CONTRIBUTION OF THE CIVIL SOCIETY IN CONSERVATION OF THE ULUGURU MOUNTAINS, MOROGORO, TANZANIA

BY

HEZRON KIBAUN SANGA

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ABSTRACT

The aim of this study was to assess the contribution of the civil society in the conservation of the Uluguru Mountains. The specific objectives were to (i) assess the type and number of civil societies and their conservation activities in the Uluguru Mountains, (ii) identify constraints to conservation efforts and (iii) assess perceptions of the community on the contribution of the civil society in conservation of the Uluguru Mountains. Structured questionnaires supplemented by Focus Group Discussions (FGD) were used to generate the necessary information; Secondary data were obtained from the Sokoine National Agricultural Library (SNAL). A total of 40 civil society organizations were identified to be operating in the Uluguru Mountains, out of which 27 (67%) were reported to be actively involved in conservation activities in different areas of the Uluguru Mountains. These activities range from tree planting for economic gains (fruits, ornamental and timber), soil erosion control and soil and water conservation. The most popular conservation activity in this area was tree planting and agroforestry. About 83% of the respondents are aware and plant trees and practice agroforestry for conservation. About 50% of the respondents felt that lack of education on the conservation of the Uluguru Mountains is the major constraint to conservation. About 58 % of respondents had the impression that the level of success of civil societies in conservation of the Uluguru Mountains was moderate. It is concluded that civil societies have a significant contribution towards conservation of the Uluguru Mountains though not well known by stakeholders. Further the major conservation activity seems to be tree planting. This study recommends updating and maintaining current inventory of Civil Society Groups working in the Ulugurus and strengthening conservation education to improve the conservation initiatives by the local people.

DEDICATION

This thesis is dedicated to my parents, my mother Andamigwe Leah Fungo and my late father Kibaun Joel Waponile Sanga for their support of my early education.

DECLARATION

I, Hezron Kibaun Sanga do hereby declare to the Senate of Sokoine University of Agriculture that this dissertation is my own original work and that it has neither been submitted nor being concurrently submitted for degree award in any other institution.

_____ _____

Hezron Kibaun Sanga Date

The above declaration is confirmed

_____ _____

Prof. P. K. T. Munishi Date

(Supervisor)

_____ _____

Dr, J. R. Kideghesho Date

(Supervisor)

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LIST OF ABBREVIATIONS

CBOs	Community Based Organizations
CBFM	Community Based Forest Management
CDM	Clean Development Mechanism
CEPF	Critical Ecosystems Partnership Fund
CMMUT	Chama cha Mazingira na Maendeleo kwa Umma
CSOs	Civil Societies Organizations
DANIDA	Danish Agency for International Development
DAS	District Administrative Secretary
DSI	Development Studies Institute
EUCAMP	Eastern Usambara Conservation and Management Project
EWS	Executive ward Secretary
FGD	Focus Group Discussion
FINNIDA	Finnish Development Agency
GEF	Global Environment Facility
HACOCA	Haruma Aids Concern and Care
HAMU	Hifadhi Ardhi Mazingira na Ufugaji
HIDA	Highland Development Association
IRTECO	Irrigation Training and Economic Empowerment Organization
Km	Kilometre
m.a.s.l	Meters above sea level
MAI-TZ	Mazingira Institute of Tanzania
MECA	Morogoro Conservation Environmental Conservation Action Group
MEDEFO	Morogoro Sentimental Development Foundation
MMO	Morogoro Mazingira Organization
MNRT	Ministry of Natural resources and Tourism
MOECO	Morogoro Environmental Conservation organization
MWAMKUMTA	Mtandao wa Kuhifadhi Mazingira Tarafa ya Mkuyuni
MWAP	Morogoro Women Development
NGO,s	Non Government Organizations
NWMP	Natural Woodland Management Project
PANTIL	Programme for Agricultural and Natural Resources for improved livelihoods
PFM	Participatory Forest Management
SMPS	Sustainable Morogoro Programme Support
SNAL	Sokoine National Agricultural Library
SPSS	Statistical Package for Social Sciences
SUA	Sokoine University of Agriculture
SWG	Solidarity Women Group
TAHEA	Tanzania Home Economics Association
TESCO	Tanzania Environmental an Sanitation Conservation
TFCG	Tanzania Forest Conservation Group
TLPs	Tanzania Leaders Privileged Services

Tsh.	Tanzania Shilling
TWPF	Tanzania Wildlife Protection Fund
UMADEP	Uluguru Mountains Agriculture Development Project
UMBCP	Uluguru Mountains Biodiversity Conservation Project
UMF	Uluguru Mountains Forests
UMTS	Uluguru Mountains
UNEP	United Nations Environmental Programme
UNFM	Udzungwa Mountains Forests Management
WB	World Bank
WCST	Wildlife Conservation Society of Tanzania
WEETU	Wings Environmental and Education Transformation Unity
WEO	Ward Executive Officer
WRM	World Rain Forests Movement
WWF	World Wildlife Fund

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background Information

The Uluguru Mountains are located in eastern Tanzania, rising steeply from the dry coastal plain to an altitude of 2600 meters above sea level approximately 100 km long by 20 km wide and isolated from other mountains by tracts of lowland savanna woodlands (Hymas, 2000). At higher altitudes, and especially within a number of Forest Reserves, tropical montane forest is found. This forest is of global importance for bird conservation and for the conservation of other species of flora and fauna. Tropical lowland forests are also found in a few remnants on the eastern margins of the Uluguru range, and this also has high conservation importance. Po'cs (1998), Hymas (2001a) and Nkombe (2008) reported that biological importance of the Ulugurus was due to the presence of numerous species which are either entirely confined to this mountain, or which range a little more widely in a number of similar isolated mountains in eastern Africa .

Po'cs (1998) and Hymas (2001b) reported that, the importance of the Uluguru forests cannot be overstated. Their future is also the future of Tanzania as a whole. For it is here that the water used in Dar Es Salaam starts its long journey. Other results, Young and Fosbrooke (1960); Temple (1972); Pócs (1974, 1976, 1998), have indicated that, the forests of the Uluguru are important water catchments with high potential for water conservation and flood mitigation. Rapp and Temple (1972, 1973) and Hymas (2000) reported that Uluguru Mountains are also important repository of biodiversity which though is threatened due to forest degradation on the slopes of the mountains with the lower altitude forests being at a higher risk of degradation. Hymas (2000) and Nkombe,

(2008) indicated that Uluguru Mountains have faced intense degradation pressure mainly from agricultural expansion and fire. Po'cs and Nkombe (1980) found that farms extend up to the border of the reserve, with very little public forest found outside the reserve.

Myers *et al.* (2000) and Brooks *et al.* (2002) reported that Uluguru Mountains are among the world's 25 biodiversity hotspots housing a variety of plants and animals, and among the worlds 11 hotspots which are facing threat of extinction. Broekhoven and Gathara (1995) indicated that despite the fact that reduction of natural forest may partly be compensated for with an increase in tree cover on farmland and in plantations in some areas, this type of tree cover does not offset the threat to biodiversity, which accompanies the decrease of natural forest area.

There have been several conservation interventions in the Ulugurus including government instituted laws especially with regard to forestry and water as well as bylaws that generally seek to protect the environment from degradation (MNRT, 1998). Furthermore, the formation of village environmental committees has strengthened conservation on the Ulugurus. Several players including civil society organizations have been key to the conservation of the Ulugurus though their role and extent of efforts are not well documented.

1.3 Problem Statement and Justification

The Uluguru Mountains have been under constant degradation and several key players including civil society organizations are known to play major role in conservation of the Ulugurus. Despite concerted conservation efforts by these organizations (CSOs), which augment government efforts in the conservation of the Uluguru Mountains, degradation in

Uluguru Mountains is still noticeable. While the civil society organizations are known to play key role in the conservation of the Ulugurus, their role and extent of their efforts are not well documented. Quantification of conservation efforts by various actors will likely act as a basis for re-assessment of the conservation measures and approaches and possible corrective measures to ensure success. Furthermore, the results will give an insight into the extent to which different conservation groups address the problems of land degradation and thus informing policies on the role and obligations of these groups.

1.4 Objectives of the Study

1.4.1 General objective

The general objective of the study was to assess the contribution of the civil society in the conservation of the Uluguru Mountains.

1.4.2 Specific objectives

The specific objectives of the study were to:

(i) Assess the type and number of civil society organizations and their conservation activities in the Uluguru mountains

(ii) Identify constraints to conservation efforts and

(iii) Assess perceptions of the community on the contribution of the civil society in conservation of Uluguru Mountains

1.5 Research Questions

1. What are the civil society organizations working for conservation in the Ulugurus?

2. What are the conservation activities carried out by the civil society organizations?
3. What are the constraints to conservation of Uluguru Mountains?
4. What are the local people perceptions on Civil Societies (CSOs) contribution to conservation of the Uluguru Mountains?

CHAPTER TWO

2.0 LITERATURE REVIEW

CSOs have been recognized in many countries globally to play a great role in conservation of the environment. WRM (2002) indicated that in North and South America, Asia, Europe and Africa, Community Based Forest Management (CBFM) has approved to be fruitful in conservation of biodiversity.

Ostrom (1990) and WRM (2002) have indicated that in the tropics wherever there is good condition of forest there is local community living there because they need them for their survival and hence they use it sustainably. The clear solution for the forest crisis is therefore to empower the local communities and create a necessary condition to manage the forests adequately. Luoga *et al*. (2006) indicated that making people living nearby the forests whereby the guardians of forest resources in the neighbourhood appears to be the most viable, effective, cheaper and long lasting method to manage natural forest resources. Under the best consideration/right conditions such as appropriate incentive structures, these people are likely to become the strongest and most effective mangers of the natural forests at low cost.

DANIDA and WRM (2002) reported that the current disaster generated by state and corporate driven activities in forests shows the need to change course and to put forest management back again in the hands of local communities. The industrial model has clearly failed to ensure forest conservation, while community-based approaches show that the improvement of peoples' livelihoods is compatible with the sustainable use of forests. Braton (1989) indicated that the intensity and extent of the problem of land degradation

and other socio- economic problems in Africa and the limited resources to stop it, the affected African governments have always been given tremendous support by international donor community directly, and of more recent through civil society organizations especially CSOs. Bujiji (2000) reported that since mid 1980s CSOs have been playing major contributions in influencing environmental conservation. Other results, Virtanen (1991); Vivian and Ghai (1994 and King and Chandler (1997) have found that CSOs have been actively doing an important functions of addressing the problem of land degradation in Africa through afforestation and communal lands management programmes and Mundy (2006) indicated that in many instances recorded success in various locations. Other results, Fowler (1991) and Clarke (1996), Howlett and Nagu (1997) and Hamilton (1998) have indicated that Civil societies successful performance in land conservation initiatives has been associated with their participatory approaches which fundamentally ensure involvement of beneficiaries in development project planning and implementation. Ostrom (1990) found that common good resources can be cared much better by the community if the latter is given mandate to own them. Ostrom (1990) argues that generally we advice to privatize the resources or make it state property with uniform rules to safeguard common good for community, But, sometimes the people who are living on the resource are in the best position to figure out how to manage it as a commons in a better sustainable way.

Lovett and Po'cs (1993), Marche and Ruvuga (1994) indicated that in Tanzania, CSOs have been playing major contributions in areas ranging from basic education to health care from social welfares to agricultural extension, and to environmental conservation, although literature on their involvement in these conservation endeavours is still not readily available. Broekhoven and Gathara (1995); Buckley and Bhatia (1998) indicated

that a number of international organizations have been involved in conservation efforts such as Global Environment Facility (GEF), United Nations Environmental Programme (UNEP), the World Bank (WB) and the Critical Ecosystems Partnership Fund (CEPF). Governments and Civil Society Organizations (CSOs) around the global are struggling to prevent further environmental damage. Some of the organizations in Tanzania undertaking such initiatives include the World Wildlife Fund (WWF), International Union of Conservation for Nature (IUCN), CARE, and Wildlife Conservation Society of Tanzania (WCST). Other organizations include, Danish Agency for International Development (DANIDA), Eastern Usambara Conservation and Management Programme (EUCAMP) funded by FINNIDA, Community Based Natural Woodlands Management Project (NWMP), Udzungwa Mountains Forests Management (UMFM) and Tanzania Forest Conservation Group (TFCG).

Mvududu and SIDA (1993), Vivian and Ghai (1994) reported that CSOs in developing countries have been appreciated of being instrumental in land conservation initiatives. The conservation of the environment is crucial for the maintenance of biodiversity and pre-empt the risk of compromising the needs of future generations. Land cover and forests are universally important in housing the components of biodiversity. However, these are increasingly being degraded mainly through anthropogenic activities. Despite the efforts made by a number of NGOs and Community Based Organizations (CBOs) to conserve the Uluguru Mountains, the mountains are still being degraded and due to population increase, among other reasons. When the population increases the anthropogenic (human) activities also increase therefore more pressures on the resources such as forests, land and water sources.

DANIDA (2002) indicated that before independence the authoritarian British system of forcing the Luguru tribe in the steep slopes of the mountains to practice improved agriculture was rejected and demonstrated by setting fire on the mountains. The conservation efforts continued even after independence through various institutions. In the 1980s CSOs were established to augment government effort of bringing to practice the concept of environmental conservation among the local communities.

Lister and Nyamugasira (2003) and WWF (2006) indicated that Tanzania has since 1990s encouraged Participatory efforts to ensure proper conservation of forests after collapse of command and control. Participatory Forest Management (PFM), Community Based Forest Management (CBFM) and recently introduced Equitable Payments for Watershed Services (EPWS) in the Ruvu Upper water catchments in Matombo side are case studies for consideration when we address importance of Civil Societies Organization on conservation. WWF (2006) and Tjønneland and Dube (2007) found that the concept of payments for environmental services (PES) has received a substantial interest to natural resource managers by creating incentive measures to local communities surrounding the natural resources. WWF (2006) indicated that the basic principle to those who offer environmental services by conserving natural ecosystems are compensated the beneficiaries of the service. Kajembe et al. (2000) indicated that CBFM at Duru – Haitemba conservation of the degraded environment was successfully rehabilitated or regenerated into intact forest reserve boundaries and managed by villagers at a minimum cost.

2.1 Advantages and Disadvantages of Civil Societies (CSOs)

Interventions which are people centered normally become successful, but if they are imposed from top down system they do not succeed (Masud and Yontcheva 2005). In Costa Rica, Evans (2006) indicated that NGOs and other related organizations contributed more than 25 % of the efforts of making the country environmentally successful and sound including the implementation of the Kyoto Protocols Clean Development Mechanism (CDM). Levine (2008) reported that CSOs in Zanzibar managed to conserve the sea species which gave rise to the increase of the sea products hence better livelihoods. Among the advantages of CSOs includes having common view points on environmental conservation issues, sharing local experiences from different location in the world such as in Cameroon there are efforts to balance between Community Forests and logging Companies, in Tanzania there are efforts to conserve the environment through Traditional knowledge in forests restoration and providing community approach to relevant issues such as Community Based Forest Management where forests are for the people who sustain the forests (WRM, 2002). Through CSOs world wide, Community Based Forest Management is an example whereby people realize their efforts of unity in conserving the natural resources and benefiting from it. The poor community in the South – North relationship shows that only Community Based Forest Management can withstand the powers of the North (Rich Nations) as Kothari (2002) put it " Ah so while poor communities are expected to take action to restrict their meager consumption, the rich will only be obliged to 'become aware' of their consumption. And then maybe, once they are aware, they will be nice enough to reduce their impact on the world". Disadvantages of CSOs among many, includes some of them being used by proprietors for their individualistic interests other than conservation per se. They are involved in political

arena, economical gain in many aspects. Ostrom (1990) indicated that most people, when presented with a resource problem, can cooperate and act for the common good.

2.2 Non Governmental Organizations in Africa

On one hand Baton (1989) traces the existence of NGOs in Africa from pre-colonial period. The author argues that during pre-colonial period, NGOs existed in form of organised collective action based on social network kinship and extended family whose major objective was to ensure its means of subsistence (Bujiji, 2000). On other hand, during colonial period NGOs existed in the form of churches and missionary societies which became principal providers of particulary health and education services, since the colonial states stood aloof from rural development and concentrated essentially on regulartory functions of law and order. Braton (1989) indicated that immediately after independence in the 1960s African states introduced conventional development models in which the states themselves assummed directly the responsibility of bringing socio economic development and adopted approaches based on top – down planning strategy that would produce major changes and improvement in the well being of the poor ordinary citizens. Balogun (1998) indicated that post – independence African states, most of them weakened traditional, social and cultural organizations in bringing social development by the top down approaches. NGOs were weakened, dwindled and experienced natural death.

Other results, Braton (1989); Fowler (1991); Marcussen (1996) and Balogun (1998) have indicated that ex post evaluation of the development strategy carried out later, revealed that after two or so decades of central planning and direct state involvement in development process, most African governments showed limited ability to provide social services and respond to felt needs of the poor particularly at rural grass – roots community

level. Other results, Wellard and Copestake (1993) have indicated that NGOs' broad objectives are of three types, sometimes overlapping within a single organisation: service provision, initially focussing on relief activities, but now more development in character, organisation building with local communities to identify problems and organise local efforts to solve them and support and advocacy functions which include lobbying at local, national or international levels, and the provision of back up such as research and policy analysis to other NGOs.

Currently there are different Civil Societies (CSOs) working on conservation of the environment in Tanzania. The lack of empirical evidence of NGO's financial performance leaves a substantial gap in the literature on the effectiveness of NGOs services. White and Eicher (1999) found that this gap poses a pressing need for cost benefit comparisons of NGOs and the public and private sector organizations engaged in conservation support services.

2.3 Relationship with /between civil societies and among other development partners

Relationships with farmers/residents for conservation Civil Societies (CSOs) are often community based and have good linkages with residents. Heinrich and Modiakgotla, (1993) found that CSOs have access to funds other than government sources, trained and well motivated personnel. Farrington and Bebbington (1993) found that Civil Societies (CSOs) are well equipped to overcome some of the constraints faced by formal research and conservation services, and in many parts of the world, CSOs have succeeded in working with farmers to develop acceptable technology. The contribution played by CSOs and other grassroots organizations in providing extension/conservation services are recognized by farmers. However, their achievements have not been thoroughly assessed to justify them as alternative extension providers in addition to relevant government

ministries (Sicilima, 1997). Under the present environmental policy in Tanzania the government recognized the role of other development partners and is aware that the government cannot alone overcome conservation challenges and accomplish conservation without incorporating other stakeholders including CSOs due to financial constraints. It is well known that CSOs contribute significantly to government development efforts. However, Heinrich and Modiakgotla (1993) indicated that to ensure CSOs effective participation at local level, a system needs to exist which allows their activities to be consistent with and, if both sides agree, integrated into government efforts.

2.4 Conservation Activities

A conservation activity refers to direct and indirect conservation activities. Establishment of tree nurseries and tree planting; agro forestry, bylaws to prohibit bush fires, tree cutting without proper permission and ban to encroach reserve forests are examples of direct environmental conservation. Beekeeping and provision of education on the importance of environmental conservation are models for indirect environmental conservation. Levine (2008) reported that in Tanzania, conservation efforts recognizes the involvement of local communities in conservation activities.

Gender participation in conservation activities is crucial. The gender imbalance is now being recognised in many national strategies. In addition the ‘Women Advancement and Gender’ Policy (2001) emphasises the importance of gender mainstreaming in all sectors. Gender is a cross cutting issue which can be manifested in various activities including conservation of the environment. UMADEP participated fully in the conservation of Uluguru Mountains through modern agriculture. Shenduli (1998) reported that UMADEP started in late 1980s as a project to uplift the livelihoods of the Luguru tribe along Uluguru

Mountains with the main purpose to increase household incomes of the small scale farmers in a sustainable way. A number of local farmers are developing small-scale tree nurseries and woodlots on the mountain slopes. The project concluded that these were much more likely to provide local supplies and assist in reforestation of the mountains than the large government owned nurseries in town. The support could make a big difference to their ability to grow trees and encourage others to follow suit. Buckley and Bhatia (1998) indicated that WCST and UMADEP were working together on a small project to provide assistance. Buckley and Bhatia (1998) indicated further that one lesson from conservation projects elsewhere are that success cannot be achieved overnight. Long term commitment, in excess of that provided by many funding agencies is required. The commitment to sustainable development demonstrated already by the communities in the Ulugurus through a range of self help projects, and the close co-operation of agencies from different sectors offers some hope for the bush shrike and other inhabitants of these spectacular forests.

CSOs have empowerment of smallholder farmers as one of the key objectives and train and organize farmers to increase their skills to control their environmental hazards which impede their development. However, White and Eicher (1999) found that with little empirical evidence to support or refute their claims, researchers have generated literature largely comprised of unqualified generalizations and consistent praise for CSOs effectiveness.

2.5 Conservation Constraints

Conservation constraints refer to obstacles of environmental conservation. It encompasses different barriers such as poverty, lack of formal and environmental conservation

education, lack of financial support to conservation programmes, low level of readiness/awareness or perceptions of the local community on the importance of conservation for their day to day existence and for the future of their young generation. Conservation efforts have success and failures, strengths and weakness. Conservation efforts have been facing obstacles from opposition people (the anti conservationists). These are those who are benefiting by exploiting the environment such as cutting trees for timber, firewood, poles, charcoal making among others. Bonhomme (2005) found that in Russia, for example, after revolution in 1917 the new government sought to increase the state control over Russia's forests, yet the Soviet conservation efforts soon were undermined by opposition of local forest users. Evans (2006) indicated that in Costa Rica, though there are many success stories on conservation efforts yet was blamed by local poor people who lack land for farming which had been allocated for conservation.

In Tanzania, local NGOs depend on international NGOs for their day to day performance. Government also gets support for conservation of the environment from international development partners and hence seems to compete with local NGOs for funds. Lisu *et al*. (1998) indicated that the Wildlife Policy suggests that society exists to serve the government, rather than vice versa. MNRT (1998) indicated that the policy calls for the public to support government efforts in the conservation and management of wildlife resources.

Consideration of how the role of CSOs in policy dialogue might be enhanced requires an understanding of some of the constraints presently faced by CSOs in carrying out these functions. Christian Aid and DFID (2001), Lister and Nyamugasira (2003), Hermele (2005), Moore (2006) and Tjønneland and Dube (2007) found that some of the constraints

in conservation included capacity limitations on the part of CSOs, governments and elected bodies such as parliaments, poor quality or unavailability of statistical data, limited, or delayed, access to policy documents or other public information, limited opportunities for ongoing substantive discussions, as opposed to pro forma consultations at a late stage and resistance to CSOs as independent assessors and monitors.

MNRT (1998) indicated that the role of local and international NGOs is to support the government financially and technically at all levels, in the conservation and management of wildlife resources. Neumann (1992) indicated that International NGOs and donor agencies have historically been highly involved in wildlife management in Tanzania and that their role has been both direct, through manpower, technical and financial support to conservation agencies, and ideological, through training within conservation agencies in methods, ideals, and philosophies of western nature conservation. The Wildlife Policy envisions that this role will continue in the future. Because Western donors and conservation NGOs have been the source of financial resources and suppliers of technical equipment and personnel, the policy focuses, not unexpectedly, on international NGOs.

Neumann (1992) found that many local NGOs are dependent on the same international benefactors, the government often considers them competitors and acts to marginalize their activities and contributions. Given potential contributions of local NGOs and other parts of civil society to wildlife management, this exclusion calls into question the government's commitment to better management. For the Wildlife Policy to limit efforts of local NGOs and even shut them down on the premise of providing the government with financial and technical assistance negates local NGO support to community-based conservation, benefit sharing and social equity, policy dialogue, and law enforcement. It

also makes it more difficult for them to carry out their duty to protect Tanzania's resources as stated in Article 27 of the Constitution of Tanzania (URT, 2005).

Whether the exclusion of local NGOs will endure given their growing numbers, expanding efforts and assertiveness, including advocacy and monitoring of government decisions and actions, remains to be seen. It also depends on the power of the Bill of Rights in the Constitution which guarantees NGOs fundamental and crucial rights, such as the freedom of association and access to information. Given constitutional provisions, it is the right and duty of Tanzanians interested in wildlife management to become more actively involved whether or not they provide financial or technical assistance to government wildlife agencies.

According to the Uluguru Mountains Biodiversity Conservation Project (UMBCP) (2000) management of the Catchment Forest Reserves (which are the Central Government Forest Reserves) in the Uluguru Mountains, has not been appropriate due to low government capacity in terms of human and financial resources and low level of local communities involvement in guarding these reserves regardless of being close to this asset. Elsevier (2010) indicated that case studied in Eastern Arc Mountains in Tanzania and from Chiang Dao District of the Northern Highlands of Thailand revealed that lack of investment in conservation measures contributes to environmental degradation.

TWPF (1998); Danida (2002) and Kideghesho (2006) found that constraints in conservation of the environment includes severe fiscal deficits, vacant professional and technical positions at regional, district and sub district levels and limited operational budgets. SIDA (1993) and DANIDA (2002) reported that in Tanzania, structural changes

alone cannot solve problems associated with the sustainable management of the natural resources; it implies that environmental degradation can be solved through concerted efforts of the local communities surrounding a particular environment. Other results WRM (2002) and WWF (2006) have indicated that changes in organization cultures and individual behavior to improve governance and accountability in the sector are needed in order to enjoy donor support.

DANIDA (2002 indicated that there was a need to shift the focus of support to PFM away from the central government level and to place great emphasis on local level implementation in order to be inline with the on going civil service, public sector and local government reforms in Tanzania. It was also deemed necessary to put emphasis on the mobilization and capacity building of civil societies to ensure effective expansion of PFM over a wider geographical area.

2.6 Perceptions/Awareness on Environmental Conservation

The local communities and their leaders need to be educated on enviromental conservation so as to raise their awareness. Hageneder (2007) reported that in United Kingdom (UK) an initiative to conserve special oldest Yew Trees over 1000 years had been given more support since 1987. Since then the campaign has raised awareness of antiquity and the contribution the Yew trees have played in British history. Hageneder (2007) reported further that Yew trees are highly depleted in India and North America at a rate of 90 % while in UK 80 – 85 % of the preserved trees are found in church yards. The campaign to conserve Yew Trees created awareness to community around the historical plants that they did not dare to cut them until they reached 1000 years plus.

In Tanzania, Iringa in particular the Community Based Natural Woodlands Management Project (NWMP) trained local communities and district council officers to raise awareness and conservation capacity (www. easternarc.org, 2008). In Tanzania, the Luguru ethnic group on the Uluguru Mountains has different perception on environmental conservation. Nkombe (2008) found that critical information on the uses of the forest by the local people, their attitudes to forests conservation and the pressures they face is still scanty for the Uluguru Mountain forests area which is a serious barrier to their effective conservation.

Rodgers and Homewood (1992), Kaoneka and Solberg (1994) and Rodgers (1998) indicated that in Tanzania, after independence interested parties in conservation of environment began to recognize importance of working with local people as partners. In East Usambara logging was stopped by government as an effort to conserve the forests. Rodgers (1998) reported that much of the capability within the government had greatly decreased. Pressures on land and resources have greatly increased and much of unreserved woody resource has been cleared. This implies that local communities and government institutions perceive conservation of the environment as a responsibility of someone employed for the purpose of safeguarding the resource. Rodgers (1998) compared the numbers of 57 staff working at Mikumi National Park and Kilosa catchment having only seven staff working on conservation of forests in Ukaguru forests. He raised a question of how government reaches its conservation priorities. It seemed that Mikumi National Park was more important than Kilosa catchment forestry staff that were protecting the Eastern Arc Ukaguru Forests, with high biodiversity including plants and reptile endemics species found nowhere else on earth.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Introduction

This chapter introduces methodology used to collect information from respondents in the specified study area. Socio–economic characteristics of the respondents have been considered under this section. This section outline, source and data type, research design, sampling procedure, data collection, data analysis and description of the study area

3.2 Source and Type of Data

The primary data was collected from residents residing along the slopes of the Northern Uluguru Mountains using questionnaire survey. Focus Group Discussions (FGD) and Participant Observation were also used to gather information. Secondary data was obtained from the Sokoine National Agricultural Library (SNAL), Development Studies Institute (DSI) Library at SUA, electronic materials from internet and other sources.

3.3 Research Design

A non experimental research design namely a cross sectional research design was used to conduct the study. This design was preferred due to its high degree of accuracy and easy to administer questionnaires and interviews to different groups at one point in a time. The design is also relatively less costly compared to other designs such as longitudinal survey.

3.4 Sampling Procedure

The purposive and convenience sampling methods were employed for this study. The six wards were purposively selected while the 20 households in each ward were randomly selected.

3.4.1 Sample size

The study selected a sample of 120 households, 20 households in each of the wards. In addition one focus group discussion (FGD) in each ward was conducted. The size of FGD depended on the number of hamlet in each ward. Table 1 indicates the distribution of respondents in their respective wards and hamlets in Uluguru Mountains (UMTS). FGD participants were selected purposely constituting one chairperson from each hamlet and the Ward Executive Officer (WEO) making a total of 32 participants (26 hamlets in six wards). Purposive interviews were conducted to District Administrative Secretary (DAS), Director of the Union of Non Governmental Organization while random sampling was employed to interview Morogoro Environmental Conservation Action Group (MECA) and Hifadhi Ardhi Mazingira na Ufugaji (HAMU) leaders. Questionnaires survey involved 105 respondents (Table 1) which is 88 % of the targeted sample population of 120.

Table 1: Distribution of respondents in six wards in Uluguru Mountains

Name of ward:	Mzinga	Mbuyuni	Mlimani	Boma	Kilakala	Bigwa
a) Hamlets	Kivaza 5 Mambani 6 Mundo 4 Kilala 4	Mgambazi 2 Mkoya 3 Kididimo 2 Magadu 2 Forkland 3	Choma 9 Kisosa 3 Mng'ung'o 3 Kikundi 1	Kibwe 9 Visole 8 Mzigira 7	Chalumbi 4 Bigwa sokoni 2 Bong'ora 3 Nugutu 5	Bihomela 4 Vituli 4 Kologoso 4 Mongi 4 Mgolole 4
b) Total	19	12	16	24	14	20
Distribution No. of (FGD)	5	6	5	4	5	6

3.5 Data Collection

3.5.1 Primary data

In order to solicit background information from pre-testing of the questionnaire was done to test validity and reliability of questions using 20 respondents. Thereafter, the questionnaire was amended for use to a wider coverage of six wards.

3.5.2 Household survey

Closed ended questionnaires were administered to households' heads to gather respondent's perception about CSOs contribution to environmental conservation, activities and their roles in conservation of the Uluguru Mountains. Basic information on respondents such as source of income, education, gender, marital status, household size, ethnicity, farming or livestock keeping was included in the questionnaire.

3.5.3 Interviews

Purposive sampling was employed in conducting interviews to leaders responsible with environmental conservation in the Uluguru Mountains (UMTS). The interviews were administered to District Administrative Secretary (DAS) and some civil society leaders. DAS was interviewed because all CSOs operating under his/her area of jurisdiction are registered with DAS. Interviews to DAS contained questions aimed at updating the

environmental conservation CSOs inventory in Morogoro District. Interviews to Union of Non Government Organizations Director contained questions on the contribution of Civil Societies on conservation of the Uluguru Mountains. Interviews to Civil Societies (CSOs) leaders contained questions on their organizations functions as regards to conservation of the Uluguru Mountains. Morogoro Environmental Conservation Action (MECA) group and Hifadhi Ardhi Mazingira Ufugaji (HAMU) leaders were interviewed to represent CSOs. Information on area of operation of their organization was contained in the interview schedule.

3.5.4 Focus group discussion (FGD)

FGD contained checklist of items for discussion with leaders at hamlet level in the six wards. There were 26 hamlets which formed six FGD by purposively selecting one respondent from each hamlet. Executive Ward Secretary (EWS) was included in the FGD. FGD was used to collect qualitative information and verify findings of household survey. FGD employed guided questionnaires.

3.5.5 Participant observation

Observation was employed in getting information on conservation activities which were being carried out in the six wards.

3.5.6 Photographic evidence

Photographs were taken to collect information at particular incidence in the six wards. Several photographs were taken to show the activities related to conservation as well as the effects of deforestation of the Uluguru Mountains. During the research process, participant observation (Kothari, 2004) was carried out in the six wards under study. There

were photographic evidence of activities related to conservation of Uluguru Mountains (UMTS) taken as shown on plates one, two and three as appendices.

3.6 Secondary Data Collection

Sokoine National Agricultural Library (SNAL), University of Dar Es Salaam, Mzumbe University and other academic institutions, office of the District Commissioner, various project reports such as PANTIL under SUA, other publications and international electronic network were used to obtain secondary data.

3.7 Data Analysis

Data was edited, coded and summarized prior to analysis using the Statistical Package for Social Sciences (SPSS). Descriptive statistics such as frequencies, percentage and averages/means were employed in the analysis. Cross tabulations were used to assess contributions of CSOs to conservation of the Uluguru Mountains.

3.8 Description of the Study Area

Fig.1 shows the studied wards comprising Mzinga, Mbuyuni, Mlimani, Boma, Kilakala and Bigwa. Which lie along slopes of Uluguru Mountains

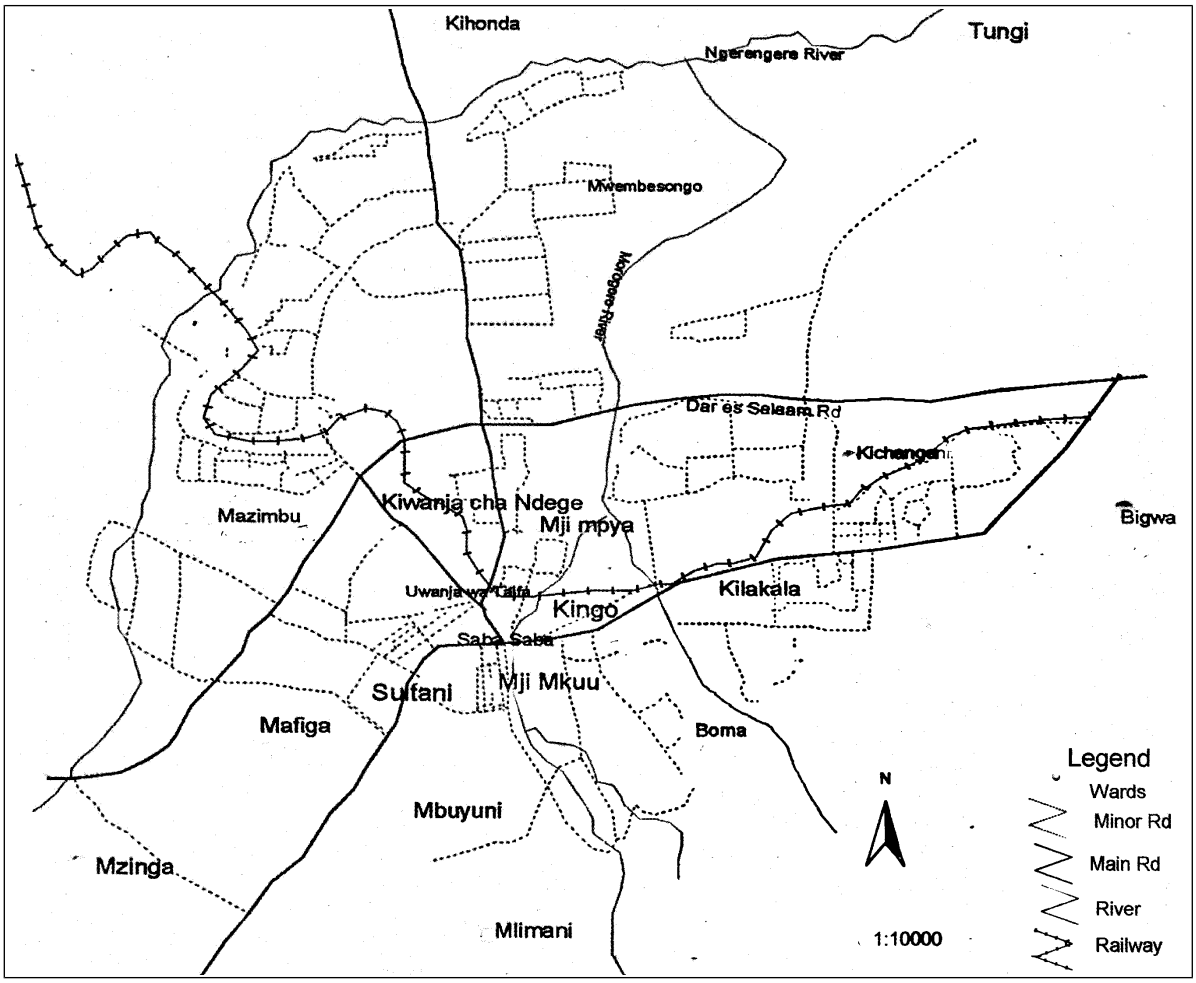


Figure 1: Map of Morogoro Municipality

Source: Final Project Document - SMPS (Danida Support Project) (2001)

3.9 Geographical Location

The study was carried out at Morogoro Municipal. The specific area was the Northern Slopes of Uluguru Mountains in six wards of Mzinga, Mbuyuni, Mlimani, Boma, Kilakala and Bigwa. The area lies between 700 – 2600 metres above the sea level. The Uluguru Mountains Forests lie immediately South of Morogoro town between latitude 7° and 8° South and longitude 37° to 38° East. The Uluguru Mountains Forests (UMF) are covered

by two major reserves, Uluguru North and South forest reserves, which cover the total area of 404 Km^2. (Nkombe, 2008, Lyamuya *et al.*, 1994) Fig. 2.

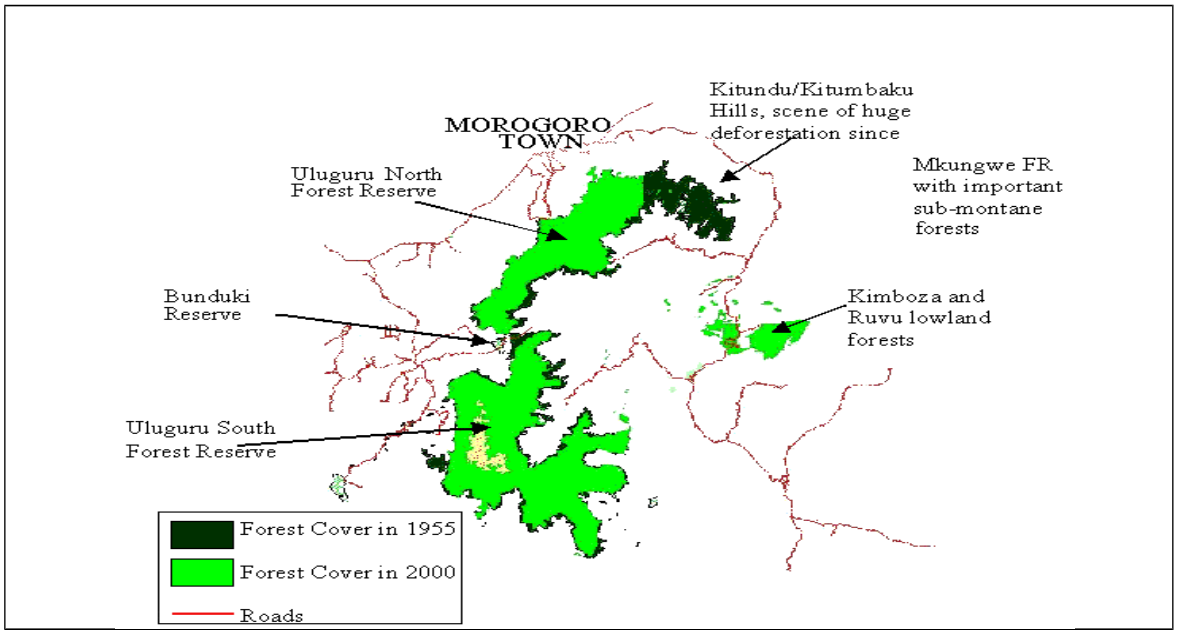


Figure 2: Area under study, the Northern slopes of the (UMTS) Morogoro Municipality.

Source: (www.africanconservation.com/uluguru/statusofbiodiversity.html 2008)

3.10 Demography

URT (2006) indicated that the population projection by 2010 in Morogoro Municipal was 642,412 that constituted 320,839 males and 321,573 females. The population projections show that population growth rate will decrease from 2.3 % in 2003 with a population of 1, 794,815 to 1.7 % in 2025 with a population of 2, 818,784.

3.11 Socio-economic Characteristics of Respondents

The characteristics considered here include age, sex marital status, household size and agricultural practice (livestock keeper or crop grower). Age was taken to associate to conservation activities such as planting of trees.. Sex is important to determine the extent

of conservation activities carried out by both men and women. Marital status is important in determining efficiency in agricultural activities as well as conservation status. A household size determines the area and production from the land. The main crops grown by the respondents determine the farming characteristics and patterns of individuals.

Table 2 shows that majority (44%) of the respondents were aged between 35 and 60 classified as adults. The age between 18 and 35 years classified as youths constituted 24 % of the respondents and are thought to be the most active age group that participates in various activities such as agriculture and environmental conservation. Table 2 shows that out of 105 respondents, four had higher education level-two from secondary education and two from other levels of education coming from Mbuyuni and Kilakala wards. It can be interpreted that some educated residents are settling along the slopes of the Uluguru Mountains.

Table 2 further, indicate that 71 % of respondents are primary school levers; eight per cent adult literates and 13 % non formal scholars are residing in the Uluguru Mountains. Civil Societies (CSOs) are entrusted to educate local communities to recognize the importance of conserving the Uluguru Mountains. Conservation programmes advertised by Civil Societies (CSOs) can not be 100% comprehended by the local communities because 13 % of them are illiterate. Other higher levels of education constituted only four per cent; it implies that there are few local community educators within the Uluguru Mountains. The scholars within the community could educate its residents on hazards of degrading the mountains and the importance of conserving them.Sex identification on Table 2 indicates that men are more than women in the sample survey because men constituted 70 and women 35. Farm work is normally shared between

men and women, but a big share of produce benefit men than women. Luguru women own land and children. Women, for example market bananas down town Morogoro for sale every day. The details of the socio – economic activities of the Lugurus may attract attention of another researcher to look into as a separate study to investigate its relationship with conservation of the Uluguru Mountains.

Table 2 also shows that seventy one per cent of respondents had primary education which depicted that they are depending on the environment for their livelihoods. Government employment requires some one to have at least a form four secondary education, therefore a high percentage of respondents without such education confirm that they are among contributing factors to high rate of environmental degradation of the Uluguru Mountains. In most cases lower levels of education contribute to low income and leads to poverty. If majority of the community along slopes of the Uluguru Mountains are poor then it becomes difficult to spare the environment. Poor people cannot afford alternative source of energy and then they go for cheap source of resources such as charcoal making, collection of fire wood, cutting trees for timber, poles and other related products. Increase of price of alternative energy sources such as kerosene Tsh. 1 385 per litre compare with Tsh. 1 650 of petrol. Other alternative energy sources such as electricity are very expensive even well to do town dwellers do not use for cooking because of high cost. Biogas is good alternative energy source, but for Lugurus who lack cattle it becomes more difficult to produce the fuel for home use.

Table 2 : Socio-Economic characteristics in six wards of Uluguru Mountains

Socio-economic characteristics	Mzinga	Mbuyuni	Mlimani	Boma	Kilakala	Bigwa	Total	Percentag
Age Profile								
18 -35(Youth)	3	4	5	6	3	5	26	25
36 – 60 (Adult)	7	8	10	8	7	6	46	44
61 – 70 (Old)	3	3	3	1	4	4	18	17
Beyond 71 (older)	4	2	2	2	3	2	15	14
Sex								
Male	10	11	15	10	11	13	70	67
Female	7	6	5	7	6	4	35	33
Ethnicity								
Lugurus	15	16	17	15	14	14	91	87
Others	2	1	3	2	3	3	14	13
Education								
Non Formal	2	6	4	1	0	1	14	13
Adult Education	0	0	1	6	0	1	8	8
Primary	15	4	11	15	12	18	75	71
Secondary	2	0	0	2	0	0	4	4
Other Higher levels	0	2	0	0	2	0	4	4

Table 3 shows main crops grown by respondents which are maize, beans, rice, bananas, cassava and coconuts. Hymas (2000) indicated that maize was the major crop grown by most residents (88 %). Bhatia and Ringia (1996) found that the main food crops grown on the Uluguru slopes are maize and cassava and maize is grown everywhere but in different seasons. Coniat *et al*. (1997) reported that maize was grown in over 85 % of the fields either as pure or mixed stands. About 60% of the populations are crop growers while 40%

are livestock keepers. Table 3 shows the number of respondents keeping livestock and that most of them keep chickens. Chickens are easy to keep and sale fairly. Cattle are rarely kept and can be substantiated by the fact that it is difficult to rare cattle on hilly sides of the Uluguru Mountains. Zero grazing practiced by two per cent and it implies that other tribes who are not Luguru are keeping milking cows and goats as a result of various projects {such as SUA projects} at Mbuyuni wards at lower belt of the Uluguru Mountains. Thirty eight per cent of the respondents do not keep livestock. It implies that they earn their living through cultivation of crops such as maize, bananas, cassava and other activities such as hunting and illegal charcoal making, timber and logging.

Table 3, confirms that majority of the ethnic groups living in the Uluguru Mountains are Luguru people. Thirteen per cent of other ethnicity groups living in the Uluguru Mountains may represent other habits which are not common to Lugurus such as pig raring and keeping milking cows. Eighty seven per cent of the respondents reside in the Uluguru Mountains are Lugurus, confirms the habit of the latter to set fire to the Uluguru Mountains.

Table 3: Farm activities carried out in six wards in Uluguru Mountains

Farm activities	Mzinga	Mbuyuni	Mlimani	Boma	Kilakala	Bigwa	Total	Percentage
Maize								
Cultivation	17	15	16	14	20	10	92	88
Mixed Crop	2	2	2	2	2	3	13	12
Livestock Keepers:								
a) Cow	0	0	0	0	1	0	1	1
b) Milking cows	0	0	0	0	1	0	2	2
c) Goats	2	3	1	0	1	2	9	9
d) Milking goats	0	2	1	0	1	0	4	4
e) Chickens	6	10	5	6	8	7	42	40
f) Pigs	1	3	1	0	1	1	7	7
g) None livestock keepers	6	8	7	8	5	6	40	38

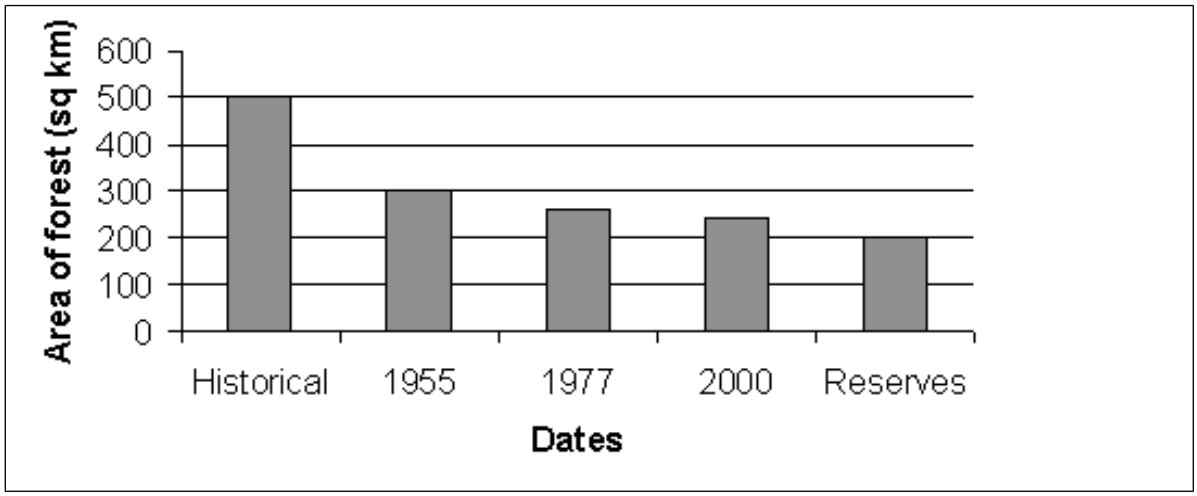
3.12 Climate

In the Uluguru Mountains area, rainfall varies in different places, ranging from 821mm per year at Morogoro Municipality to 1200-3100 mm on the drier western slopes, and 2500-4000 mm on the wetter eastern slopes (Bhatia and Ringia, 1996). There are generally two rainy seasons punctuated by a dry season, although in some parts of the Ulugurus there may be some rains in every month of the year. The long rains usually fall from February to June, with the dry season extending between July and September and the short rains fall from October to January. The area is also characterized by cold weather with a mean maximum and mean minimum temperature of 22^0C and 17^0C, respectively, and much colder than this are high altitudes where frosts may occur in July and August. Mean relative humidity is about 66 percent.

3.13 Vegetation

The study area can be divided into three zones/belts. The first zone is low miombo woodland where a big part is for cultivation and settlements. The second zone is a middle part with a steep rise of mountains where people live and perform human activities. The

third zone is an upper part of the mountains that constitutes a forest reserve where economic activities are prohibited. The UMF reserves are mainly covered with moist forest. Sub montane forest is found on the eastern slopes between 800 - 1500 m.a.s.l. On the western slopes this type of forest is restricted to valley bottoms near the lower edges of the reserve. Montane forest occurs between 1500 - 1900 m.a.s.l. Upper montane forest is found above 1900 m.a.s.l. on wetter slopes and ridges in the cloud belts. This is characterized by stunted elfin forest on the higher ridges. The sub montane forest is dominated mainly by *Albizia gummifera, Aningeria adolfi friedericii, Anthocleista grandiflora and Cephalosphaera usambarensis* (Mwaseba *et al.*, 2000).



Source: (http;//www.africanconservation.com/uluguru/statusofbiodiversity.html, 2008)

Figure 3: Changes in the area of forest on the Uluguru Mountains.

Key: Historical refers to original UMF reserve before colonial period, Reserves refers the latest situation between 2000 and 2007 when the research was conducted.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 Overview

This Chapter outlines results of the study on the contribution of CSOs in conservation of the Uluguru Mountains. An attempt was made to up date the CSOs inventory, their related activities, constraints and perception of the local community on civil society contribution to conservation of the Uluguru Mountains.

4.2 Civil Societies (CSOs) Working in the Uluguru Mountains

An inventory of CSOs operating in Morogoro showed that there were 40 out of which 27 (67%) were reported to be actively involved in conservation activities in different areas including the Uluguru Mountains

Table 4: Civil Societies around Uluguru Mountains

S/N	Name Of Civil Society Organization	Conservation	Others	Status
1	Africa Youth and Orphanage		√	NC
2	Agricultural and Livestock Services of Tanzania	√		C
3	Chama cha Mazingira na Maendeleo kwa Umma (CMMUT)	√		C
4	Chilunga Nature Conservators	√		C
5	Deep Development Foundation	√		C
6	Greenbelt Schools Trust Fund	√	√	C
7	Highland Development Association (HIDA)	√		C
8	HUDESA		√	NC
9	Huruma Aids Concern and Care **(HACOCA**)		√	NC
10	Guardian Centre			NC
11	Irrigation Training and Economic Empowerment Org. (IRTECO)		√	NC
12	Mafiga Women and Youth Dev. Organization (MAFIGA)		√	NC
13	Mazingira Institute of Tanzania (MAI-TZ)	√		C
14	Mazingira ni Uhai CBO	√		C
15	Miombo Bee keepers	√		C
16	Morogoro Environmental Conservation Organization (MOECO)	√		C
17	Morogoro environmental conservation Action Group (MECA)	√		C
18	Morogoro environmental development Foundation (MEDEFO)	√		C
19	Morogoro Women Development Afforestation (MWAP)	√		C
20	Mtandao wa Kuhifadhi Mazingira Iarafa ya Mkuyuni (Mwakumta)	√		C
21	SWG – Solidarity Women Group		√	NC
22	TAGA NGO		√	NC
23	Tanzania Environmental and Sanitation Conservation (TESCO)	√		C
24	Tanzania Home Economics Association (TAHEA)		√	NC
25	Tanzania less Privileged Services (TLPS)		√	NC
26	Umoja wa Wazee Morogoro		√	NC
27	Umwema Group Morogoro Trust Fund	√		C
28	Ungoki Union of Non gov. org. Kilosa district		√	NC
29	UWAKI ‘A’ Umoja wa Akina Mama Kihonda		√	NC
30	Wami Mbiki – Society	√		C
31	WCST – Wild Life Conservation Society of Tanzania	√		C
32	WEETU (Wings Environment and Education Transformation Unity)	√		C
33	Choma Group	√		C
34	Kiwamacho	√		C
35	Lungo	√		C
36	Kibwe Group	√		C
37	HifadhI Nyuki	√		C
38	Zima Moto	√		C
39	Morogoro Mazingira Organization (MMO)	√		C
40	Hifadhi Ardhi Mazingira Ufugaji (HAMU)	√		C

Key: Others = CSOs not directly involved in conservation of Uluguru Mountains
NC = Non Conservation CSOs in Uluguru Mountains
C = CSOs dealing with conservation in Uluguru Mountains

Table 4 shows that about 13 (32 %) of CSOs labeled NC for non conservation were not involved directly with conservation of Uluguru Mountains, they were involved with youth, orphans, women and retired civil servants affairs. 27 (67.5 %) of CSOs were dealing with conservation activities in the Uluguru Mountains. It was observed that about 46 % of the respondents were not aware of the presence of any CSOs working in their localities despite that hamlet/ward offices are supposed to keep record of all CSOs operating in the area (Table 5). It was, however, been learnt that there is poor record keeping on Civil Societies (CSOs) operating in different parts from the national to local level making it difficult to identify clearly the roles CSOs play in different locations. For example though the number of CSOs reporting to the District Administrative Secretary (DAS) after registration in Dar Es Salaam before embarking on conservation activities in the Uluguru Mountains is usually recorded, it was learnt that there are some CSOs who do not report to DAS office and go straight to work in rural areas in the Uluguru Mountains without consulting ward or hamlet leaderships. Major CSO working on conservation of the Uluguru Mountains was the Wildlife Conservation Society of Tanzania (WCST).

Table 5 shows the Civil Societies (CSOs) mentioned and known by local communities to be working in the Uluguru Mountains. The Wildlife Conservation Society of Tanzania (WCST) and Hifadhi Ardhi, Mazingira na Ufugaji (HAMU) are the two major (CSOs) working and most known by majority of the local communities. In comparing the extent of being familiar to Civil Societies (CSOs) by local community living in the Uluguru Mountains, it shows that NGOs are much better known than CBOs.

Table 5: Local people awareness of Civil Societies (CSOs) working in the Uluguru Mountains

Name	Frequency	Percentage
Wildlife Conservation Society of Tanzania (WCST)	20	19
Morogoro Environmental Conservation Action (MECA) Group	1	1
Morogoro Mazingira Organization (MMO)	2	2
Hifadhi Ardhi Mazingira Ufugaji	14	13
Choma Group	5	5
Kiwamacho	4	4
Lungo	1	1
Kibwe Group	8	7
Hifadhinyuki	1	1
Zimamoto	1	1
Not aware of CSOs operating in the area	48	46
Total	**105**	**100**

4.3 Conservation Activities carried out by the Civil Society in the Uluguru Mountains

Different CSOs are involved in advocating conservation activities in local communities including Uluguru Mountains. These activities range from tree planting for economic gains (fruits, ornamental and timber) and conservation purposes such as soil erosion control and soil and water conservation. In all the six wards studied, WCST was observed to play a big role of forming village environmental committees but it did not pay regular visits to assess the progress of the established committees. HAMU was observed to operate at Mbuyuni ward by establishing and running tree and fruit nurseries. Other activities carried out by HAMU civil society was to educate residents on soil conservation and livestock keeping.

There were other institutions such as Sokoine University of Agriculture (SUA) reported to operate in Mzinga and Mbuyuni wards. In Mzinga ward, SUA was observed to have established tree and fruit nurseries for the purpose of environmental conservation and to motivate residents respectively. Other indirect conservation activity observed in Mzinga ward was bee keeping. Residents with big number of planted trees were being rewarded

free beehives to motivate local community to plant more trees. Four winners at every hamlet were rewarded bee hive worth Tanzania shillings 40 000.00 each.

In Mbuyuni ward, SUA was involved in capacity building to the local community training of selected residents. Training conducted involved field visits to Arusha, Babati and Njombe where environmental conservation projects were carried out successfully. The study further shows that (SUA) was an institution which contributed to the conservation of the Uluguru Mountains. The study through various projects including Programme for Agriculture and Natural resources Transformation of Individual Livelihoods (PANTIL), SUA had established a Joint SUA – Mzinga water source intake in Mzinga ward. In order to conserve the intake, SUA established tree and fruit nurseries of which trees are given to residents free of charge to plant around the intake and in the entire ward. SUA also provided projects on milking goats in Mbuyuni ward. The economic projects introduced by SUA in the Uluguru Mountains aimed at generating income to residents and at the same time reducing dependence on the environment for their survival. Reduction of dependence to the environment implies increasing conservation of the Uluguru Mountains and hence balancing the ecosystem and the biodiversity at the same time.

In other wards such as Kilakala, Mlimani, Boma and Bigwa, primary schools were found to have contributed to conservation of the Uluguru Mountains by free planting through school green program/ campaign carried out once annually. The most popular conservation activity in this area was tree planting and agroforestry (Table 6).

About 83 % of the respondents are aware of planting trees and practice agroforestry for conservation.

Table 6: Environmental Conservation activities carried out at ward level in the Uluguru Mountains

Conservation activities	Mzinga (n=22)	Mbuyuni (n=16)	Mlimani (n=18)	Boma (n=14)	Kilakala (n=13)	Bigwa (n=22)	Total (n=105)	Percentage 100
1. Tree planting and agroforstery	15	13	15	12	12	20	87	83
2. Indirect through bee keeping	2	0	0	1	0	0	3	3
3. Practicing terraces or contour agriculture	2	1	0	0	1	0	4	3
4. Provision of conservation Education	02	1	1	1	0	0	5	5
5. No conservation activities at hamlet level	0	0	1	0	0	0	1	1
6. All conservation activities	1	1	1	0	0	2	5	5

There have been different efforts and levels of tree planting under the influence of CSOs activities. Majority (61%) of the people has planted between 0 and 100 trees per individual (Table 7). On the other hand a good proportion (88%) planted between 100 and 300 trees which indicate a good effort towards conservation of the Ulugurus. Continuing this effort and raising capabilities of tree planting and other conservation activities in all the wards

on the slopes of the Uluguru Mountains can greatly revamp the conservation efforts administered by different stakeholders. Most of the respondents along Uluguru Mountains plant trees at small scale implying that trees planted are not in woodlots which could reduce dependency on the Uluguru forest reserves. Few individuals who planted a big number of trees at Bigwa and Mzinga wards have woodlots which are for commercial purposes such as bee keeping for production of honey and for timber.

Table 7: Number of trees planted in six wards in Uluguru Mountains

No. of Trees Planted	Village Mzinga	Mbuyuni	Mlimani	Boma	Kilakala	Bigwa	Total	Percentage
(0 – 100)	6	11	8	20	12	7	64	61
(101 – 200)	2	1	2	1	2	2	10	10
(201 – 300)	10	0	4	3	0	1	18	17
(301 – 500)	0	0	1	0	0	4	5	5
(501 – 1,000)	0	0	1	0	0	0	1	1
(> 1,000)	0	0	1	0	0	6	7	7

Boma ward leads in tree planting efforts among the wards in the Uluguru Mountains. Number of trees planted by respondents from Boma ward range from zero to 100. If maximum range of trees planted by each respondent was 100 then the actual number of trees planted could be 2000. In considering number of trees planted within range of 201 to 300 Mzinga ward leads among the Uluguru Mountains followed by Mlimani ward. Table 7 presents that Bigwa ward leads in planting many trees at a range of 301 to 500 and also at highest level of more than 1000 trees per respondent.

4.4 Constraints in Conservation of Uluguru Mountains

Lack of conservation education is the major constraint to the conservation of the Uluguru Mountains by the local people as pointed out by the local people (Table 8). Other factors

pointed out included traditional agriculture which does not take into account conservation practices, low level of knowledge on environmental conservation, poor extension services from whereby practitioners and CSOs experts meet in ward centers instead of visiting and advising farmers in their farms, land scarcity, corruption that lead to deforestation and unsuitable harvesting of forests, lack of alternative sources of energy.

Table 8: Constraints in conserving the Uluguru Mountains

Constraints in conservation	Mzinga	Mbuyuni	Mlimani	Boma	Kilakala	Bigwa	Total	Percentage
1. Lack of funds for conservation activities	2	3	2	2	2	3	14	13
2. Lack of bylaws on environmental conservation	0	0	0	0	1	0	1	1
3. Poor observation of laws and law enforcement	1	2	3	2	1	1	10	10
4. Poor local people participation	5	3	2	4	3	5	22	21
5. Lack of Conservation Education	10	8	7	10	9	8	52	50
6. No problems on conservation of the Uluguru Mountains.	1	0	2	1	1	1	6	6
7. Traditional agriculture	2	1	0	1	2	0	6	6
8. Poor extension services	1	2	4	2	4	5	18	17

4.5 Perception of community on the contribution of the Civil Societies (CSOs) in conservation of Mountains

About 58 % of respondents had impression that level of success of Civil Societies (CSOs) in conservation of the Uluguru Mountains was moderate (Table 9). On the other hand 39 % of respondents were of the opinion that Civil Societies (CSOs) were not successful in conserving the Uluguru Mountains. These two main perceptions can be substantiated by the fact that almost 50 % of the civil societies were not actively involved in the conservation activities.

Table 9: Respondent's Perception on the Level of success of Civil Societies (CSOs) in conservation of the Uluguru Mountains by ward

Level of success of CSOs	Mzinga	Mbuyuni	Mlimani	Boma	Kilakala	Bigwa	Total	Percentage
Very successful	3	0	0	0	0	0	3	3
Successful	12	9	5	13	12	10	61	58
Not successful	4	3	11	11	2	10	41	39

Table 9 indicates that Mzinga was the only ward with three respondents saying Civil Societies (CSOs) were very successful. Table 9 also confirmed the activities performed by SUA, WCST and other stakeholders in conserving the Uluguru Mountains in Mzinga ward. It was reported that government ban issued in March, 2007 to move residents living in UMTS down to low land as means to conserve the latter, on contrary it demoralized them to participate in conservation activities such as tree planting. Thirty nine per cent of respondents considered the conservation activities by Civil Societies (CSOs) as not successful. This response from respondents may have been contributed by the Government ban. Table 9 also shows that Bigwa ward respondents split between those who perceived that there was no success in conservation of the Uluguru Mountains and vice versa.

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

(i) Majority of the Civil Society groups working in conservation of the Ulugurus are not known by either the district government or the local people.

(ii) Tree planting is the major environmental conservation activity implemented by majority of the local people.

(iii) Inadequate environmental conservation education and local people involvement in conservation planning were the major issues that constrain the attainment of proper conservation in the Uluguru Mountains.

(iv) Despite majority of the Civil Society Groups being not known by the local people their contribution towards conservation of the Uluguru Mountains is recognized by the local communities.

5.2 Recommendations

(i) There is a need to update and maintain current inventory of the Civil Society Groups working in the Ulugurus at the District and Village level and their activities to ensure they really reach communities target for conservation.

(ii) Strengthening conservation education can greatly improve the conservation initiatives by the local people.

(iii) Civil society contribution to conservation of the Uluguru Mountains is appreciated and their efforts can be strengthened by working more closely with the local people through increased local participation.

(iv) Tree planting as the major conservation activity should be given more emphasis to increase the availability of forest products especially for fuel wood and construction but in combination with other conservation approaches based on field conditions.

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APPENDICES

Appendix 1: Open ended questionnaire for leaders at various levels.

Ward leadership and Environmental Committee guideline

A. General

Ward……..

Hamlet……

Background information

A1. Date of interview……

A.2 Name of enumerator…….

B. Biodata

B1. Name of respondent……

B2. Gender:

Male……

Female……

B3. Date of Birth…….

B4. Marital status

1, Married

2. Single

3. Divorced

4. Widow/Widower

B5.Tribe

1. Lguru

2. Another Tribe (Mention)……..

B6. Level of Education

1. Never attended school

2. Adult education

3. Primary education
4. Secondary education
5. Other form of education (Mention)…….

B7. Size of household……

Type of household:

1. Head of household, Male
2. Head of household, Female

B8. Employment of head of household:

1. Farmer
2. Government employee or private institution
3. Business (Mention type of business)……
4. Other employment (Mention)…….

B. Demographic information

(i) Name of the village
(ii) Total population
(iii) Male
(iv) Female
(v) Actively working adults (16-60 years)
(vi) Children (less than 16 years)
(vii) Elders (greater than 60 years)
(viii) Number of households
(ix) Average family size
(x) Male headed households
(xi) Female headed households
(xii) Number of immigrants and activities engaged in conservation of Uluguru Mountains

C: Social and economic activities

(i) What social services and infrastructure already exist in the village?
(ii) What are the main economic activities in this Ward?
(iii) How is the forest used?

(iv) What should be done to improve conservation of Uluguru Mountains in your area as far as Civil Societies is concerned?

(v) What factors affects the conservation of Uluguru Mountains by using Civil Societies?

(vi) Existing local institutions

(vii) Enforcement of rules and regulations

Forestry activities

(i) Type of forests existing in the area

(ii) The perceived causes of forests degradation

(iii) Does the ward have village forest reserve? How is it managed?

D: Interview Guideline for Leaders (District Commissioner, Municipal Director, Ward environmental committee)

A. How many environmental conservation Civil Societies are there in the following:

1. Morogoro Municipal……
2. Morogoro District……
3. Uluguru Mountains …….

B. How do you consider Civil Societies in environmental conservation of Uluguru Mountains fairing?

1. Very successful
2. Successful
3. Moderate
4. Unsuccessful
5. Very unsuccessful

E: General remarks on environmental conservation of Civil Societies on Uluguru Mountains……

……

……

Appendix 2: Questionnaire

Entry point to study area: Greetings and use an introduction letter from the Vice Chancellor of the Sokoine University of Agriculture.

QUESTIONNAIRE ON THE CONTRIBUTIONS OF Civil Societies (CSOs) IN CONSERVATION OF THE ULUGURU MOUNTAINS

Ward……..

Hamlet……

Background information

A1. Date of interview……

A.2 Name of enumerator…….

B. Biodata

B1. Name of respondent……

B2. Gender:

Male……

Female……

B3. Date of Birth…….

B4. Marital status

1, Married

2. Single

3. Divorced

4. Widow/Widower

B5.Tribe

1. Lguru

2. Another Tribe (Mention)……..

B6. Level of Education

1. Never attended school

2. Adult education

3. Primary education

4. Secondary education

5. Other form of education (Mention)…….

B7. Size of household……

Type of household:

1. Head of household, Male

2. Head of household, Female

B8. Employment of head of household:

1. Farmer

2. Government employee or private institution

3. Business (Mention type of business)……

4. Other employment (Mention)…….

B9. Do you keep livestock?

1. Yes

2. No

B9.1 If your response in B9 above is yes fill the Table 1 below:

Table 1: Type of livestock and number of animals.

Type of Livestock	**Number of animals**	**Expected to increase or decrease**
Cow		
Milking cows		
Goats		
Milking goats		
Chicken		
Piggs		

B9.2 Types of system of keeping animals

1. Indoor

2. Free range

3. Other types (mention)……

B10. Type of agriculture practiced by ability of household

1. Agroforestry

2. Mixed farming

3. Horticulture

4. Normal cultivation (each crop cultivated separately)

B11. Table 2: Crops cultivated by household

Type of crop	**Acreage**	**Crops harvested (in Kg 100)/sacs**	**Price per Kg/sac**
Maze			
Cassava			
Banana			
Pigeon peas			
Cow peas			
Sweet potato			
Rice			
Oranges			
Mangoes			
Coconut			

B12. Planting trees is among activities which conserve environment, how many of them have you planted.....

C. List Non Governmental Organization (NGOs) working on conservation of the Uluguru Mountains in your hamlet……. ……

D. List Community Based Organization (CBOs) dealing with environmental conservation in your area……

E. Which among the following are activities conserving the environment in your area?

1. Preparation of tree nurseries
2. Planting trees
3. Planting fruit trees
4. Agroforestry
5. Bee keeping
6. Terraces/ Contour
7. Planting elephant grass
8. Training on environmental conservation by Civil Societies (CSOs) (List them if any) ……

9. All activities mention in response 1-8 above are there in my hamlet.
10. No environmental conservation activities are there in my area

F. Which among these are the major constraints in conservation of the Uluguru Mountains?
1. Lack of funds to finance conservation activities
2. Absence of environmental bylaws in your area
3. Lack of enforcement of available environmental bylaws
4. Development partners/donors do not involve local people in conserving the Uluguru Mountains
5. Lack of education on environmentalconservation
6. There are no environmental conservation constraints in our ward

G. Which of the following is your perception on environmental changes in conserving the Uluguru Mountains?
1. Most Civil Societies (CSOs) spent funds donated by donors for their personal interest than conserving the mountains
2. Civil Societies (CSOs) have brought development on environmental changes
3. Civil Societies (CSOs) have not brought any environmental changes
4. Most Civil Societies (CSOs) do not involve local people in conservation
5. Civil Societies (CSOs) are not known by local people

H. Since the inception of Civil Societies (CSOs) in your area which changes have you observed among the following:
1. There have been more conservation developments than in the past
2. Environmental development changes are moderate
3. Many people (about 75%) have received environmental conservation education
4. More funds have been disbursed to conserve the Uluguru Mountains.
5. Environmental bylaws have been implemented as required
6. Local people have reduced their flocks to promote conservation

I. Which among the following is correct about Civil Societies (CSOs), give reasons for your choice?
Have succeeded very well

Have succeeded

Have not succeeded

Reason……

……

J. ON your personal opinion, do you think these initiatives are they sustainable?

Yes

No

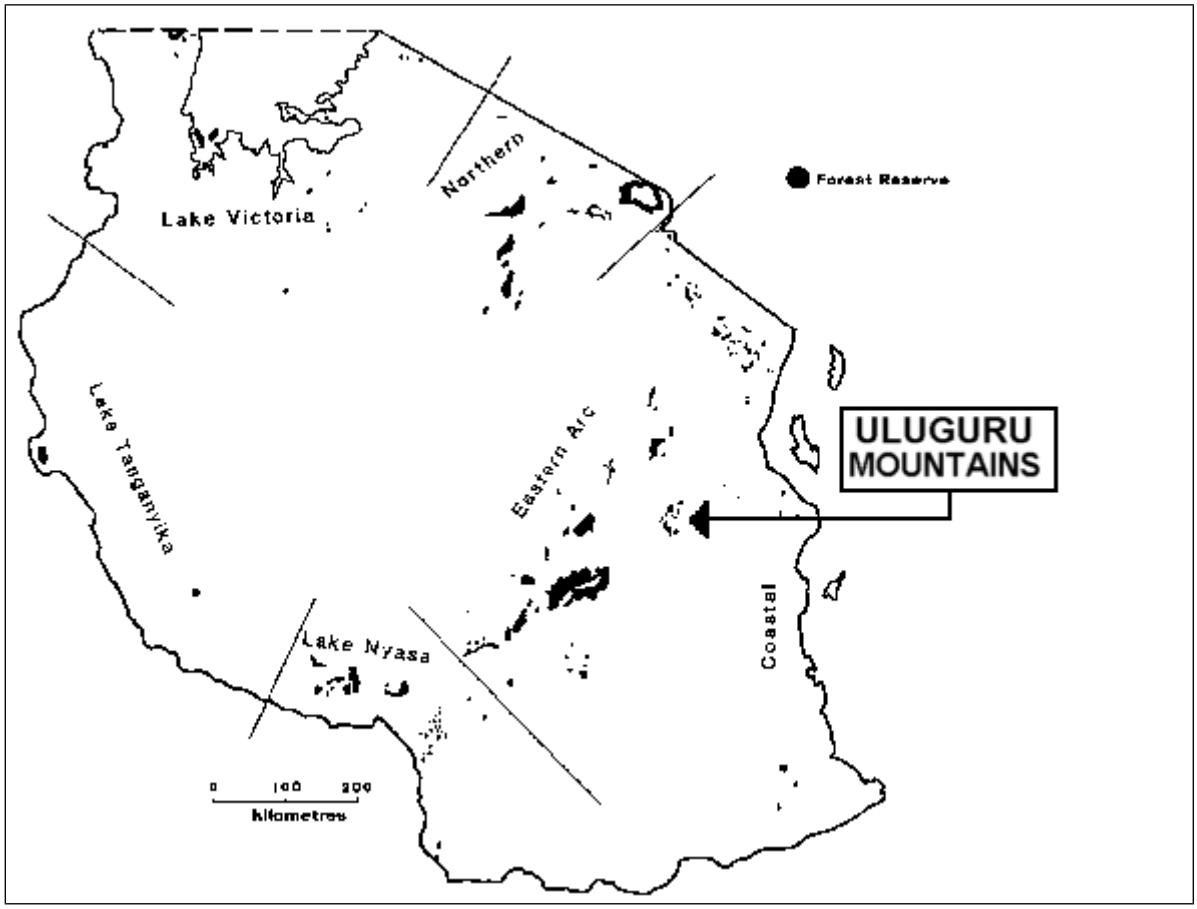
Give reasons for your response ……

K. Write your own remarks about NGOs or CBOs on conservation of the Uluguru Mountains……

……

Appendix 3: Map showing the Eastern Arc Mountains with several Montane Forests in East Africa

Climatically the Uluguru Mountains capture moisture passing inland from the Indian Ocean and the east facing slopes are especially wet, with rainfall estimated at over 3,000 mm per annum, with some rain falling in every month.



Division of Tanzanian forests on the basis of geology and climate. Forest distribution is based on forest reserves containing closed forest formations. Coastal, Eastern Arc and Northern forests are under the direct climatic influence of the Indian Ocean, but Coastal forests are predominantly on sedimentary rocks, the Eastern Arc are on igneous and metamorphic rocks, and Northern forests are predominantly on volcanic areas (with the exception of the Mbulu highlands). Forests associated with the great lakes of Victoria, Tanganyika and Nyasa are subject to environmental fluctuations associated with variation in the local climates associated with these lakes.

Source:www.africanconservation.com/uluguru/statusofbiodiversity.html 2008

Appendix 4:CSOs Characteristics

CSOs are characterized of the following:

i. Their activities have mitigated the negative impacts of prevailing macroeconomic policies on poor and vulnerable groups and also contributed to democratization process.
ii. They are in a better position to increase participation, development and transfer of technology at all levels.
iii. They address the needs of these traditionally bypassed by government services.
iv. They are small in terms of number of staff, target area in which they operate and the target population.
v. They are flexible and therefore able to experiment on a small scale, their strategies before adopting them in a wider area.
vi. They are often community based, and have good linkage with farmers.
vii. They are staffed by highly motivated individuals, who are less bureaucratic, more innovative and generally better paid.

CONCEPTS DEFINITION

1. Definition of Civil Societies (CSOs) refers to Non Governmental and Community Based Organizations and other conepts have wide range as pointed out by various scholars below.

Non Governmental Organizations (NGOs)

refers to registered, private, independent, non profit making organisations (Wellard and Copestake, 1993). Also Ahmed *et al* (1991) cited by Lewis (1992) in Bujiji, (2000) defined NGOs as all those organizations which are involved in various development activities with the objective of alleviating poverty of the rural and urban poor.

In view of the above NGOs categories, Clarke (1996) identified four necessary attributes of the organizations:

- They are voluntarily formed and have an element of voluntary participation.
- They are independent entities, being controlled only by those people who formed them or bodies to which have been delegated responsibilities for control and management.

- They are not for profit even where revenues are generated they are used for the purpose of their aims and goals.
- They are not self serving, existing only to improve life, circumstances and prospects of the disadvantaged and poor people in society.

2 Community Based Organisations (CBOs)

CBOs Refers to unregistered organizations which normally are ackowledged and listed by leaders under hamlet or ward level. The CBOs are normally mistaken and taken for granted to mean the same meaning as NGOs when we refer to voluntary organisations (Wellard and Copestake, 1993). CBOs differ from NGOs as they may be profit making intenties. NGOs are Internationally or Nationally recognized and its records are kept at the District Commissioner (DC) while CBOs are locally identified within village levels and their records are not provided at the DC.

3 Conservation

Derived from the word conserve which means protect, for the conservancy's purposes, a conservation area can be deemed to be conserved or functional when its biodiversity health score has achieved a rank of 'good' or 'very good' and its threat status is 'low' or 'medium' (Nature Conservancy, 2008). The term can also refer to the protection or wise use of natural resources that ensures their continuing availability to future generations; it is the intelligent use of the natural resources for long – term benefits. It further refers to the act of preserving, guarding, or protecting; the keeping (of a thing) in a safe or entire state; preservation; a wise use of natural resources (www.google.define conservation, 2008)

4 Environment

Refers to natural environment, commonly referred to simply as the environment; it is a terminology that comprises all living and non living things that occur naturally on Earth or some region thereof. This term includes a few key components: 1. Complete ecological units that function as natural systems without massive human intervention, including all vegetation, animals, microorganisms, rocks, atmosphere and natural phenomena that occur within the boundaries. 2. Universal natural resources and physical phenomena that lack clear- cut boundaries, such as air, water, and climate, as well as energy, radiation, electric

charge, and magnetism, not originating from human activity (Neha, www.yahoo.answers, 2006)

5 Biodiversity

Refers to the sum of life and its processes including the variety of living plants, animals and other organisms, the genetic differences among them, the communities and ecosystems in which they occur, and the ecological and evolutionary process that keep them functioning (RAP Terms Guyana , 9/7/2008). Nature Conservancy defines biodiversity as the full range of natural variety and variability within and among living organisms, and the ecological and environmental complexes in which they occur. It encompasses multiple levels of organization, including genes, species communities and ecosystems (Nature Conservancy, 2008). Also biodiversity is the variation of life forms within a given ecosystem, biome or the entire Earth. Biodiversity is often used as a measure of the health of biological systems.

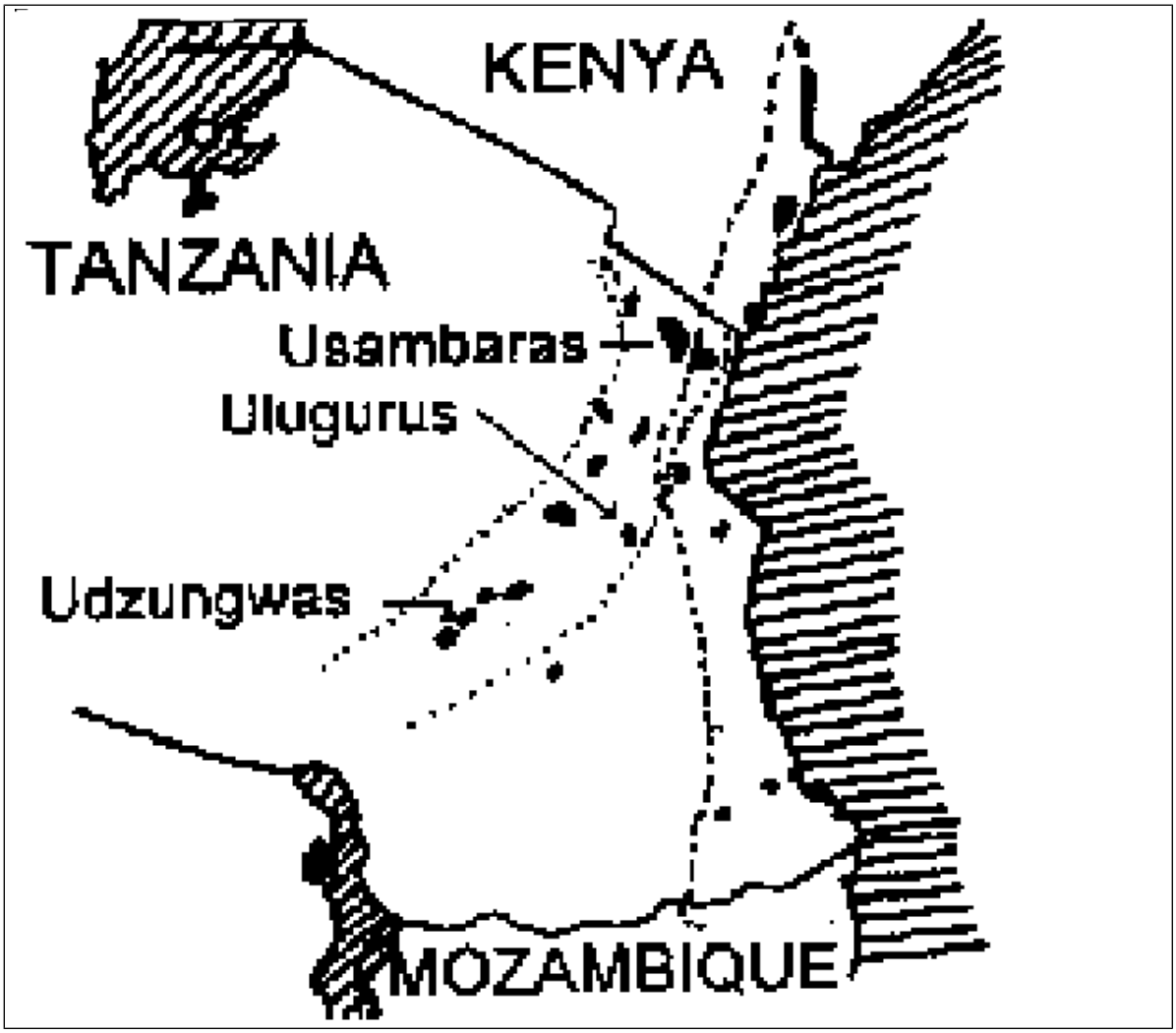
6 Ecosystems

Ecosystems refers to dynamic assemblages of native plant and /or animal communities that first occur together on the landscape or in water; and second are tied together by similar ecological processes (e. g., fire, hydrology), underlying environmental features (e. g., soils, geology) or environmental gradients such as elevation (Nature Conservancy, 2008)

7 Endangered

Endangered refers to organisms that have fallen below a sustainable population threshold for survival. A species threatened with extinction.

Appendix 5: Map of Tanzania Showing the Location of Mountain Uluguru Forest in Morogoro Tanzania



Appendix 6: **Photographs taken from Mzinga ward to represent some conservation activities carried out among the wards in Uluguru Mountains.**

Plate 1: Resident watering tree seedlings at the SUA Tree nursery at Luhungo hamlet in Mzinga ward.

Plate 2: **Planted trees (right hand side) and naturally regenerated miombo woodlands in the Uluguru Mountains.**

Plate 3: Researcher (right hand side) posing with residents at Luhungo hamlet in front of mango orchard and naturally regenerating woodland in Mzinga ward.