community of users in the context of traditional Luguru community. While the community depends on their surrounding resources for their survival, the resources enjoy balanced use that is a result of what Cox *et al* (2014) refer to as resource boundaries and user boundaries. The institutions are meant to limit non users from accessing resources on the one hand and on the other control on how the resources would be harvested by those that are allowed to access.

The community (both members of the traditional forest caretakers and those that are not) and non-community members have been made to believe that observation of rules and taboos associated with forest access is of paramount importance failure of which would lead to harm, be it to an individual or the entire community.

However, it is generally felt that there is no real and direct harm associated with violation (accessing forest resources in the traditional forests), as long as *Wakubwa* will not be aware of the same. There may be individuals within the traditional forest caretakers who have some supernatural powers that they would use to harm whoever is known to have violated. This is done in a way that it is seen as though *Mwenye-Kolero* or the ancestral spirits have done it so that the fear and belief is continued within and outside the community.

The traditions were put to test when, the research team decided to visit the sacred forest without the knowledge and escort by *Wakubwa*. To avoid the clan fence, the approach was made from the difficult entry of Lubasazi-Mandeni-Mvuha trail, entering from

Mvuha side. We chose the early hours of the day succeeding "the Great *Nhambiko* day", as in this day, all Wakubwa, who would otherwise be patrolling the buffer forests, would be busy finalizing preparations of the festival.

Although we did not violate taboos and rules that would attract severe punishment, rules of dressing, wearing shoes in the sacred forest and photographing of the tree identified as the living dead were put to test. According to the legends, these actions were enough to incite the spirit medium, and hence get prompt punishment. However, none of the three members of research team reported any adverse effect. This experience implies that, although behind the taboos there might not be real danger upon violation, yet the community uphold and obey them.

4.6 Compliance to traditional institutions

In order to attribute, in part, forest condition to traditional institutions, measuring level of community members' compliance to traditional institutions and determining sanctions of violated institutions were found to be important. Accordingly, compliance index was used to determine nature of compliance (distribution of compliance across the demographic groups), level of compliance (to what extent different groups comply) were determined and predictors of compliance.

4.6.1 Compliance index

A regression analysis was used to determine the compliance of the respondents to traditional practices. A compliance index was developed based on the different practices by the respondents that indicated their behaviour or attitude towards the TI. The practices included practicing family related rituals, practicing clan related rituals, attendance to rain praying rituals and attendance to grand traditional rituals. The scored elements were summed up and used to develop a compliance index. The compliance index was then categorized into four classes vis; 1= for respondents practicing by 25% or less, 2= for those practicing by more than 25% up to 50%, 3= those practicing by more than 50% up to 75% and 4= Those practicing by over 75% up to 100%, which were categorized as none, low, average and high compliance levels, respectively.

The compliance index was regressed to respondents' clan residences (1= for Watumbika, 2= for Wachungu, 3= for Wamlali and 4= for Wahega) ; Sex of respondents (1= for male and 2= for Females); Respondents age (1= for youth aged 17 to 29 years, 2= for middle age category aged 30 to 49 years and 3= for old age with 50

years and above); Place of birth (1= for those born within the village, 2= for those born outside the village but within the district, 3= for those born not in the district but within Morogoro region and 4= for those born outside the region). Religion of the respondents (1= for Traditional 2= for Roman Catholics, 3= for protestants and 4= for Muslims); Time spent in cities (0= for those who never spent life in cities, 2= for those who spent less than a year, 3= for those who spent for one to two years and 4= for those who spent three and more years), Religiosity level of the respondents (1= for non-practicing, 2= for Low practicing, 3= for medium practicing and 4= for high practicing respondents) and Frequency of visiting the neighbouring Dutumi/Mvuha (rural centres with high urban linkage) (1= for those who do not visit on monthly basis, 2= for those who usually visit once to twice a month and , 3= for those who visits three times and more a month). The predictors were considered as proxy elements that could enhance or reduce one's compliance to traditional characteristics.

The analysis of variance (ANOVA) of the regression model indicated the coefficient of relationship of 0.518 meaning that the predictors had approximately 52% of relationship to respondents compliance to traditional practices and had a coefficient of determination of 0.728 meaning the predictors explained about 73% of the reasons why the respondents in the study area complied to traditional practices with a standard error of 0.121 and the regression model was statistically significant at $p \leq 0.05$.

Residing in Wahega residence area was positively associated with compliance to traditional practices with a standardized beta coefficient of 0.18 and a standard error of 0.041 and was found to be statistically significant at $p = 0.001$ implying that respondents residing in *Wahega* clan designated area were the highly complying to traditional

practices followed by those residing in areas of *Wamlali*, *Wachungu* and *Watumbuka*. Since *Mwenye-Kolero* is believed to be of *Mhega* clan, it can logically be ascertained that community members leaving in *Wahega* designated area have been most influenced by the traditions.

Sex of the respondents was negatively related to compliance index indicating that male respondents were the ones complying more to the traditional practices than females, with a standardized beta coefficient of -0.117 and a standard error of 0.094 and was found to be statistically significant at $p= 0.026$. In this community, this is somehow unexpected considering that it is a female lineated community in which inheritance is through the mother's line.

Age was found to be positively related to compliance to traditional practices with a standardized beta coefficient of 0.272 and a standard error of 0.061 and was statistically significant at $p= 0.001$. This implied that as respondents grew older they complied more to traditional practices than the young ones due to the fact that they were being prepared to take elderly roles within their clans. However, place of birth of the respondents was negatively associated with compliance to traditional practices with a standardized beta coefficient of 0.121 and a standard error of 0.083 and was found to be statistically significant at $p= 0.017$. This implied that respondents born within the village were the ones clinging more to traditional practices than the immigrants followed by those born within the district. This was probably due to initiation practices transferring indigenous knowledge to their successors.

Religiosity was negatively related to compliance to traditional practices with a standardized beta coefficient of -0.142 and a standard error of 0.046 implying that respondents who scored higher religiosity levels hardly complied to traditional practices while those who did not practice religion were highly complying to traditional practices and the predictor was statistically significant at $p= 0.007$. But religion denomination was negatively associated with compliance to traditional practices indicating that those who believed on traditional religion complied more to the traditional practices, however, Protestants and Muslims had low compliance to traditional practices. The predictor had a standardized beta coefficient of -0.115 and a standard error of 0.052 and was found to be statistically significant at $p= 0.026$.

As summarized in Table 13, time spent by the respondents in cities and number of times one visited Dutumi/Mvuha per month were both positively related to compliance to traditional practices. This is explained by the fact that when individuals faced difficulties in towns they turned back to traditional practices and this was linked to the number of times one visited Dutumi/Mvuha, however both the time one spent in towns and the number of times one visited Dutumi were all not found to be statistically significant at $p \leq 0.05$.

Table 13: Regression analysis on Respondent's compliance to traditional practices

| R =0.518 R ² =0.723 Adjusted R ² =0.713 | | | | | |
|---|-----------------------------|------------|---------------------------|--------|------|
| Std error=0.1213 | | | | | |
| Variable | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | B | Std. Error | Beta | | |
| Constant | 2.323 | .369 | | 6.293 | .000 |
| Respondent's residence in clan area of | .142 | .041 | .180 | 3.455 | .001 |
| Sex of respondent | -.212 | .094 | -.117 | -2.242 | .026 |
| Age category | .311 | .061 | .271 | 5.101 | .001 |
| Place of birth of respondent | -.199 | .083 | -.121 | -2.403 | .017 |
| Religiosity level | -.125 | .046 | -.142 | -2.720 | .007 |
| Time spent in cities (Dar/Moro) | .067 | .051 | .067 | 1.318 | .188 |
| Religion | -.117 | .052 | -.115 | -2.242 | .026 |
| Number of times visiting Dutumi/Mvuha | .011 | .072 | .008 | .154 | .878 |

F=7.953 p=0.001

4.6.2 Sanctions associated with violating traditional institutions (non-compliance)

Violation of traditional institutions, especially those directly related to the tradition of *Mwenye-Kolero*, is believed to be directly and promptly sanctioned by the spirit medium or the ancestors who patrol the forest on behalf the spirit medium. Severity of punishment depends on the perceived degree of offence committed and whether the elders have made their pleas on time to the spirit medium on behalf of the wrongdoer. Violations are punished according to severity akin to the three levels of norms, namely, folkways, mores and taboos.

Offences related to destroying the deity's home, revealing secrets of the sacred forest and manipulating sacred things for personal benefits are related to violating taboos and hence severely punished. On the polar opposite, offences related to not fulfilling ones obligation related to the belief in *Mwenye-Kolero* are equated to violating folkways and

thus less severely punished. An offence which was to be severely punished can be re-adjusted to a moderate or less severe punishment if appropriate rituals are performed.

a) Severe punishment

Death is considered the most severe punishment sanctioned by *Mweye-Kolero* himself. Along with death penalty to the offender(s), the community will be subjected to its own share of punishment in a form of misfortune or a disaster. The community is believed to be punished because of failure to prevent the victim from violating the taboo. This explains why the community is so sensitive to people who want to violate rules of the tradition of Mwenye-Kolero.

Taboos whose violation attract severe punishment include cutting/felling trees or cutting off branches of trees felled naturally in Mandeni sacred forest; being directly or indirectly involved in transecting sacred items in the sacred forests; revealing secrets of the forests which in the first place one took an oath to protect; and manipulating information or people related to the traditions for personal gains. During fieldwork, one death (of Mkubwa) was associated with sanctioning by Mwenye-Kolero, as the demise was believed to have manipulated the people related to the traditions for personal benefits.

b) Mild punishment

A less severe punishment is sanctioned to offenders who violate rules equivalent to mores which would otherwise attract severe punishment, but the necessary rituals to calm the spirit medium were acted upon in time by the responsible *Wakubwa*. When the spirit medium is appeased, it is believed that not only the wrong doer is sanctioned

mildly; the community will be spared of curse as a result of the act. Inflicted permanent disability forms a mild punishment. It may take the form of complete loss of a body part or a particular body part will be rendered dysfunctional.

Two persons (*Wakubwa*) testified during fieldwork to have violated taboos, in which case they were candidates for severe punishment. However, their level of punishment was downgraded to mild punishment following change of level of norm from taboo to more. Change from taboo to more and hence change from severe to mild punishment followed a prompt conciliatory ceremony to the spirit medium sacred forest custodians.

One *Mkubwa* was involved in leading strangers to sacred forest to cut trees for timber. He succumbed to loss of one eye as a moderate punishment. The other *Mkubwa* had resorted to stealing coins that are a usual donation to the deity by people who visit "*Mangani*" for various issues. As he was trying to get his through the opening of the two rocks to where the coins were stored, right arm was severed. Following prompt rituals, his life was spared but to date, his right arm is less functioning and appears as though it misses the humerus bone.

The two men are still living in the village and the research team interacted with them all. However, they are not willing to talk anything about their respective fateful events. Partly they fear to commit even more incitement to the spirit medium by revealing the secrets of the tradition (their punishment being part of), and partly it is too embarrassing for them to be remembered, or to be seen as "punished" because of violating the rules that they were supposed to guide and encourage other people to abide.

c) Lenient punishment

Lenient punishment is usually reserved for unfulfilled prescriptions, the equivalent of violating folkways. For example, conducting the regular ritual ceremonies, for the spirit medium and ancestors, is an obligation for individual community members and/or the entire community in order to continue enjoying the fortunes of the from the spirit medium and the ancestors. If these thanks-giving rituals are not performed, the respective individuals or community risks being deprived of fortunes that would otherwise be offered by the spirit medium or ancestors. The state of a community, clan or a family being deprived of fortunes (such as bumper harvest, a new family getting children) are considered as lenient punishments.

4.7 Robustness of traditional institutions in South Uluguru Mountains

To establish how robust the institutions are, the study embarked to determine annual rate of forest cover change (low rate means institutions are doing a good job of protecting forest resources) and the resilience of institutions to some external forces (for example pressure from modernity). Interestingly, the study has also found that some traditions are responsible for the institutions to remain robust.

Strength of institutions was theorized to be reflected by the condition of forests the institutions are meant to protect. Forest condition was thus determined in two ways, first by determining forest cover change for a specified period of time, and secondly by analyzing the perceptions of community members regarding the forest condition. Furthermore, how the community perceive the associated sanctions related to violation of traditional institutions were examined for this purpose.

On the other hand the study has also observed some traditions conceding to pressures of modernity to the extent that they have adjusted to suite the wave of modern way of life. They, however, continue to hold.

4.7.1 Forest cover change

Tree crown condition is among the attributes of forest health and is used, together with other attributes, in assessing forest condition. To attribute robustness of TI on the health of SUM forests, extent of change in forest cover over a period of 15 years (2000 - 2015) on the SUM forests were determined. This was done in order to compare rate of annual loss/gain of forest cover between the forest of SUM and the estimates of other forests in Morogoro Rural District.

To determine forest cover change and ultimately annual net loss or gain for each forest, tracks of each forest perimeter (previously collected as waypoints by GPS unit) were converted to shape files. Compressed shape files for each forest was then uploaded to an online GFW interactive map tool, which upon specifying time frame and parameters required, calculates among others forest cover gain and loss. In Table 14, tree cover (in hectares), tree cover gain (in hectares), tree cover loss (in hectares) and calculated percentage loss for the period 2000 - 2015 including estimated annual tree cover loss (rate) is presented. It should be noted that, algorithm for tree cover gain was available in the GFW interactive tool for only up to the year 2012, hence the span of 12 years. This limited the merger of the gain and loss data for net values.

Table 14: Estimated tree cover change in SUM forests

| FOREST NAME | TYPE | SIZE (Ha) | Tree Cover (Ha) | Gain (Ha) (2001-12) | Loss (Ha) (2001-15) | Loss (%) (2001-15) | Est. Ann. Loss |
|-------------|-----------------------|-----------|-----------------|---------------------|---------------------|--------------------|----------------|
| Chasa-Moyo | Sacred | 2 | 1.6 | 0 | 0 | 0 | 0.00 |
| Chasa-Rupia | Buffer | 914 | 914 | 7.01 | 3.19 | 0.3 | 0.02 |
| Maloani | Sacred | 12 | 12 | 0.2 | 0 | 0 | 0.00 |
| Mandeni | Sacred | 331 | 329 | 1.4 | 1.58 | 0.48 | 0.03 |
| Matombo | Buffer | 580 | 577 | 2 | 0.8 | 0.13 | 0.01 |
| Mihange | Sacred | 19 | 19 | 0.4 | 0 | 0 | 0.00 |
| Mkungu | Buffer | 620 | 619 | 2.4 | 9.58 | 1.5 | 0.11 |
| Pango | Sacred | 7 | 5.59 | 0 | 0 | 0 | 0.00 |
| Pango Kuyu | Sacred | 7.7 | 8.78 | 0 | 0 | 0 | 0.00 |
| Uhamvi | VLFR (Prospective) | 240 | 242 | 4.21 | 1.6 | 0.67 | 0.05 |

National Forest Resources Monitoring and Assessment of Mainland Tanzania (NAFORMA) estimates indicate Tanzania's forests and woodland stands at 48.1 million hectares with an estimated forest cover loss of 372,816 ha per year (URT 2015). This loss is equivalent to annual loss of 0.77%. This ground based assessment indicates slightly lower yearly loss from previous estimates. Forest Resource Assessment (FRA) of FAO (2010) indicated an estimated annual loss of about 1%.

It is interesting to note that all sacred forests except Mandeni, posted a 0.00% annual loss for the period of 15 years ending 2015. Mandeni sacred forest, which is at the centre of the tradition, reported an annual loss of 0.03% for the same period. This is probably because of farming activities by a handful of Wamlali clan forest custodians who by tradition are entitled to produce food in a designated area within the forest. It should be noted that, Mandeni forest is home to the Deity, *Mwenye-Kolero*, ancestors, Bibi and the inner circles of *Bibi* including *Wakubwa* from Mlali clan. *Wakubwa* from *Hega* have similar designated agricultural area within *Mkungu* buffer forest. This could also explain

why among the buffer forests, *Mkungu* posted the highest annual forest cover loss of 0.11%.

Evidence from the field suggests that the community does not source their construction materials and fuel wood from the buffer forests as earlier presumed. Instead, they source from agricultural and settlement land. This land is still wooded and has considerable amount of trees and other plant resources, the community harvest from them building materials and fuel wood. The community does not harvest fuel wood and building materials from buffer forest probably because of the regrowth of trees and plants that are occurring in the agricultural land due to shifting cultivation. Agricultural land itself thus serves as another kind of buffer zone. On limited basis, and currently after fulfilling village government requirements, community members harvest trees for timber in Uhamvi VLFR.

4.7.2 Reflection on the degree of withholding information by the community

Since information is power, the SUM community members seem to have a strategy to protect their traditions from less trusted individuals. The tendency by community members, especially the *Wakubwa*, to withhold information regarding *Mwenye-Kolero*, is a precaution against inciting the Deity, and hence preventing themselves from the punishments. Elders are always cautious when talking to people and have varying degrees of withholding details depending on the kind of individual they talk to. They will completely refrain if the person they talk to is a stranger (considered as a harmful person) on the one end of spectrum or will "give as much as required" details if the individual is considered "less harmful" to the tradition. Less harmful person in question is undoubted fellow community members or outsiders who have been seen as harmless.

When an outsider stay longer time (more than one year) in the community and has not done anything suspicious in the eyes of the community members, he/she is considered as an outsider who is harmless. For researchers, it takes time and perseverance to achieve the status of 'harmless outsider', the necessary status to be able to access accurate data.

Based on the degree of "withholding" required and individual elder's characters, the interviewee may take two forms of giving out information. First the "supposed" interviewee may give an outright "no", indicating that he/she is either not ready to talk to the person (outsider) or not ready to talk anything related to the traditions. In this form, the information seeker has no choice but to politely and humbly accept this outcome by the supposed interviewee.

The second form is "*being ready to talk but not to give or being ready to talk and give*". On *being ready to talk but not to give*, the information seeker may not immediately detect that he/she is deprived of information. The supposed interviewee will be friendly, talking casually and steadily (often seen to detail more on the issue asked than expected) but hardly unleashing the details of the core questions. Information given will be limited and in a way hard to piece together the supposedly given facts. On the *being ready to talk and to give*, the interviewee is freely narrating stories and events (although not necessarily chronologically) in a way bits of information can be pieced together to understand the underlying phenomenon.

Many elders have been observed to know very little about the traditions except for the knowledge considered general. Knowing little about the traditions of Mwenye-Kolero by

some elders was found not to be by chance, but rather on purpose. Some elders, considering the severity of punishment by the Deity upon violation of the rules, especially those that are linked to releasing information to strangers, they resort to simple strategy of "avoiding to know the details" of the traditions. In this way, they are likely to stay safe when are in casual conversation (say with strangers), and thus avoid inadvertent unleash, since in the first place they would not possess what to unleash.

4.7.3 TI standing against the test of modernity pressure

Modernization which is slowly getting its way to the community could be thought of adversely effecting traditional institutions. Television and video shows of modern way of life is attracting the youth, who have been observed to imitate especially walking and dressing styles.

Majority of the beliefs, rules, taboos and arrangements have continued to hold. Amongst these institutional arrangements is a rule that certain resources belong to *Mwenye-Kolero*, and everyone is invited to harvest as long as harvesters do not interfere with the current use of land from which it should be harvested, and that harvesters follow related rules (if any). For example, harvesting "*Bulumunzu lya swila*", flying termites that are harvested through digging of underground anthill, follow two procedures depending on location of harvest. On the one hand, if harvest is to be done from allowable sites of the traditional forests, permission must be sought from the responsible *Wakubwa*. On the other hand, if "*Bulumunzu lye swila*" have been spotted on an individual community member's field (considered as a renter/borrower), needy/interested community members are welcome to harvest. Since harvesting involves digging the underground anthill, harvesting is limited to fields that are currently free of standing crops. Since harvesting

of *Bulumunzu* is in early November, chances are high that the field will be free of annual crops. In case harvesting has a chance to interfere current crops in the field, for example bananas (perennial crops), harvesters are not allowed. But if there could be minimum or no interferences to the field crops, everyone is invited to harvest. Harvesting however requires a kind of communal action; it should be a group of community members.



Plate 5: Communal harvesting of "*Bulumunzu lye swila*" on an individually owned/rented farm, (Nov. 2015)

4.7.4 Traditions that have conceded to change pressure

Two traditions have been observed to have changed as a result of modern way of life that is caused by access to information technology and immigration and pressure from the formal organizations. These are changes in the way preparatory week is observed and change in mode of land ownership. Despite these changes of preparatory week and mode of land ownership for the agricultural and settlement land, traditions related to sacred forest continues to hold and is responsible for the state of forests in question.

a) Change in the way the "preparatory week" is observed

Preparatory week (the week preceding the grand annual rituals) was reserved for preparatory activities related to "*Nhambiko ya Mwenye-Kolero*", sacrifice rituals to

Mwenye-Kolero. It was (*is*) a taboo and no one was allowed from the time of "*Kubambika*" (sorghum for ritual festival beer is soaked for malting) to the actual ritual ceremony (about seven days) to engage in any farm, hunting or other production activities. Going against this traditional rule was believed to incite *Mwenye-Kolero*. Nowadays, however, while the "preparatory week" is still observed, preparation activities are taking place concurrently with the production activities. It is those who are directly involved in preparation that are not engaged in any other work other than the preparation. These are descendants of *Wakubwa* from clans that forms close associate of the Deity. They are the clans of *Mlali*, *Wahega*, *Wachungu*, *Wangulumi* and *Watumbika*.

b) Change in mode of land ownership

Although it is still widely held that the land belongs to the Deity, *Mwenye-Kolero*, the study has found that there is a shift from communal land ownership to a more private one. Managers of agricultural and settlement land, *Wahega*, used to give short-term land use rights to clans other than the *Wamlali* (*Wahega* and *Wamlali* were automatically allocated by the Deity). This would be translated as land being communally owned (by clans).

In the recent past, there has been a shift from communal to more private ownership of land, especially from the time Tanzania Village land Policy and Act became operational. In 2012 Lubasazi Village chairman was invited to a training organized by the Morogoro District Council, on the role of village council as managers of village land, and hence giving customary land rights to individual members in the village. Thereafter, a campaign was launched to influence individuals who were assigned parcels of land in traditional arrangement, to acquire land rights of the same pieces of land (they have been

assigned temporarily by responsible clans). This although received with happiness among the land borrowers, marked the beginning of the shift from communal to private ownership, and hence reducing Mwenye-Kolero system's role in managing agricultural land.

4.8 Factors influencing performance of traditional institutions

4.8.1 Formal organizations

Formal organizations operating in Lubasazi village are categorized as statutory organizations and religious organizations. Statutory organizations are mandated by the Forest Policy (1998) and Forest Act (2002) to make decision on forest planning and use includes the Ward Development Council (WDC), Village Council (VC), village environmental committee (VEL) (or Village Natural Resource Committee (VNRC) where applicable) and village land use committee (VLUC). Religious bodies in the village representing modern religions constitute what this study refers to as formal religious organizations.

There is somewhat a mismatch between formal organizations and traditional institutions to the extent that the former was found to slowly weaken the latter. While executing their duties, both statutory and religious organizations happen to either go against the traditions associated with forest resources management, or cause community members violate traditional related taboos (and beliefs). The latest example of statutory bodies going against what has been preserved over the years occurred at the time of data collection for this work. Following the Government order requiring district councils to ensure schools are equipped with desks, to end the long time crisis of pupils sitting on the floor; ward and village authorities in the study area resorted to harvesting timber from otherwise traditionally protected and respected community forests. Hardwood timber used in two ways: one as raw materials for desk-making, and two as a source of money to pay carpenters involved in the making of desks. In the end, some high value timber trees that have been standing in the traditional forest for over 150 years were harvested. Plate 6 illustrates condition of trees in Chasa-moyo sacred grove prior to

harvesting and the harvested wood. Entry to the sacred forest by the ward and village authorities may be seen as opening the resource to other people. As respondent TFC₃ in Koleru village put it:

"This small forest here has been respected for years. It was one of the stops of Bibi as she travels to her husband during the courtship. Everyone was respecting it, community members and the newcomers alike. This is why you could still see those huge "Mvule" (Millicia excelsa) trees there. With the government initiating cutting of trees from this forest, I do not think it is going to last any longer. It is as if they have told the community that now the trees of this forest are open for harvest. I do not give it five years, it will have disappeared. The authorities (ward and village) did not want to consult or even listen to us. To them that was the cheapest way of fulfilling the desks demand. We are very discouraged"



Plate 6: Chasa-Moyo sacred grove - Standing African teak (*Millicia excelsa*) (left) and timber harvested for making desk

In these communities, modern religious organizations are seen as being on a mission to change the belief systems of the community members. Consequently, there is a varying degree of tolerance to traditions among the modern religions. While some religious organizations would show some degree of tolerance to peoples' traditional beliefs and

practices others would strictly bar their followers from pledging allegiance to the traditions, especially that of the *Mwenye-Kolero* system. A leader of the Pentecostal church at Kolero did put it plainly during an in-depth interview that their faith consider the tradition in *Mwenye-Kolero* as going against God's word and thus they encourage their members to not follow. Even with that, he admitted that, the tradition in *Mwenye-Kolero* is deeply entrenched in the community members so much that some of those attending Pentecost church still comply with the tradition. However, as presented in Table 15, Pentecostals were the least in count among those who pledge allegiance to modern religion and yet comply with the traditions. Of the 10 Pentecostal respondents, only three (or 30%) were complying to traditions by 50%. As for the Roman Catholics and Islam, some degree of tolerance to the tradition has been observed. For example, of the 116 Roman catholic respondents, 101 (or 87%) comply to the traditions by 50 - 100%, with 11 respondents (about 10%) determined to comply by 100%.

Table 15: Cross tabulation of religious affiliation * Compliance to TI

| | | Compliance index | | | | Total |
|-----------------------|----------------------|------------------|------|------|------|-------|
| | | 0.00 | 0.50 | 0.75 | 1.00 | |
| What is your religion | Traditional | 0 | 1 | 1 | 3 | 5 |
| | Roman Catholic | 15 | 56 | 34 | 11 | 116 |
| | Evangelical Lutheran | 3 | 0 | 0 | 1 | 4 |
| | Pentecost | 7 | 3 | 0 | 0 | 10 |
| | Islam | 9 | 19 | 11 | 4 | 43 |
| Total | | 34 | 79 | 46 | 19 | 178 |

Furthermore, religious organizations in the village exhibit some conflicting acts to traditional institutions, especially with new Christian faiths that are in dire need of new followers. There has been some confrontation between religious leaders and custodians of the traditions, whereas the latter accusing the former of waging underground war to their traditions, calling them evil. This is what respondent KIM₂ said:

"Hawa wenzetu (referring to the born again Christians) hawataki kabisa kusikia habari za Mzimu. Hivi sasa wanasema wanajiandaa kuingia msituni ili kwenda kuharibu sehemu tunazotambikia, wakiziita ni makazi ya shetani. Yaani kwao, Mwenye-Kolero ni Shetani, na matambiko yetu ni ya kishetani". "The born again Christians condemn the belief in Mwenye-Kolero. They are up to a horrible act of entering the sacred forest to destroy the sacred sites within the forest, under the auspice of breaking devil's stronghold. To them Mwenye-Kolero and our rituals are evil".

Although these claims could not be verified, it was noted that a serious hostility was prevailing between the two groups, and hence posing a threat in the future of *Mwenye-Kolero* tradition.

4.8.2 Influence of modern way of life

The community is under increased pressure from modernization as youths and the middle age are influenced by modern life style, due to satellite television and video shows that are now a common sight in the village. Elders are concerned their children spend considerable amount of time watching television and imitating dressing, walking and talking styles of modern artists. This is what was noted by respondent TFC₂:

"Our children are affected in two ways. First they don't have time or even don't feel obliged to learn about their own traditions. Secondly they find their own culture as something of the past. There is an increasing number of youths who are dressing immorally, have changed how they walk and cannot even listen to their elders. To them, the traditions or cultural 'things' are for the elders, not for the youths. This means that we will not have people who shall carry on our traditions, if this trend continues."

4.8.3 Immigration

EMN (2006) notes that measuring and assessing the impact of immigrants on a culture based on the number of immigrants is difficult since it is not easy to distinguish the impact of general globalization trend from that of immigrants. As noted in section 4.5.1, evidence from data suggests that place of birth of the respondents was negatively associated with compliance to traditional practices. Respondents of the small scale survey who were born within the village were the ones complying more with the traditions than the immigrants. By not complying with the traditional institutions, the institutions could be put into the risk of being violated by the larger community. Or rather some of the community members could follow suite of increasing non-compliant members.

4.8.3 Reflection on factors influencing traditional institutions

Despite respect of institutions by a good number of community members in the various demographic categories, it has been observed that youths and members belonging to some religious groups and statutory village and ward formal organizations have a deviant behaviour towards these institutions. This is probably due to the fact that traditional institutions are not officially recognized by the formal organizations, sometimes referred to as backward or primitive way of life. While deviancy is still in its infancy in this community, if not addressed it might grow to the extent of rendering traditional institutions ineffective.

CHAPTER FIVE

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

This study strived to understand the role traditional institutions play in forest resources management by employing emic and etic lenses. The conclusions thus are made ranging from methodological point of view, through roles traditional institutions play in the management of forest resources to factors influencing the traditional institutions.

5.2 Conclusions

The following conclusions were drawn from the study:

The study has observed the tendency by traditional practices abiding community to possess a graduated gate keeping which if not well addressed could deny accurate data and subsequently leading to mistaken conclusions.

This study noted that Mwenye-Kolero is both a belief system and a kind of traditional religion which guide the day to day practices, including using and protecting forest resources, and around which associated taboos, traditional rules and values (the traditional institutions) are organized. The traditional forest of Mandeni is protected by multiple institutional arrangements which ensure its health. To the community, a health sacred forest is equated to a healthier relation of the community with their Deity, and consequently ensured livelihoods by the Deity.

The community have been observed to comply to the traditional institutions, which leads to perceived healthy forest. The residence in clan designated area and age of a

community member have been found to be important predictors in complying with traditional institutions.

The study noted a low rate of yearly forest cover loss in traditional forests of SUM suggesting that traditional institutions play a positive role in forest resource management.

5.3 Recommendations

The need to address graduated gate keeping

Methods in social research whose subject is rural communities need to incorporate elements that would address issues of graduated gate keeping. A combination of two strategies could be employed to deal with graduated gate keeping. First is to give a study reasonable time for data collection allowing for data collectors to familiarize with community members and hence earn their trust. Longer field stays enable researchers to develop required trust among the study subjects, an important step toward accurate data. Second is to capture data by direct and systematic observation. This allows for the researcher to capture any flaws in approach and techniques that arise in the course of data collection. It cuts short of the questions of what (which should be observed) and thus concentrate on the why (by interviewing).

The need to recognize traditions in forest resources management

Traditional institutions are the non-formal or informal way of forest resource management system. In Tanzania, these are less recognized by formal agents and organizations. Given the ongoing wakeup call to recognizing participation of communities in managing natural resources that surrounds them, there is a need to give

the traditions special acceptance, and give them chance to protect the forest in rural areas. There is therefore a need for policies and actions (in form of programmes or projects) that address stigmatization of, while recognizing and promoting the traditions responsible for forest resources management.

5.4 Contribution/Lessons learnt

The argument this study puts forth, and thus the point of departure, is that for meaningful data to be collected from the grassroots in rural settings, methods need to incorporate careful observation, perseverance and inquisitive practices, as opposed to "hit and run" questionnaires. Longer field stays (of at least 9 months) enables researcher to develop required trust among the study subjects, provides enough time to capture by observation any flaws in approach and techniques that arise in the course of data collection and ultimately capturing precise data. We miss a lot of information, especially when collecting socially related data, by simply rushing with questionnaires for the sake of saving time.

Casual conversations in informal settings are especially useful to obtain data that have high degree of accuracy. As noted earlier, study subjects were more willing to reveal details when the setting is informal and casual as opposed to formal settings. When the researcher is seen with recording devices, such as note books and pen, community members adjust by sieving what they have to say. The study thus calls for increased use of informal settings that would trigger data flow more or less naturally. It has been observed that community members typically refrain from giving out information pertaining to themselves or the community at large to the stranger, partly to avoid going against the rules of their traditions. Respondents have been observed to be more willing

to clarify things that a researcher has observed by himself/herself but lacks the underlying meanings, and are less willing to detail everything from the beginning. Clarification of phenomenon the researcher has observed is perceived not being the source of information. In this way respondents feel more comfortable. Thus core data must come from personal observation. It plays a crucial role in establishing the base from which the "whys" can be sought.

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APPENDICES

APPENDEX 1

SELECTED LUGURU WORDS AND PHRASES USED IN COMMUNITCATING TRADITIONAL INSTITUTIONS

| Word/Phrase | Translation and/or meaning |
|---------------------------------------|--|
| <i>Bigha</i> | A clay pot (fire cured) of capacity of about 40-60 liters used as grain silo |
| <i>Chalo</i> | Special area or site within the compound of a traditional healers where foretelling/foresight is conducted. |
| <i>Chasa</i> | Throw away. Let something into a deep hole or cave. |
| <i>Chasa-rupia</i> | Throwing rupees into a cave. <i>Chasa-rupia</i> is now the name of one of the buffer forests and a cave within the forest. This name is owed to wabala, the traditional elders who threw rupees in the cave for the purpose of hiding them. |
| <i>Dagho</i> | Big and spacious cave. These type of caves were used as hideouts during wars. |
| <i>Fungo maghona</i> | <i>Fungo</i> is both Swahili and Luguru word for an African civet (<i>Civettictis civetta</i>). The animal is known for having deep sleeps (<i>maghona</i>) during day time in the woods. During rituals, the phrase " <i>Fungo maghona</i> " is used to ask the spirits to let the problems facing an individual or the community sleep as does the civet during day time. |
| <i>Ghanga/Lulambo</i> | A site where prayers for revenge are taking place |
| <i>Isi yosi</i> | Relating to land: big parcel of land |
| <i>Isi yosi ing'ali Mwenye-Kolero</i> | All the land belongs to <i>Mwenye-Kolero</i> |
| <i>Iwabala/Wakulu</i> | Traditional elders |
| <i>Kisesele</i> | Utensil made from gourd (a hollow, dried-out shell from the genus <i>Lagenaria</i> of gourd-bearing vines) used for seeping medicine. |
| <i>Kitala/kutalanguka</i> | Literally, it refers to something difficult. It may be a difficult place to access, or a difficult land to cultivate. <i>Kitala</i> as a cultural site, it refers to the residence of the deity or that of his assistants. It is considered a difficult place to get close to, unless someone is purified by certain rituals. |
| <i>Lubungo mwana-malosa</i> | <i>Lubungo</i> is creeping plant of <i>Landolphia spp.</i> In this area, those growing on river banks have their runners crossing the river forming a thick bunch of vines acting as bridge. Often people would use them as bridge to cross rivers. During rituals, the community uses the phrase " <i>Lubungo mwana-malosa</i> " to praise the spirits as having the ability similar to that of <i>Lubungo</i> , capable of taking an individual or the community across the "river" of problems. |
| <i>Lutamba mwana-maleghezha</i> | <i>Lutamba</i> is plant that is slippery at touch when pounded. It has medicinal value and is used for treating abdominal related ailments. Culturally, the plant slippery property is of important to rituals. The phrase <i>Lutamba mwana-maleghezha</i> is used to appeal the spirits take the slippery property and thus make problems facing the community or individual slip away. |
| <i>Luyosi lulawila kuching'ango</i> | <i>Luyosi</i> is smoke from fire. <i>Luyosi</i> is seen to be very powerful so much that it escapes the house roof (<i>ching'ango</i>) with ease (Thatched roof, however good it might have been made, smoke will escape through it. Spirits are believed to have similar abilities if they have workout on the issues or problems facing community members. |
| <i>Mangani/Kwenye Manga</i> | To the ' <i>Manga</i> ', a place where people deliver problems requiring attention of the Deity. |
| <i>Mghulo/mighulo</i> | Forest(s) |
| <i>Mughongo/Waghongo</i> | Person(s) in a joking relationship |
| <i>Mughongo wa mundamughati</i> | In Luguru culture, <i>Waghongo</i> plays roles in ritual and burial ceremonies. But those who taking important roles on behalf of the family or clan such as leading burial ceremonies or playing the leading role in rituals are supposed to be specially approved. These are called <i>Mughongo wa mundamughati</i> , literally |

| | |
|-----------------------|---|
| | "although they are joking relatives, they are close to the extent they know who we are". |
| <i>Mughu</i> | A cave which is so deep to the extent its depth is not imagined/estimated. Community members are advised not to go close to the cave since if a person slips in, chances of recovering him/her is minimum. |
| <i>Mlunga</i> | Leader and custodian of specific ritual practices |
| <i>Mlunga Mkulu</i> | Main custodian of ritual practices conducted in the sacred forests |
| <i>Munuhela</i> | A stranger |
| <i>Mwiko ghendo</i> | A phrase to insist the seriousness of the taboo. Literary translated as "exceedingly forbidden" |
| <i>Ng'obambe</i> | A spring, especially that is known to have never run dry. |
| <i>Nongo/Chinongo</i> | Clay pots of various use, ranging from those that are used for cooking (capacity 2 to 20 liters) and those used for fetching and storing water (20 to 60 liters capacity). |
| <i>Iwapoghodzi</i> | Special elders among the traditional healers category responsible for collecting medicines from the forests. They have special knowledge required to identify various trees of medicinal and/or spiritual importance alongside parts of plants that provide medicine, and ailments for which the medicines are required |

APPENDIX 2**CHECKLIST FOR THE FGDS WITH VILLAGE COMMITTEES**

| | Checklist for the Focus Group Discussion with Village Land Committee (VLC), Village Environmental Committee (VEC) and combined VLC and VEC |
|----|---|
| 1 | What do you consider to be a forest? |
| 2 | How many forests are within and surrounding Lubasazi village? |
| 3 | How do you categorize forests in this community? Do you have specific use for each category? |
| 4 | How does the community perceive to be the meaning and value of different categories of forests? |
| 5 | What resources are found in land that is primarily forest? |
| 6 | How does the community use the various resources in the forests? |
| 7 | What guides use of resources? |
| 8 | Is there seasonality in terms of forest resources availability and use? |
| 9 | What role does Village Government play in the management of traditional forests? |
| 10 | Does the village government have by-laws that guides use of resources from the forests? |
| 11 | Is there some kind of conflicts between traditional rules and village government by-laws in the management of forest resources? |

APPENDIX 3**CHECKLIST FOR INTERVIEW WITH KEY INFORMANTS**

| CHECKLIST FOR INTERVIEW WITH KEY INFORMANTS (Custodians of Sacred Forests/Custodians of traditions) | |
|--|---|
| 1 | What ceremonies are associated with sacred forests? |
| 2 | What form do they take (individual, group or community-wise)? |
| 3 | How are they organized? (requirements, procedures, invitees and the associated dos and don't |
| 4 | Are there specific persons who lead these ceremonies? How do leadership of ritual ceremonies is passed down to future generation. |
| 5 | Are any of these ceremonies related to asking or praying for specific things the community want? What do people ask/pray for during ceremony? |
| 6 | What traditional rules are associated with sacred forests? |
| 7 | Any other rules for other forests than traditional related forests? |

APPENDIX 4

INTERVIEW SCHEDULE FOR QUANTITATIVE DATA

INTERVIEW SCHEDULE FOR THE STUDY ON THE ROLE OF TRADITIONAL INSTITUTIONS IN FOREST RESOURCES MANAGEMENT IN SOUTH ULUGURU MOUNTAINS, TANZANIA

Interview Date: Interviewer Name:

GENERAL INSTRUCTIONS TO THE INTERVIEWER

For questions with predetermined answers, read all alternatives and write the number corresponding to the answer chosen by respondent.

Please ensure that all questions are read to the respondent and answers recorded.

A. Preliminaries

A1. Ward Name..... A2. Village Name.....
 A3. Hamlet Name A4. Name of Hamlet leader.....
 A5. Name of respondent..... A6. Sex of respondent 1=Male 2=Female ()

| No | Item | Response |
|---|--|----------|
| B. Background information about the respondent | | |
| B1. | What is your age in years? <i>Years....</i> | |
| B2. | Which of the following statements corresponds to your place of birth? (If the answer in this question is (born in this village) skip question *) <i>1= In this village , 2= Not in this village but in this district 3= Not in this district but in this region, 4= Outside this region</i> | |
| B3. | What was the main reason for you moving to this village? <i>1=Looking for arable land 2=Job search, 3=Uncertain weather where I came from, 4=Join a relative, 5=Marriage 6=Others (specify)</i> | |
| B4. | How many years have you actually stayed in this village? <i>Years....</i> | |
| B5. | What is your current marital status? <i>1=Single, 2=Monogamously married, 3=Polygamously married, 4=Widowed, 5=Separated/Divorced, 6=Other (Specify)</i> | |
| B6. | How long have you been with your current spouse (years) | |
| B7. | Kind of marriage <i>1= traditional, 2= government , 3= religious, 4=other (specify)</i> | |
| | Religiosity | |
| B8. | Which religion do you claim allegiance to? <i>1= Traditional, 2= RC, 3=ELCT, 4=ACT, PCcs 5= Muslim, 6= other (specify)</i> | |
| B9. | Do you practice/or attend to any traditional rituals? (ask even those who claim allegiance to modern religion) <i>1=yes, 2=no</i> | |
| B10. | What kind of rites do you normally attend/practice? Rains Year on rites Clans rites others | |
| B11. | Tell me the number of years you have spent in your current religion? <i>Years....</i> | |
| B12. | In your case how many times in a day/week/year do you normally go for worshipping? <i>Number of times per specified period</i> | |

| | | |
|------|--|--|
| | Ethnicity and Clansman ship | |
| B13. | What is your ethnic group/tribe? | |
| B14. | Are both of your parents belonging to this tribe? <i>1=Yes, 2=No</i> | |
| B15. | In which clan do you belong? <i>Respondent gives name of the clan she belongs</i> | |
| B16. | Could you tell me the name of your Clan head? | |
| B17. | Where does the clan head live (village and hamlet) | |
| B18. | To which clan does your father belong? | |
| B19. | <i>(For a male respondent)</i> Could you tell me your specific taboo that you inherited from your father? | |
| B20. | <i>(For a married respondent)</i> To which clan does your spouse belong? | |
| | C. Facilities and access to the outside | |
| | <i>Observe the house and answer questions C1 to C3</i> | |
| 1. | Walls are made of <i>1= Poles and mud, 2= Mud bricks, 3= Burnt bricks, 4= Cement and sand blocks, 5=other (specify) -----</i> | |
| C2. | Roof(s) is made of: <i>1=thatch grasses 2=corrugated iron sheets, 3=roof tiles, 4=concrete sheets, 5= others (specify) -----</i> | |
| C3. | <i>Floor is made of: 1=earth/mud, 2=concrete, 3=tiles , 4= wood, 5=others (specify) -----</i> | |
| C4. | What is your main source of drinking water? <i>1= household connection, 2=public tap, 3= hand pump, 4= traditional well/spring, 5=river 6=others...</i> | |
| C5. | Water availability in the source of water used <i>1= all year round, 2= wet seasons only</i> | |
| C6. | What is your main source of energy for lighting <i>1= Solar elect, 2= paraffin, 3= candles, 4= firewood, 5= others (specify) -----</i> | |
| C7. | What source of energy for cooking do you use? <i>(1=Yes, 2=No)</i> | |
| | a) collected firewood | |
| | b) purchased firewood | |
| | c) made charcoal | |
| | d) purchased charcoal | |
| | e) paraffin | |
| | f) crop residues | |
| | g) others (specify) | |
| C8. | Do you or anyone in your household own or have access to the following facilities? <i>1=Own, 2=have access, 3=don't have access</i> | |
| | a) Cell phone | |
| | b) Radio | |
| | c) Video/TV | |
| | d)Bicycle | |
| C9. | What mode of transport do you normally use going to weakly markets? <i>1=On foot, 2=Bicycle, 3=Hired Motorcycle, 4=Owned motorcycle, 5=Vehicle, 6=Others (specify).....</i> | |
| C10. | How often do you hire a motorcycle as a means of transport for various reasons including going to health facility? <i>1=Not at all, 2=at least once a month, 3=up to 4 times a month, 4=more than four times a month</i> | |
| C11. | On average, how many times in a year would you say you go to towns such as Dar es salaam and Morogoro | |
| C12. | On average what period of time (in days) you spend up on visiting Dar or Moro | |
| C13. | How many times in a year would you say you visit such towns as Dutumi or Mvuha | |
| | | |

| D. Perceived condition of forest resources | | | |
|---|--|------------------------|-----------------------------------|
| D1. | Have you been to Mandeni and Uhamvi forests? <i>1=yes, Mandeni only, 2=yes, Uhamvi only, 3= yes to all, 4= no to all</i> | | |
| D2. | <i>(If yes in any of the above)</i> For what reasons do you visit any of the forest(s)? <i>(1=Yes, 2=No)</i> | | |
| D3. | <i>(If the respondent was visiting the forest for resources eg wild foods, materials, hunting)</i> Compare availability of resources that you have been going for between 10 years ago and now. <i>1=No change, 2=Now reduced, 3= Now increased</i> | | |
| | | D2 | D3 |
| | a) Medicinal reasons | | |
| | b) Rituals | | |
| | c) Materials for housing/art craft | | |
| | d) Recreational reasons | | |
| | e) Collecting Wild foods | | |
| | f) Hunting | | |
| | g) Others (specify)... | | |
| | | | |
| D4. | What about the resources you have been visiting the forests for, are they still available as it was in the past 10 years? <i>1=Yes, 2=No</i> | | |
| D5. | Are there resources that either you personally knew them, or you heard of them that was in the forests that can hardly be seen/found now? <i>1=Yes, 2=No</i> | | |
| D6. | <i>(if yes in above)</i> Mention them in the order of most hard to find/see a) b) c) | | |
| D7. | In general terms, which village forest between Mandeni and Uhamvi would you say its resource condition is as intact say as 10 years ago? <i>1=Mandeni is, 2= Uhamvi is, 3= All are, 4= all are not.</i> Why?..... | | |
| D8. | <i>(If one resource is said to be less intact)</i> What makes it less intact? Mention resources that are not in it yet can be found in the more intact forest a) b) c) | | |
| E. Compliance to Traditions | | | |
| E1. | For the following people in your village,(i) please estimate, on average, the number of times in a month you meet them for any socially related issue/problem and (ii) indicate their importance to you by giving them a score of 0-3. <i>0=not important, 1= somehow important, 3= important.</i> | | |
| | | i) Meeting times/month | ii) Score of perceived importance |
| | a) Clan leader | | iii) Reason for score |
| | b) traditional healer | | |
| | c) initiation rite instructor | | |
| | d) custodians of the traditions | | |
| | e) religious leader | | |
| | f) Hamlet leader | | |
| | g) Village leader (chairperson/veo) | | |
| E2. | Have you ever been to any of the village forests for any reason? <i>(1=Yes, 2=No)</i> | | |
| E3. | For the following village forests, indicate whether you have been to, the reason(s) for being there and whether special permission was granted to you to | | |

| | | | |
|-----|---|-------------|-----------------------|
| | go there? i) Been there (<i>1=Yes, 2=No</i>) ii) Reasons: <i>1= Ritual related, 2=Building materials, 3=Medicinal purposes, 4=Wild foods and/hunting, 5=Leisure, 6= Others.....</i> iii) Permission sought from: <i>0=Not sought, 1=Traditions men, 2=Village govt, 3=Clan leader, 4=Hamlet leader, 5= Others.....</i> | | |
| | | i) Been to? | ii) Reason(s) |
| | | | iii) Whose permission |
| | a) Mihange (Bungu) | | |
| | b) Kitala (part of Mandeni) | | |
| | c) Mandeni (outside kitala) | | |
| | d) Pango (Any) | | |
| | e) Uhamvi | | |
| | f) Charupia | | |
| | g) Others | | |
| | | | |
| E4. | <i>(For a person indicated that has not been to Mihange/Kitala)</i> Could you tell me why haven't you been to Kitala/Mihange? Reasons: | | |
| E5. | <i>(For a person who indicated that he/she has been to Mihange/Kitala)</i> Do you adhere to taboos associated with entry and practices inside Kitala and/Mihange? 1=yes, 2=no | | |
| E6. | <i>(If no)</i> Why aren't you adhering to the traditions associated with entry and practices? Give at least one main reason? Reasons: | | |

Thank you for your time