

Wildlife Resources outside Protected Areas and Poverty Reduction in Sikonge District, Tanzania

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ABSTRACT

In Tanzania, wildlife resources outside protected areas are assuming an ever greater importance. However, the role of wildlife management as an engine for rural development and poverty reduction has received too little attention. In order to fill the existing knowledge gap this study aimed at assessing contribution of wildlife resources found outside protected areas to poverty reduction in Sikonge District Tabora Region, Tanzania. Based on the closeness to wildlife protected area, Ipole ward was selected as a study area. All four villages in Ipole ward bordering Ipole Wildlife management Area (WMA) were purposively selected to constitute the sample in a household survey complemented by participatory data collection methods.

There have been disparities as far as benefits to villages are concerned. However, it was evident that WMAs are important to livelihoods across all four villages located in the vicinity of PAs. Receipts from tourist hunting and photographic tourism are gathered centrally by government before being partially redistributed to communities located adjacent to PAs. In addition, tourist hunting companies have entered into contract with Ipole WMA and had formulated initiatives to make donations in order to support community projects. This has reduced a burden of raising funds for community service facilities such as schools and health facilities. Interestingly, illegal hunting for food, bushmeat business and charcoal burning were termed by respondents as "benefits". However, villages with WMAs do not enjoy full use of wildlife resources despite their being Authorized Associations (AA).

It is perceived that, the benefits outweigh the costs of living close to protected wildlife resources. Perceived attitudes towards WMA establishment are crucial to the success of resources conservation initiatives of protected areas. Understanding the underlying factors, which influence the attitudes of households, is essential if sound advice is to be provided to policy makers who are attempting both to conserve the wildlife ecosystems and promote economic development for poverty reduction.

Key words: *Wildlife resources, Protected areas (PAs), Wildlife management areas (WMAs), Poverty reduction, Tanzania.*

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BACKGROUND

Overview

The United Republic of Tanzania is the largest country in East Africa, covering about 940,000 square kilometers (URT, 2002a). About 28% of this area constitutes protected areas devoted to wildlife conservation (MNRT, 1998). Although 20% of total land area has been set aside for wildlife protected areas (areas where human settlement is prohibited), much of the wildlife is still found outside protected areas particularly in parts where significant size of land had been de-gazetted (URT, 1999). There are two major alternative uses of land outside protected area; namely agricultural production and as formal hunting ground. Local people under certain arrangements have legal rights to exploit the land in the outer area and wildlife roaming outside the park. However, with richness of wildlife found around local communities, Tanzania is still lagging behind in attaining sustainable development and effectively alleviating rural poverty (Junge, 2004).

Increasing poaching pressure and shrinking habitats and economies in African countries have led to a growing consensus among conservationists and international conservation organizations that the American National Park model, commonly referred to as "the fences-and fines approach", has failed to protect wildlife in the continent (Matzke and Nabane, 1996; Awimbo et al., 2004). The most appealing alternative approach proposed by conservationists was "Community-based Wildlife Management" (CWM). The main objective of CWM is to create, through the bottom-up participatory approach, conditions whereby a maximum number of community members stand to benefit from a sustainable management and utilization of wildlife resources (Songorwa, 1996; Mfunda and Emerton, 1998). The approach intends to change rural people's behaviors and practices (Gibson and Marks, 1995) and use those people and their new behaviors as a vehicle for achieving a conservation goal (Metcalf, 1994; Murphree, 1994). The approach is based on the idea that the communities will protect and conserve wildlife only if it is in their own (economic) interest to do so (Liebenberg and Grossman, 1994). It is suspected, however, that CWM programs based on buffer zones around protected areas are designed not to offer sustainable livelihood alternatives to the local communities but to reduce their opposition to those protected areas (Lewis and Kaweche, in Parry and Campbell, 1992; Wells and Brandon, 1992).

Two general outcomes are expected from CWM. They include maintenance of wildlife habitats and preservation of species, and improved social as well as economic well being of the local communities. The following two conditions are seen as important for the success of CWM programs: revenues from wildlife must offset all costs associated with a program, and the "target" communities must be interested and willing to participate. Based on these conditions proponents of the approach have made an assumption that "local populations have a greater interest in the sustainable use of wildlife resources than does the state or distant corporate managers" (Songorwa, et al., 2000).

Evolution of Community-Based Wildlife Management in Tanzania

Tanzania's first formal regulations for controlling wildlife hunting were established by the German colonial authority in 1891 and substantially expanded in 1896 (Koponen, 1994). During the following 75 years of German and then British colonial administration,

wildlife management practices generally perpetuated and reinforced two fundamental strategies: legally proscribing or restricting wildlife uses and establishing parks and reserves to protect animal populations (Neumann, 1998). The first two decades of the post-independence era followed the pattern of the colonial years with respect to wildlife management. The Wildlife Conservation Act (WCA) of 1974, the main post-colonial wildlife legislation, consolidated central control over wildlife and the elimination of local use rights. The establishment of protected areas and eviction of rural communities from parks and reserves continued in the 1970's, and was linked to the Socialist policies of rural transformation that characterized the Tanzanian economy during that decade (Swai, 1996). Because of the circumstances which had prevailed in the past, such as low human population numbers, low levels of land use and technology, it was smooth to take land and convert it into protected areas without consulting the respective communities. By the 1990's Tanzania had established one of the world's largest protected area networks, with over 25% of its land set aside as parks and reserves (MNRT, 1998). This process has been an ever rising trend. For example, it is reported that 39.6 percent of total land is covered by protected areas (WRI, 2005).

Protected areas are linked to the unfairness of excluding local people from access to parks and natural resources they have used for centuries. Notwithstanding the application of the WCA to keep local people out of such areas, under more recent circumstances of growing population pressures, illegal hunting kept increasing. Heavy punishment imposed on poachers did not bring the evil to a stop, but rather created antagonism between protected area managements' and the local communities. Kiss (1990) and Swanson and Barbier (1992), among others, argue that, the lack of economic compensation to local people for loss of access has led to a failure of protected areas. They argue that, it is necessary to correct this distortion in order to promote wildlife conservation, and suggest that this is achievable through revenue sharing with the relevant communities in wildlife related activities. They believe that, local people will respond to such benefits by reducing the exploitation of wildlife. Such and other initiatives to promote sustainable development in surrounding areas are today widespread through Integrated Conservation and Development Projects (ICDPs).

It is realized by development experts that in order for the conservation of resources including wildlife to succeed, communities had to participate in the process. Simultaneously, a combination of practical management problems, new community based conservation narratives, and the enhanced influence of foreign donors and NGO's in the post-structural adjustment period all served to undermine the historical hegemony of strictly centralized state control over wildlife. Development partners, particularly from German, Norwegian, British, and American, began to promote decentralization of Wildlife resources as a conservation and rural development strategy (WRI, 2005). In 1998 these multifaceted forces led to the release of the Wildlife Policy of Tanzania (WPT) (MNRT, 1998). The main objective of the policy is to allow rural communities and private land holders to manage wildlife on their land for their own benefit (MNRT, 1998).

Community participation in the conservation and management of wildlife resources is captured by this policy. Community participation is regarded to be so important that the policy dedicated about three quarters of its strategies to the matter. Community

participation in the WPT hinges on wildlife protection and utilization. This policy calls for maintenance of the core protected areas- National Parks and Game Reserves- as the foundation of wildlife conservation in Tanzania, but advocates a devolved approach on village and private lands:

There are four WPT objectives that support community participation in the protection and utilisation of wildlife resources. These are to:

- (i.) promote the conservation of wildlife and its habitats outside core protected areas by establishing Wildlife Management Areas (WMAs).
- (ii.) transfer the management of WMAs to local communities thus taking care of corridors, migration routes and buffer zones as well as to ensure that local communities obtain substantial and tangible benefits from wildlife conservation.
- (iii.) ensure that wildlife is appropriately valued in order to reduce illegal off-take and to encourage sustainable use by rural communities.
- (iv.) create an enabling environment, which will ensure that legal and sustainable wildlife schemes directly benefit local communities.

The mechanism for carrying out this reform is described in the policy as a new entity called the Wildlife Management Area (WMA). WMA's are described as a new form of protected area, but one managed by rural communities on their lands, "*where local people will have full mandate of managing and benefiting from their conservation efforts*" (MNRT, 1998). The WPT defines WMA as "an area declared by the Minister to be so and set aside by the Village Government for the purpose of biological natural resources conservation". The concept is that communities will zone a part of their village lands for natural resource conservation, prohibiting incompatible activities such as farming in these areas, and the Wildlife Division will in exchange transfer usufruct rights to wildlife to the communities so that they may either consume a limited (by quota) number of animals themselves or lease their rights to a commercial hunting operator.

The assumption was that by giving communities such rights to capture the economic benefits of wildlife they would have new incentives to support conservation and prevent unsustainable exploitation of wildlife populations on their lands (Baldus *et al.*, 2001; Songorwa, 1999; Leader-Williams *et al.*, 1996; Baldus *et al.*, 1994). By the time of the policy's release, an array of community-based wildlife projects, most funded by foreign conservation organizations and bilateral development partners, were being established around the country (IRG, 2000). Most of these initiatives took place in communities living around the borders of parks and game reserves, and focused on enabling villages to capture economic gains from wildlife in return for setting aside land and preventing illegal wildlife uses. However, there is a downside of this initiative. WMAs appear to allocate many of the costs of NRM to villagers, while the lion's share of the benefits accrue to the tourist companies, central and local governments. These examples lead to the conclusion that there are often *winners and losers* from project initiatives. How costs and benefits are allocated is largely a governance issue.

The Problem

The communities have so far been excluded from the participation in the utilization of wildlife resources. Poaching is severely punished and yet the traditional utilization of wildlife has been turned into a criminal activity. The consequences are that local people cannot support conservation measures, even if they have the knowledge and the will to do so (Nuding, 2001). Local communities do care about wildlife. They live with it every day. They have been labeled as the problem; while they are in fact the solution (Adams and Mcshane, 1992).

Many studies on wildlife resources cover biological and/or ecological aspects of the same (Mlingwa, 2001; Senzota, 2001). There has been little information on how wildlife outside protected areas can influence economic and social components of the people in respect of its conservation especially in rural areas. It is from this background that the study was conducted so as to fill the existing knowledge gap.

In order to assess the contribution of wildlife resources found outside protected areas to poverty reduction, five important questions were dealt with: First, what is the level of dependence on incomes from resources outside protected areas? Second, what is the extent of incomes and benefits from wildlife management activities? Third, why do people support or discourage the establishment of WMA within and adjacent to village land? Fourth, what is the impact (both positive and negative) of wildlife management and utilization?, and finally, how are existing frameworks, such as legal, administrative and organizational and political enhancing/constraining management and utilization of wildlife resources?

The findings of the study not only add knowledge to the existing literature, but also are useful in formulating relevant policies that benefit the rural communities adjacent to protected areas and the nation as a whole. Furthermore, the findings give some important insights about measures to be taken to increase benefits in the poor communities and hence reduce potential conflicts between government and rural population.

MATERIALS AND METHODS

Reacting on the importance and need of wildlife management, the Government, through Wildlife Management Areas (WMAs) established Ipole Wildlife Management Area in Sikonge District, Tabora Region. It also issued an Authorized Associations (AA) status for "Jumuiya ya Hifadhi ya Wanyamapori Ipole (JUHIWAI)" meaning "Ipole Wildlife Management Association". The AA status legally empowers JUHIWAI to conserve and manage wildlife and other natural resources in community lands in Ipole (241,000 hectares) and Uyumbu (100,000 hectares) WMA on behalf of the local communities living around the designated area. Ipole WMA aims at ensuring that local community members have full mandate of managing and eventually benefiting from conservation efforts. The Ipole WMA is located 20 km south of Sikonge, the district headquarters and contains about 2,600 km² of village land, much of which was formerly Ugunda Game Controlled Area, and lies adjacent to Ugalla Game Reserve (UGR). Ipole WMA covers four villages; namely, Ipole, Msuva, Idekamiso and Utimle.

The study employed both participatory and survey methods. Participatory data collection methods were employed for rapid exploration of the setting of the study area and livelihoods of Ipole. These included focus group discussions (FGDs), key informant interviews, social and resource mapping, as well as preference ranking. During the focus group discussions, community members were invited to discuss and capture the diversity of community views. Key informant interviews were done using a semi-structured list of questions to: wildlife officials, private entrepreneurs, community/village leaders, hunting company manager, teachers, religious leaders, people from different occupations, etc. (See Appendix 3). Information generated from PRA included village land use systems, historical background of wildlife management in the area and institutional arrangements in wildlife management. Data collected from PRA were used to identify questions for the community survey questionnaire.

The participatory method for data collection was complemented by a sample survey. The main objective of the survey was to provide demographic and socio-economic data about the contribution of wildlife resources at household level. The survey was useful for generating data on specific livelihood attributes. In the survey, the sample predominantly constituted households of farmers living adjacent to protected areas in purposively selected communities. Participating households were systematically sampled based on sub-village registers. A total number of 202 households constituted a sample. The villages with number of selected households in brackets were; Ipole (55), Msuva (47), Idekamiso (48) and Utimle (52).

RESULTS AND DISCUSSION

Characteristics of the household heads

The data in Table 1 show the characteristics of the heads of the households interviewed. The majority of household heads interviewed were men. About a half of the respondents were of the age between 36 and 50 years old. About a fifth were less than 35 years of age. About three quarters of the household heads were married and around a half of them had the primary school level of education.

Table 1: Sample profile of the heads of the households)

Characteristics (n= 202)	Frequency	Percent
Sex		
Male	188	93.1
Female	14	6.9
Age		
Between 20 and 35 years	43	21.3
Between 36 and 50 years	92	45.5
Above 50 years	67	33.2
Marital status		
Married	153	75.8
Single	23	11.4
Divorced	15	7.4
Widowed	11	5.4
Educational level		
No formal education	25	12.4
Adult education	33	16.3
Primary education	98	48.5
Secondary education	46	22.8

The role of wildlife resources

The respondents reported that Ipole WMA had considerable contributions towards their livelihood in terms of thatch grass, building poles and wild medicine (Table 2). As regards income, more contribution was obtained from selling harvested thatch grass than other resources. Commodities such as building materials and food items have been harvested for years. Previous studies have reported that people living in close proximity to protected areas have long depended on natural resources (Mulongoy, 2004). However, during group discussions, it was cautiously reported that some individuals were involved in non-environmental friendly activities such as charcoal burning and firewood collection as well as illegal hunting for food and bush-meat business.

Table 2: Ipole WMA– contribution to livelihood and incomes

Resource (n=202)	Livelihood		Cash income	
	No. hhs	% hhs	No. hhs	% hhs
Thatch grass harvesting	194	96.0	71	35.1
Building poles	123	60.9	86	42.5
Wild plants for medicine	111	55.0	32	15.8
Fishing	52	26.0	47	23.3
Honey from beekeeping	67	33.2	54	26.7

Benefits from wildlife management activities

It is a requisite for gazetted and authorized association to come up with a Resource Utilization and Management Plan (Appendix 4). Since local people have user rights to wildlife and land for cultivation, though limited at the time being, there appears that there is a potential for economic opportunities such as tourist hunting, bee-keeping, fishing and photographic tourism. But there are bottlenecks in accessing of these resources because they do not have full property rights.

It was observed that these communities gain both directly and indirectly from revenues obtained from the hunting block² set aside for tourist hunting. During interviews with the district officials it was reported that receipts from tourist hunting and photographic tourism are gathered centrally by government before being partially redistributed to communities located adjacent to protected areas. For instance, it was reported that in 2008, USD 61, 800 collected by government was to be shared among villages in Tanzania having gazetted and authorized associations with hunting blocks. In Ipole WMA, Tshs 22 million³ was collected from the hunting block. Typically, the district retains some of the money received from treasury for its own purposes, although most of the funds went to the four villages. It was further reported that besides benefits from the sharing scheme, some hunting companies have formulated their initiatives to make donations in order to support community projects. This has enabled Ipole ward to construct classrooms and a staff quarter for the Msuva and Uganda secondary schools respectively (See Appendixes 5 and 6). These services benefit the communities from the actual services provided (e.g. through improved learning environment to students), as well as reduction in village levies raised to fund these services.

Perception towards establishment of WMA

In general, the results in Table 3 indicate that about half of the households (50.5%) had positive attitudes towards establishment of Wildlife Management Area (WMA) nearby or within their villages. However, at the village level, more than half of households surveyed (55% and 53% in Ipole and Msuva respectively) supported the introduction of the WMA. To the contrary, less than a half of the households in Idekamiso and Utimle were against this idea. Furthermore, the results indicate that 50.5% of households who supported the WMAs introduction attributed their thinking to the actual and perceived benefits obtained from WMAs. Similarly, village located closer to conservation areas had larger proportion of respondents that opposed the initiative. There are several reasons that explain this phenomenon, namely economic, social and ecological opportunity costs. Economic costs include crop damage by wildlife and restricted customary as well as traditional rights to land and resources. Social costs include limited access to the resources for spiritual and cultural activities. Ecological costs include environmental degradation due to over-use of land resources.

Whilst some believe that negative social impacts are overstated, some studies point to a widespread problem of the rural poor shouldering a disproportionate burden of the cost of conservation. Moreover, in terms of social impact, it is frequently poorer households, women, and other marginalized groups who lose most in relative terms (Franks, 2004).

² Sikonge district has a total of seven hunting blocks for tourist hunting in Uganda game controlled area. Of these, one hunting block was designated to Ipole WMA where JUHIWAL has signed a contract with Northern Hunting Company that conducts tourist hunting and thus pay fees to Ipole WMA.

³ 1 USD=1300 Tanzanian shillings

Table 3: Attitude towards the establishment of WMA within and adjacent to village land

WMA establishment support (n=55)	Ipole		Msuva		Idekamiso		Utimele		All villages	
	n	%	n	%	n	%	n	%	n	%
Yes	30	55.0	25	53.0	22	46.0	25	48.0	102	50.5
No	25	45.0	22	47.0	26	54.0	27	52.0	100	49.5
Total	55	100.0	47	100.0	48	100.0	52	100.0	202	100.0

Impact of wildlife resources to communities

The respondents reported that wild animals cause problems in the neighboring communities. These include damage to crops, death of stock; damage to property and injury (both to humans and stock); and threats to and the loss of human life. The impact of each of the major animal species is summarized in Table 4.

Table 4: Problems caused by wildlife to communities

	Damage	Livelihood impact	Management options
Predators			
Jackals, hyenas	Kill small and large livestock	Reduced income; food shortage; increased poverty; loss of stock for reproduction; increased vulnerability	Use of traps, shoot or poison
Lions, leopards and cheetah	Lions – kill cows, goats, sheep and people Cheetahs – attack small stock	Less income and time lost to recover from damage; loss of money for school and food; loss of life; creates tensions.	Herd cattle during the day; obtain permit to shoot
Other			
Baboons, monkeys, porcupines	Crops damage	Loss of food, time and money	Keep dogs for scaring, employ one to guard your crop
Snakes	Bite people and livestock	Loss of life, money, time and food	Kill or use snake deterrent
Birds, eagles etc.	Small stock, lambs and crop damage	Loss of food, money, and time	Bird scaring, use of adhesive traps
Grazing species; antelopes, impalas, dik-diks, buffaloes,	Cause grazing land and water pressure	Affects other livestock health and availability of water and grazing	Obtain permit to hunt.

CONCLUSION AND RECOMMENDATIONS

Though there are disparities as far as benefits to villages are concerned, it was evident that WMAs are important to livelihoods for communities located to the vicinity of protected areas. Furthermore, communities benefit illegally through hunting for food and bushmeat business as well as charcoal burning. Understanding the underlying factors, which influence the attitudes of households, is essential if sound advice is to be provided to policy makers who are attempting both to conserve the wildlife ecosystems and promote economic development.

The major objective of WMAs is to transfer control valuable resources from central agencies to local communities. To this end, WMA is recommended to state agencies to

undertake reforms that will transfer a significant amount of control over wildlife since there is a limited access of wildlife resources to local communities. Supporting the capacity of domestic constituencies and civil society organisations to influence conservation processes needs to be prioritised. The government, through the Wildlife Division should show clear mandate to local jurisdictions to enter contracts with development partners and NGOs that operate in wildlife conservation activities. The damages caused by wildlife need to be addressed for the sustainability of the communities.

Acknowledgements

This study was sponsored by the Organization for Social Science Research in Eastern and Southern Africa (OSSREA) through the Young Scholar Social Science Research Grant Programme.

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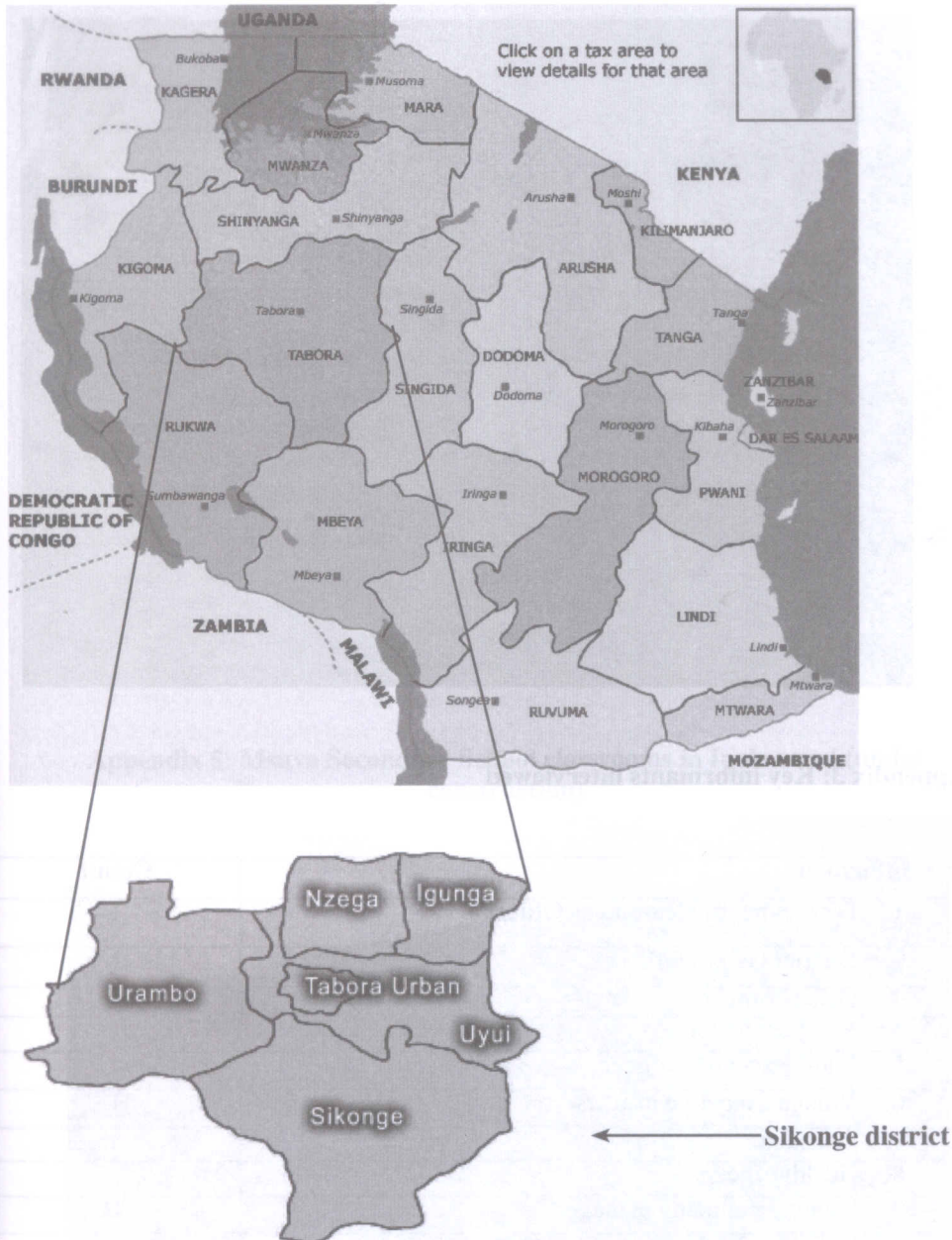
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APPENDICES

Appendix 1: Map of Tanzania showing Tabora Region and Sikonge District



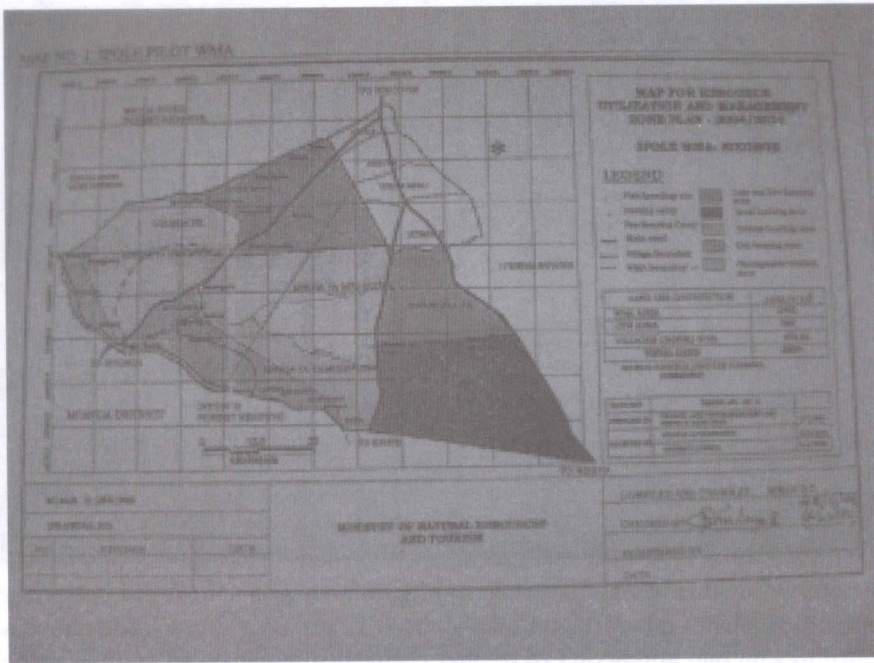
Appendix 2: Typical vegetation of Ipole WMA



Appendix 3: Key informants interviewed

Informant	Count
1. District natural Resources Officer	1
2. District Games Officer	1
3. Games officers	5
4. Ward councilor	1
5. Ward Executive officer	1
6. Village executive officers	4
7. Teachers	5
8. Health officers	2
9. Hunting company manager	1
10. Religious leaders	4
11. JUHIWAI chairperson	1
12. AFRICARE representatives	2
Total	28

Appendix 4: Map of Ipole WMA for Resource Utilization and Management Plan (2004-2014)



Appendix 5: Msuva Secondary School classrooms in Ipole ward (under construction)



Appendix 6: Headmaster's staff quarter of Ugunda Secondary school in Ipole ward (under construction)

