

Assessment of Park Resource Use by Local Communities as an Incentive Strategy for

Natural Resources Conservation in Protected Areas:

The Case of Rwenzori Mountains National Park adjacent Communities

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DECLARATION

DEDICATION

This work is dedicated to my parents; Mr. Zaidi Ochen Odongo and Mrs. Marriam Zaidi for their tireless support towards my education and social upbringing. They dedicated their efforts and resources towards educating me and my siblings. Their encouragement and wise counselling were pivotal in my pursuit for the master degree that this research is a requirement for partial fulfilment for the award. I also dedicate it to my elder brother, Musa Adeka Ochen for supporting my undergraduate and master education.

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LIST OF ABBREVIATION

BINP:	Bwindi Impenetrable National Park
CBO:	Community Based Organization
CCP:	Community Conservation Programme
FGD:	Focus Group Discussion
ICD:	Integrated Conservation and Development
RMNP:	Rwenzori Mountains National Park
LMNP:	Lake Mburu National Park
MGNP:	Mgahinga Gorilla National Park
MOU:	Memorandum of Understanding
PA:	Protected Area
UNDP:	United Nation Development Programme
UNP:	Uganda National Park
UWA:	Uganda Wildlife Authority

ABSTRACT

Assessment of park resource use by local communities as an incentive strategy for natural resources conservation in protected areas was carried out in communities adjacent to Rwenzori Mountains National Park (RMNP). Since 2008, Uganda Wildlife Authority (UWA) signed 14 Memorandum of Understandings (MOUs) with local communities in 15 parishes around RMNP to access dry bamboo, firewood, medicinal plants and mushrooms. There was increased pressure from local communities for resources in the park which had strained the relationship between the park management and the communities. There were also increased illegal activities such as poaching and pit sawing because of negative attitudes towards the park. As a response, 14 MOUs for resource use were signed with communities in 15 parishes adjacent to the park in 2008, 2009, 2011 and 2012. The purpose of resource access was to allow communities access some resources from the park, so as to reduce conflict with communities and increase their participation in park management. This was to enhance conservation of natural resources in the park.

The overall objective of the study was to assess park resource use a strategy for natural resources conservation in protected areas. The specific objectives were to assess the resources accessed from RMNP by local communities, the effects of resource use on natural resources conservation, the effectiveness and sustainability of resource use as an incentive strategy for natural resources conservation in protected areas.

The research was undertaken between February and May 2012 in communities that were allowed by UWA to access park resources and among staff of UWA working in RMNP. It involved qualitative and quantitative approach using questionnaires, focus group discussions, key interviewees and individual interviewees. Data was collected from 100 community members, 9 park rangers working in RMNP, 6 key interviewees using interview schedules, questionnaires and key interviewees/focus group discussion guide respectively..

The study found that resource access has improved relationship between the communities and the park management. There was increased reporting of incidence of illegal activities cited in the park which they had been condoning before resource use. When resource access was formally begun, selective harvesting of only dry bamboos and wood, use of only gazetted paths and cultural sites were promoted. Timeframe for harvesting resources were also agreed by communities to ensure optimal control for sustainability.

However the study found instances where resource access hinders conservation of natural resources in the park. There is littering in the park by resource users with polythene and human wastes such as feces and urine. Similarly domestic animals transported through the park also litter with their wastes. These increases risk of infecting wild animals especially apes with human diseases. However, Resource Access Strategy is effective because it has managed to change communities' negative attitudes towards the park. It is recommended that, UWA should regulate charges levied by Resource Use Committees for accessing some resources to increase affordability. Resource Use Committees should have duty rota to ensure full participation of all members of the committees. The Government of Uganda should also formulate policies to guide and regulate resource use in protected areas.

CHAPTER ONE

GENERAL INTRODUCTION

1.0 Introduction

Uganda Wildlife Authority (UWA) has over the years signed resource use Memorandum of Understandings (MOUs) with local communities living adjacent to the parks to access specific resources in park. Some of the National Parks which signed such MOUs with local communities are Bwindi Impenetrable National Park and Rwenzori Mountains National Park (RMNP). Rwenzori Mountains National Park for instance signed eleven MOUs with its adjacent communities in 2008 and 2009. The communities living around the park became enthusiastic about the park resource access, which also changed their hitherto negative attitudes towards the park while the parks management remains unsure about the impact of such resource use on conservation in protected areas. This research therefore sought to assess park resource use by local communities as an incentive strategy for natural resources conservation in protected areas. The communities living around Rwenzori Mountains National Park was selected as a case study.

The research contains five chapters. Chapter one is the general introduction which includes the background of the study, Statement of the problem, research objectives, research questions, scope of the study, justification of the problem and significance of the study. It also

includes definition of key terms and conceptual framework. The other chapters cover Literature Review, Research Methodology, Presentation, Analysis and discussion of Findings and Summary, Conclusions and Recommendations respectively.

1.1 Background of the Study

Conservation of natural resources in protected areas is a worldwide phenomenon. There are about 100,000 protected areas world over, with the majority in developing countries (Alers et al., 2007). Conservation had been based on strict authoritarian, state controlled approaches that excluded the local communities who happened to lose their land for wildlife conservation. In Tanzania, up to independence in 1961, “Wildlife management was based on the expansion of the national wildlife estate and on restrictions on human land and resource utilisation in protected areas” (Emerton and Mfunda, 1999: 9). During that period there was massive expansion of protected areas to create estates for wildlife for example; many national parks were established within the Serengeti ecosystem. They include Serengeti National Park, Ngorongoro Conservation Area, and Grumeti and Ikorongo. In Uganda, Queen Elizabeth National Park, Rwenzori Mountains National Park, Semuliki and Kibale National Parks were all established closed to each other in the Western part of Uganda.

Uganda has twelve protected areas as national parks and game reserves under the management of Uganda Wildlife Authority (UWA). They are: Kidepo National Park, Queen Elizabeth National Park, Rwenzori Mountains National Park (RMNP), Lake Mburu National

Park (LMNP), Mount Elgon National Park, Kibale National Park, Murchison fall National Park, Bwindi Impenetrable National Park, Mgahinga Gorilla National Park, Katonga Wildlife Reserve, Semuliki Wildlife Reserve and Semuliki National Park. These areas were gazetted as national parks with strict protection and exclusion of local communities from access. Uganda put in place Laws restricting access which are to be enforced at all cost. Uganda Wildlife Authority was listed as an armed force in Uganda with powers to enforce the laws. They are legally armed to protect the areas from poachers and other encroachment.

Emerton and Mfunda (1999) noted that conflicts between park authorities and adjacent communities intensified and threatened the success of wildlife conservation. Mwayafu (2007) also reported that Communities adjacent to national parks face a number of challenges which are sources of conflict with park authorities. They include destruction of crops, livestock and properties by wild animals leading to low food production and income, abandoning homes for most of the day and night to protect crops, thereby forfeiting education and other activities, engaging in selective farming that does not include major crops which are highly palatable to wild animals and summary execution by the Park Rangers. others are restriction on traditional user rights such as livestock grazing, collecting firewood, building and construction poles, mushrooms, honey, grass for thatching and mulching, medicinal plants and bamboos shoots which is a delicacy.

As communities suffered from the destruction of crops, livestock and properties by wild animals, abandoning their homes to protect crops and losing their traditional user rights, worsened by isolation and state controlled approaches to conservation of natural resources in

protected areas, they developed negative and antagonistic attitudes towards protected areas. In spite of stringent laws with “highhanded” level of enforcement, illegal activities continued in the protected areas. Common illegal activities included pit sawing, hunting, fishing, grazing cattle, walking through the park, harvesting honey, mushroom and medicinal plants. Local communities could not report poachers to park management because of their negative attitudes towards parks and protecting their illegal supplies for bush meat.

It was, however, recognised that any attempt to conserve wildlife would not succeed well unless it engages the active support of local human populations. It is a well established fact that improved natural resource management cannot succeed unless those that depend on the natural resource base for their living take charge of managing the resources themselves (Ogwang and DeGeorges, 1992; Stewart, 1992; Kayanja, 1993 in Bikaku, 2006). The great concern was how to enlist local participation to manage the resources.

A new approach of incentive to park adjacent communities emerged. Park authorities began to consider giving incentives to communities living around the parks. Incentives include park gate revenue sharing, collaborative boundary management, establishing infrastructures and facilities for local community benefits such as schools and health facilities, and in-park resource access. Emerton (1991) noted that resource access in Uganda was not permitted until 1990 in Lake Mburu National Park and later Rwenzori Mountains National Park. Some level of negotiated local resource utilisation was permitted as well as encouraging local eco-tourism employment and income opportunities (ibid). Negotiated park resource use was adopted in UWA

Collaborative Management Strategy 2000, and carried out in Lake Mburu National Park, Bwindi National Park and Rwenzori Mountains National Park.

In Rwenzori Mountains National Park, resource access by local communities was initiated in 1994 but ceased because of political insurgency. That was when Allied Democratic Forces (ADF), a rebel group fighting the government of Uganda was based on Rwenzori Mountains. In 2008 WWF supported UWA to continue with the program through its Norad funded project, the Rwenzori Mountains Conservation and Environmental Management Project (RMCEMP) phase I. WWF supported UWA to negotiate and sign two resource use MOUs with communities in Nssura and Kazingo (currently Nyakitokoli) parishes in Katebwa and Karangura Sub Counties respectively in Kabarole district as pilot for one year.

In 2009 an assessment was carried out to find out if it has an impact on the communities. It was found to have positive impact on communities' attitude towards the park. The assessment recommended for renewal of the MOUs and extension of the program to other communities. Currently, 14 MOUs were signed with communities in parishes in Kabarole, Bundibugyo and Ntoroko (formerly in Bundibugyo at the time the MOUs were signed).

The MOUs specified the resources which the communities are allowed to access. They include traditional footpaths through the park, dry bamboos stems for domestic use, medicinal plants and access to the park for cultural activities in sites agreed with UWA. The MOUs also stipulated that access to permitted park resources would be controlled by issuing resource access permits to local community members who would like to access the resources. The MOUs also

established Resource Use Committees whose responsibilities are to issue park resource access permits to local communities and link the park management with their communities. In parishes where the communities were granted access to traditional footpaths only, the committee is called Traditional Footpath Committee. Each parish has its Committee drawn from Ridge committees found in a parish. On the other hand, the MOUs obliged the communities to report illegal activities they cite in the park and maintain hygiene while in the park (Uganda Wildlife Authority, 2008)

According to World Wide Fund for Nature (2010), the second phase of its project, the RMCEMP II continues to support RMNP to negotiate and sign MOUs with communities in 2011 and 2012. The MOUs are in line with Community Conservation Policy (2004) which creates resource use zones and establishes collaborative resource management. Care international in Uganda also continues to advocate for scaling and improving resource use access through better policy enactment (Care International in Uganda, 2004). The park resource use is now irreversible since it was proved to have changed communities' negative attitude towards the park. It is one of the local communities' incentives to natural resources conservation. Many protected areas in Uganda are most likely to adopt this strategy but the greatest dilemma however is that, not so much is known whether this strategy supports natural resources conservation in protected areas.

1.2 Statement of the problem

Incentives are given to local communities living adjacent to parks to improve their livelihoods and social conditions but also to change their negative attitude towards conservation of natural resources in the park. One of such incentives is “controlled” park resource access. Communities are allowed to access park resources so as to reduce their negative attitude towards the park. The park resources access therefore must benefit local communities as well as enhance conservation of natural resources in Protected Areas. Many national parks such as Bwindi Impenetrable National Park, Mgahinga Gorilla National Park, Lake Mburu National Park and Rwenzori Mountains National Park among others have used this strategy before and many more protected areas are adopting it.

Emerton (1999) reported that resource access has improved the attitudes of the communities towards the parks but not so much was known whether or not this strategy improves conservation of natural resources in protected areas. Allowing local communities to access some resources in the protected areas without knowledge of whether or not the resource access strategy improves conservation of natural resources in protected areas constituted a great risk in natural resources conservation in protected areas. The effects of park resource use by local communities on conservation of natural resources in protected areas were not known. It was also not yet well known whether the strategy is effective and sustainable. It is assumed that, with positive attitudes, there is improved conservation but more has to be done to prove such an assumption. There was need for a study that could provide information to determine whether

park resource access by local communities improves natural resources conservation in protected areas. This research is a response to this crucial need.

1.3 Research Objectives

1.3.1 General Research Objectives

To assess park resource access by local communities living around protected areas, as an incentive strategy for conservation of natural resources in protected areas.

1.3.2 Specific objectives

1. To assess the type of resources in Rwenzori Mountains National Park being accessed by local communities.
2. To explore the effects of park resource use as an incentive strategy for natural resources conservation in Rwenzori Mountains National Park.
3. To examine the effectiveness of park resource access by Rwenzori Mountains National Park adjacent communities as an incentive strategy for natural resources conservation.
4. To assess the sustainability of park resource access by local communities as an incentive strategy for natural resources conservation in protected areas.

1.4 Research questions

1. What are the resources in Rwenzori Mountains National Park being accessed by local communities?
2. What are the effects of resource use strategy on natural resources conservation in Rwenzori Mountains National Park?
3. How effective is the park resource use as an incentive strategy for conservation of natural resources?
4. What is the sustainability of park resource use by adjacent communities as an incentive strategy for conservation?

1.5 Scope of the Study

The research was an assessment of the park resource use by local communities living around Rwenzori Mountains National Park as an incentive strategy for natural resources conservation in protected areas. It sought to identify the resources communities are permitted to access, explore the effects of resource use strategy on natural resources conservation and its effectiveness and sustainability. It did not seek to explore ecological outcomes of conservation which required a longer research period than the available time. The research was carried out among communities living around Rwenzori Mountains National Park, particularly in Bundibugyo and Kabarole districts where UWA signed resource use MOUs and also among the management and staff of Rwenzori Mountains National Park.

The study was limited to the period between 2008 and 2011. In 2008, UWA signed the first two resource use MOUs with park adjacent communities of Nsuura and Kazingo parishes in Katebwa and Karangura Sub Counties respectively. It is therefore important to focus on the period after the signing of the agreement which formally allowed communities to have controlled access to specified resources.

1.6 Significance of the Study

The current trend in conservation of natural resources in Protected Areas is involvement of communities through incentives as opposed to previous state-controlled, authoritarian approach. This is intended to change their negative attitudes towards the park. Resource access being one of such incentives seems to directly touch the core of the conflict: that is conflict over communities' perceived lost resources. When an area is gazetted as a Protected Area, the communities perceive that they have lost land, bush meat, mushroom, bamboos, medicinal plants and cultural sites (Mayafu 2007).

The managements of Rwenzori Mountains National Park and others such as Bwindi Impenetrable National Park and Mgahinga Gorilla National Park have signed MOUs with communities living adjacent to the parks for access to some park resources. This study will serve as an evaluation of the strategy by exploring its effects, effectiveness and sustainability. Where the study found successes in the strategy and proves that it does not compromise conservation, it will serve as a tool for advocacy for policy change on park resource access. Care international in

Uganda, for instance prepared resource access policy brief, seeking for improving resource access in protected areas. They justified the need for resource access on the basis of poverty reduction for communities (Care International in Uganda, 2008). This study will provide such a useful document where the contribution of resource access on conservation of natural resources in protected areas will be articulated to influence policy makers to improve resource access policy. Where the study found the strategy a hindrance to conservation, it will be used to discourage the strategy.

For Rwenzori Mountains National Park in particular, the study will answer their core question of monitoring and determining the impact of human activities in the park, and will be in line with their Ecological Monitoring Plan developed in 2011. One of the thematic areas in ecological monitoring plan is monitoring the impact of human activities in the park. This include monitoring the impact of resource use and other human activities inside the park on vegetation, the impact of cultural activities in the park, and sustainability of park resource access (World Wide Fund for nature and Uganda Wildlife Authority, 2011). Rwenzori Mountains National Park and Uganda Wildlife Authority will definitely require such information which the study will explore. The information will be used for planning and decision making that will improve conservation in protected areas in Uganda.

World Wide Fund for nature which supports Uganda Wildlife Authority to improve management effectiveness of Rwenzori Mountains National Park will use the study to assess the effectiveness of the intervention it supported since 2008 and its effects on conservation which is its primary focus.

1.7 Justification of the Study

There are documentations about the impact of resource access on community livelihoods, but much more was desired on conservation of natural resources in protected areas. Not so much was yet known about the extent to which park resource access as local community incentive strategy improves conservation, yet many protected areas continue to adopt this strategy. Rwenzori Mountains National Park for instance, with support from World Wide Fund for nature signed resource use MOUs with local communities in late 2011 despite the fact that she has not carried out any study on the impact of the existing resource access on conservation. This constitute an inherent risk to conservation because resource inventory usually carried out before permitting the communities to access resources in the park focuses only on the quantity of the resources, its regeneration capacity and quantity required by potential users but not the impacts of such access on conservation. This study will timely provide the much needed information to Uganda Wildlife Authority and Rwenzori Mountains National Park in particular, to make informed decisions about resource access strategy.

Uganda Wildlife Authority has Collaborative Resource Use Strategy (2004) which guides resource access in all national parks. Rwenzori Mountains National Park has proposed for the development of Resource Use Policy to regulate access to resources in the parks in Uganda. The policy formulation process will be initiated and submitted to the board of Uganda Wildlife Authority. It was important that this research was timely carried out to provide information that will feed the resource use policy Uganda wildlife Authority through Ministry of Tourism intends to initiate.

1.8 Definition of Key terms

Conservation of natural resources: Management, protection, preservation and or restoration of natural resources such as; vegetation, wildlife, soil, water among others.

Collaborative resource use MOUs: MOUs signed between UWA and communities living in parishes adjacent to the National Parks.

Incentive strategy: Ways developed to stimulate and encourage cooperation and participation of local communities for greater output.

Local Community Benefits: Financial and non financial support to communities arising from conservation in PAs.

Natural Resources: Natural substances that are considered to be of value in their natural form.

Ranger Based Monitoring: An approach where rangers during their patrol in the park, collect information about ecology as well as human activities

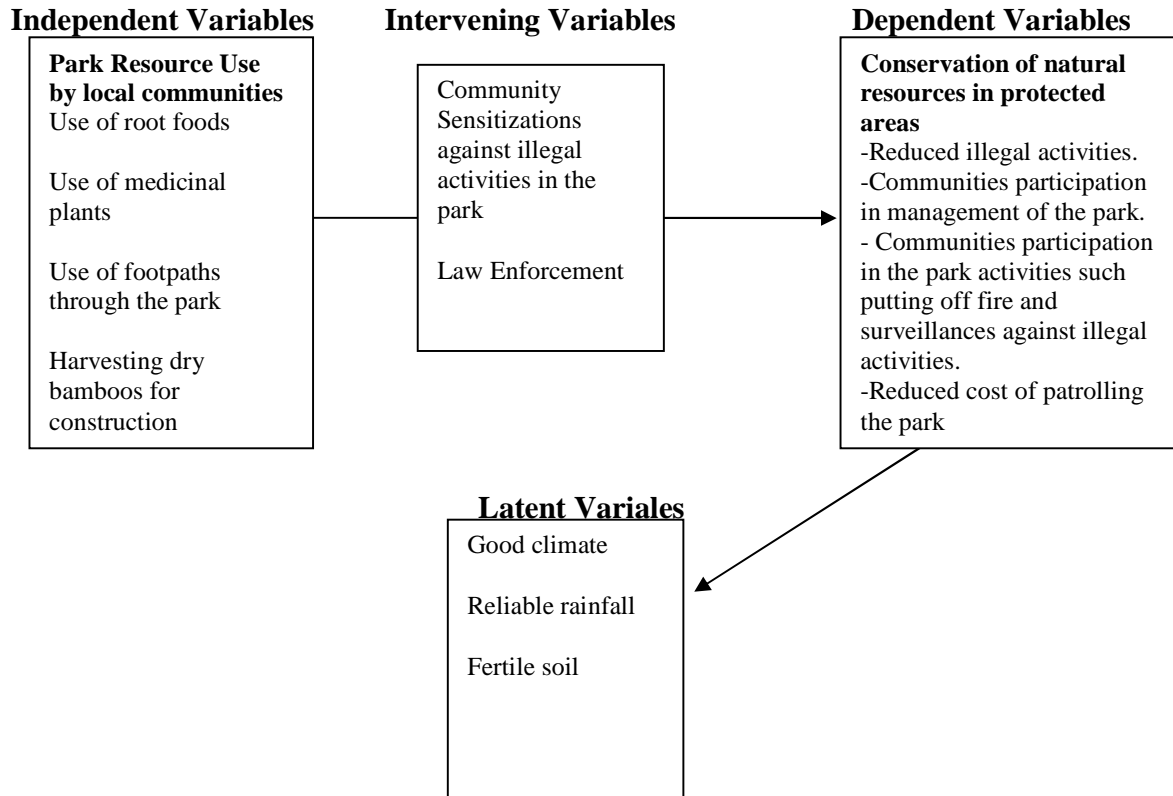
Park Resources: Resources in the park which the communities have been permitted to access through collaborative resource use MOUs. This term is also used interchangeably with in-park resources

Park Resource Use: In this context, it is used interchangeably with **in-park resource use and park resource access**, which is harvesting permitted resources in the park in line with collaborative resource use MOUs.

Protected Area: Areas that are gazetted by government as national parks and game reserves

National Park: A reserve of natural or semi-natural land declared or owned by government, which is restricted from most development and is set aside for human recreation and environmental protection

1.9 Conceptual Framework



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This section analyses information from various literature concerning park resource use by local communities. In the review, strengths and gaps in the literature were identified and subjected to the opinions of the reviewer. It is presented under different specific study objectives namely; resources accessed by local communities, effects of resource access on natural resources conservation in Rwenzori Mountains National Park, effectiveness and sustainability of resource access strategy.

2.1 Resources Accessed by Local Communities living adjacent to National Parks

Communities living around protected areas often seek to access some resources in the park which they were previously accessing before such areas were gazetted as protected areas. Some of the resources include bamboo stems, root foods, mushrooms and medicinal plants. Others require accessing footpaths across parks which are usually shorter routes while some people require accessing sites for performing rituals and other cultural activities.

In Bwindi Impenetrable National Park (BINP), Uganda National Park (UNP) permitted beekeeping because it has low impact on conservation of natural resources in the park and did not require detail studies (Wild and Mutebi, 1996). Beekeepers formed groups and were allowed to set apiary in the park. At the time, the focus was on less extractive resource use because of fear of depleting natural resources. Wild and Mutebi (ibid) noted that the communities living around Bwindi Impenetrable National Park and Mgahinga Gorilla National Park (MGNP) were allowed to access medicinal plants, firewood and mushrooms. The categories of persons to access the resources were nominated by the communities themselves. They considered local experts in such areas like basketry, medicines among others. This meant that some people were legally excluded.

There was rather a different approach in Rwenzori Mountains National Park (RNMP) where interested community members were registered in the parishes that signed the agreement to access resources of which they signed MOUs. In the Memorandum of Understanding (MOU) UWA signed with local communities, various resources were permitted for access by different communities. In Nsuura and Nyakitokoli parishes, they are permitted to access plant resources such as dry bamboos, firewood, mushrooms and medicinal plants. Other MOUs were signed for use of some specific traditional footpaths through the park. However, it is not known whether the local communities access only the permitted resources and if so, the quantities they access are also not known. There is no information about the number of people and extent of use of the traditional footpaths.

Bitariho and Mosango (2005) noted that there are more households around Mgahinga Gorilla National Park which use bamboos than in Bwindi Impenetrable National Park. However, it was not clear whether all the bamboos used are obtained from the park because there are 58% of the homesteads around Mgahinga Gorilla National Park which have bamboo gardens and 4% from around Bwindi Impenetrable National Park. This may imply that the local communities mostly use bamboos from their gardens than the parks. This is in contrast with Rwenzori Mountains National Park adjacent communities where there is no evidence of bamboo gardens found around the park. It is also not clear what quantities of bamboos are harvested and other resources such as mushrooms and fire woods. Besides the quantities harvested, there is need to research and document the percentage of the community members who access the resources by types.

In as much as UWA signed MOUs with local communities to access some specific resources in Rwenzori Mountains National Park, there are some communities which have accessed without any MOUs. Similarly, there could also be some access for some resources which are not permitted in the MOUs. WWF and UWA (2011) in their Resource Inventory Report, found traces of transportation of bamboos in the park areas adjacent to Busamba and Nyabuswa parishes in Bundibugyo and Kabarole districts respectively before they had signed MOU with UWA. The Inventory Report reveals that 51% of households in Nyabuswa and Busamba accessed bamboos, medicinal plants 51%, firewood 44% and mushrooms 50%. It is clear that many resources are being illegally accessed and therefore there is need to identify.

2.2 Effects of Park Resource Use on Conservation of natural Resources in Protected Areas

Blomley et al. (2010) noted that the multiple use programs which is one of the Integrated Conservation and Development (ICD) strategy for park resources access was established following the acute and rising levels of conflict. The conflict was caused by establishment of the Bwindi Impenetrable National Park and Mgahinga National Park. Two ICD interventions used in conservation of resources in Bwindi and Mgahinga National Parks were identified. They were “coupling” and “decoupling” interventions. “Coupling intervention brings about conservation effect through improving community attitudes and relations with the park creating changes in behavior and ultimately increasing community support for conservation” (Blomley et al. 2010: 15), while decoupling reduces the need for resources in the protected areas and produces positive conservation outcomes (ibid). They argue that: “coupling intervention reconciles conservation and development interests by generating more favourable (sic) attitudes among local people regarding the presence of the park, and reduces political demands for excision of land within the parks” (ibid).

The significance of positive attitude towards protected areas authorities is improved conservation as Blomley et al. (2010) pointed out. Park staff lives among communities and require their cooperation for effective management of resources. It is also noted that in Uganda political demand is very strong in influencing government to rescind its decision contrary to conservation policies and programmes. A local demand could influence government to make decisions otherwise in disregard to conservation. This was the case in Lake Mburu National Park in 1986 where people who were previously evicted or migrated from the gazetted area demanded

for the land for their use and were allowed to reoccupy. “Former residents of the Lake Mburu National Park area returned to settle, also accompanied by newcomers. Park infrastructure and wildlife were largely destroyed” (Emerton, 1999: 2).

It is agreeable that allowing communities to access resources would change their negative attitude towards the park which improves relationship, increases participation in park activities and vigilance on illegal activities which all enhance conservation but Blomley et al. (2010) did not articulate that positive attitude reinforces vigilance on illegal activities which compliments law enforcement. It ought to be appreciated that law enforcement is only successful with community support.

A similar argument to that of Blomley et al. (2010) was advanced by Infield and Namara (2001) while analyzing the impact of a Community Conservation Programme (CCP) implemented over a seven year period around Lake Mburu National Park. They revealed that communities that benefited from the program; dialogue, conflict reduction, education, community resource access and support for community development had significantly more positive attitudes towards the park and wildlife than communities that did not. Infield and Namara (2001) were indeed in agreement with Blomley et al. (2010) except when they pointed out that, in spite of the positive attitude towards the park and wildlife, they did not find evidence of positive attitude towards conservation. They investigated the attitude of CCP participating communities on conservation but did not link positive attitude towards the park to conservation. It is worth exploring the link between positive attitude towards the park and how it improves conservation.

Alers et al. (2007) report that external pressures are exerted on protected areas through both encroachment and degradation. These have resulted to threats such as habitat loss and degradation due to conversion to pastureland and agriculture, overexploitation of natural resources including logging, the collection of non-timber forest products, overfishing, and overgrazing livestock. They identified the causes of these threats as population growth and immigration, the open-access nature of resources in protected areas, government development plans and investments such as roads that open up access to park resources and promote immigration into fragile ecosystems near protected areas, weak law enforcement, local dependency on natural resources due to limited alternative economic opportunities and cultural habits.

Pressures on natural resources as noted by Alers et al. (2007) are the core conservation questions that everyone seeks to address. Overexploitation of the natural resources is a key area to focus at because resources are always in limited quantities. When access is permitted as the case in some National Parks, communities may overexploit the resources and cause degradation. A study carried out on recovery of twelve medicinal trees from bark harvesting in Benin in West Africa confirmed the above opinion. It found that tree re-growth and recovery is poor or none on some species of medicinal plants (Delvaux et al. 2009). This requires management of tree bark harvesting of medicinal plants from natural forests in order to prevent inappropriate exploitation of target species from both international industry and local markets (ibid).

Opening access to protected areas may be a means to appease adjacent communities yet with adverse effects on conservation. This is because communities do not seek for alternatives to park

resources as long as they are still available in the park. They may for example not plant certain plant resources for their domestic use because they access from the park. It is difficult for people to exercise self limitation on level of harvesting resources in the park given differences in human behaviour.

Alers et al. (2007) argue that, “threats arise from legal, large scale government-endorsed activities - include - ing (sic) commercial initiatives - that respond to development agendas, policies and decisions generated far away from the site” (Alers et al. 2007: 10). In as much as the argument is correct, it should not be treated as the only major source of threats. Activities such as access to in-park resources when not properly controlled can be a big threat to conservation. The writers seem to present their argument based on “state controlled-authoritarian approach” to conservation in protected areas where communities are denied access to resources in the protected areas. Given that the approach has changed to collaborative resource management, degradation in protected areas can be attributed to both government investments and development plans, and local activities within and around protected areas.

2.3 Effectiveness of park resource use by local communities as an incentive strategy for conservation of natural resources in protected areas

Wild and Mutebi (1996) reported that for community interviews carried out prior to CARE-DTC project socio-economic survey held in December 1991 and January 1992 at Bwindi Impenetrable national park and Mgahinga gorilla national Park adjacent communities, revealed considerable hostility towards the National Park. The community was as hostile as noted by the

following remarks “When you mention the National Park we want to vomit. Nothing you ever say will change our minds”. “Gorillas should be kept in cages and taken to zoos” (interviewee cited in Wild and Mutebi, 1996: 9). The hostility in the two parks was so great because they consider they have lost their resources and rights to the park authorities. When limited park resource access was allowed in 1994, relations between communities and park staff improved. There emerged relationship of collaboration between community and park authorities. The authors correctly point out that there were those who accepted the resource access with scepticism for fear of deceit from the park authorities.

The opinion of Wild and Mutebi (1996) that park resource access was an effective strategy for changing the negative attitudes of the communities towards the park in Bwindi Impenetrable National Park and Mgahinga Gorilla National Park increase confidence in resource access as a strategy for conservation of natural resources in protected areas. Similar opinion was held by Tamale (1998) when he asserted that the strategy has succeeded in making people around the park more aware of the need to conserve both the forests and the farmlands. Tamale (ibid) argued that resource access has contributed to changing the community’s attitude towards conservation and has helped to harmonize relationship between the park and local communities.

Wild and Mutebi (1996) also found that Bwindi Impenetrable National Park and Mgahinga Gorilla National Park are heavily patrolled with high Area to Park Ranger ratio. In Bwindi Impenetrable National Park which has a boundary of 115 kilometres, there were 24 Park Rangers but it was still difficult to control illegal activities. This means that it was difficult to control illegal activities without community support. They reported that after the resource access

was formalized in Bwindi Impenetrable National Park, the rate of illegal activities reduced. This was evident by reduced number of snares (animal traps) and caucuses found in the park. The number of poachers arrested in the park had also reduced. Wild and Mutebi (1996) were largely true in their findings and arguments but they would make more insights had they explored whether reduced level of illegal activities was not just because the local people had changed their negative attitude rather because what was illegal was legalized. There is need to explore the link between reduced illegal activities and legalizing the same.

2.4 The sustainability of in-park resource access by park adjacent communities as an Incentive strategy for conservation

Sustainability of resource access as an incentive strategy for conservation of natural resources is a cornerstone for conservation of natural resources in protected areas in general and in Rwenzori Mountains National Park in particular. Sustainability is the continuity of achievements realized from a program or an activity without external support. It involves improving the quality of life within the carrying capacity of resources. These definitions are consistent with the question of sustainability of resource use by local communities as an incentive strategy for natural resources conservation which this research sought to assess. Sustainability of park resource access by local communities as an incentive strategy for natural resources conservation means that; park resources being accessed will continue to be available to sustain the initiative without compromising future use; and while communities access, they will continue to support conservation of natural resources in the park. It also means that mechanisms

put in place for control of resource access will continue with limited external support. Sustainability is necessary so that resources do not get depleted within a short period of time and communities backslide to their hitherto actions and negative attitudes towards the park

Permitting access to park resources was argued to be a sustainable strategy for providing equity to local people who by virtue of neighbouring protected areas, lost resources to the park. Wild and Mutebi (1996) argue that Collaborative management of resource use is likely to prove a more sustainable long-term strategy than the state controlled approach. They argue that controlled harvesting from protected areas is one of the most obvious ways to reduce cost to local communities who incur cost resulting from loss of access to these resources. If the communities are not allowed to access some park resources, they may retaliate and deliberately target to destroy animals and harm rangers.

Allowing local communities to access some resources in the park may improve their relations with the parks management. Improved relationship is likely to reduce the risk of deliberate destruction. However, conservationists have mixed feelings about resource access, that it contradicts the very essence of establishing protected areas (Wild and Mutebi 2006).

The common understanding of sustainability of resource use strategy is base on sustaining the good relationship created between the community and the park management rather than conservation of natural resources. This therefore does not address the mixed feelings expressed by the conservationists. There might be some elements of sustainability of the strategy in promoting conservation in protected areas which must be adequately explored.

The Resource Inventory that was carried out by Rwenzori Mountains National Park in 2011 in Busamba and Nyabuswa parishes in Bundibugyo and Kabarole districts respectively shows that regulated park resource access does not lead to depletion of such resources. This is because some of the resources are already dead, for example, firewood and dry bamboos. Even others which are not dead such as mushrooms when they are not harvested, they would rot, and if harvested, may not affect conservation. According to the Resource Inventory Report which identified bamboo resource harvest zones and quantity available, communities in the two parishes of Busamba and Nyabuswa can harvest up to 150 bundles of bamboo stems per week for at least 24 weeks in a dry season which is less than the total dry/dead bamboos in the identified harvest zones (World Wide Fund for nature and Uganda Wildlife Authority, 2011). Communities are allowed to harvest dry bamboos only during dry season to avoid damaging bamboo sprouts assuming the permitted harvest is 10 %

However, it should be noted that each species has its vulnerability level beyond which harvesting is not sustainable. In a study carried out to assess the bark recovery level of selected tree species used for medicine, it was found that, partial bark removal allowed better sheet growth in all the 12 species studied. Others which had total bark harvesting were found to recover very poorly (Delvaux et al., 2009). This underscore the significance for controlled harvesting to enhance sustainability which resource use strategy in Rwenzori Mountains National Park emphasizes.

Apart from the challenge of depletion of some resources, Namara (2006) observed that resource use (multiple use program as called in BINP) was seen by UWA to be largely donor

driven by international organisations like the African Wildlife Foundation, the World Conservation Union (IUCN) and CARE International forcing the approach upon UWA. This somehow determined the level and type of partnerships that were created in the programme. Consequently, this limited its value in meeting the interests of communities and conservation. She also cited Borrini-Feyerabend and Sandwith (2003), who noted that protected areas in Africa are unwilling to involve the local communities in genuine partnership and fair negotiation of decisions and actions. It is largely correct to affirm that there cannot be any sustainable strategy with any local community without their genuine involvement, ownership and informed participation.

In this chapter, I have listed some resources local communities living adjacent to protected areas access from the parks. They include dry bamboo culms, root foods, mushrooms, medicinal plants and footpaths. I have emphasized that, improved relationship between the local communities and the park management is essential for conservation of natural resources in protected areas. It is however important that investigation is carried out to determine whether and how the resource use strategy improves conservation of natural resources in the protected areas. This required sound methodology as discussed in chapter three below. The next chapter focuses on methods of sampling, data collection and analysis among others.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents the study methodology which specified the research design, the area of study and the study population. It also specified the sampling procedure, data collection methods and instruments, data analysis, ethical consideration and study limitations.

3.1 Research Design

The research was a case study with a combination of qualitative and quantitative research approaches. Communities living adjacent to Rwenzori Mountains National Park were selected as a case where other protected areas in Uganda can learn from the findings. The research was more qualitative but quantitative aspects were considered to collect data that is based on measurement or amount (Kothari 2004). This was to strengthen and validate the findings from qualitative methods. It was more qualitative because it enables collection of a wide range of data that relate to feelings, attitudes, behavior and practices which may not be adequately and reliably generated through quantifiable means. Qualitative research is “*voyage of discovery*” (Denscombe, 2010: 110) which helps the research to explore the study subject in-depth and provide an opportunity to

consider many different aspects of the problem (Kothari, 2004). It was therefore necessary to consider both quantitative and qualitative research approach because the analysis of the latter is a subjective function of the researcher's insights and impressions (ibid). Employing multiple approaches and methods may enhance quality of research as noted by Newman and Benz (1998).

The case study design will enhance ownership of findings within Rwenzori Mountains National Park. It also allows in-depth research through deeper analysis of facts from one geographical area whose circumstances and characteristics are not much different from other protected areas in Uganda.

3.2 Area of Study

The study was carried out in the parishes adjacent to Rwenzori Mountains National Park in Bundibugyo and Kabarole districts where Uganda Wildlife Authority signed MOUs with local communities. Uganda Wildlife Authority signed 14 MOUs covering 15 parishes out of a total of 58 parishes around Rwenzori Mountains National Park. Rwenzori Mountains National Park is found in South Western part of Uganda, covering an area of 996 square kilometers. It is located on the Rwenzori Mountains which is a chain of Mountains and trans-boundary massif shared between Uganda and Democratic Republic of Congo (DRC) with over 75% of the Mountain range found in Uganda. RMNP is a focal point for international recognitions and was inscribed as a UN World Heritage Site in 1994 and designated as a Ramsar site (wetland of international importance) in 2009 (World Wide Fund for nature, 2010). In Uganda, the Rwenzori Mountains

National Park is bordered by Kasese, Kabarole, Bundibugyo and Ntoroko districts. Ntoroko is still a new district that was split from Bundibugyo District (See map in appendix 1).

The park adjacent parishes where communities signed MOUs with Uganda Wild Authority are Nyakitokoli in Karangura Sub County (splited from Bukuku Sub County) and Nsuura in Katebwa Sub County in Kabarole in 2008. In June 2009, MOUs for traditional footpaths were signed with the communities in parishes of; Karago in Kabarole district, Mabere and Kasithu, Busamba, Kikyo, Bukangama and Buhundu, Ngite and Kasanzi, Bupomboli and Kasulenge and Bulembe in Bundibugyo, and Musandama in Ntoroko. MOUs that had integrated traditional footpaths, cultural sites and plant resources were signed with communities in Kamabale and Busamba parishes in Kabarole and Bundibugyo districts respectively in 2011. In 2012 four parishes negotiated and renewed their MOUs to include both plant and service resources. They are Kakuka, Kibwa, Kikyo and Mabere in Bundibugyo district. This research was carried out in Nyakitokoli (formerly in Kazingo parish) and Nsuura parishes in Karangura and Katebwa Sub Counties respectively in Kabarole district, and Kikyo and Busamba parishes in Ngamba and Bukonzo Sub Counties respectively in Bundibugyo district

Interviews with local communities were carried out in 7 selected villages in 4 parishes. The parishes are Busamba and Kikyo in Bukonjo and Ngamba Sub County respectively in Bundibugyo district. In Kabarole district the parishes were Nsuura and Nyakitokoli in Katebwa and Karangura Sub Counties respectively. The selected villages in the above parishes were Rwabala and Kighumu in Nyakitokoli, Tusingene and Kaisenda in Nsuura, Teya and Bungangasi in Kikyo and Bulemba in Busamba parish. Whilst interviews with park staff were

carried out at park headquarter in Rwakingi in Kasese district and in various ranger posts in Bundibugyo, Kasese and Kabarole districts.

3.3 Study Population

The study population included the local community members; adults (persons aged 18 years and above), men and women who have been living in parishes adjacent to Rwenzori Mountains National Park since 2008, and staff of Uganda Wildlife Authority who have been working in Rwenzori Mountains National Park for at least two years. There are 2898 (two thousand eight hundred and ninety eight) people who registered to access resources during the process of signing the 14 MOUs, and about 100 staff of Uganda Wildlife Authority living in parishes adjacent to RMNP.

Data was collected from a total of 116 respondents through different methods. They include 70 individual interviewees from 7 villages in 4 different parishes, 7 key interviewees (2 were from RMNP, 1 from WWF and 4 from the communities) 9 Park Rangers who filled and returned questionnaires and 30 participants in 3 focus group discussions. Individual interviewees were selected from 4 parishes. 2 villages were selected from each of the three (3) parishes (Kikyo, Nyakitokoli and Nsuura) and 1 village from the fourth parish (Busamba parish).

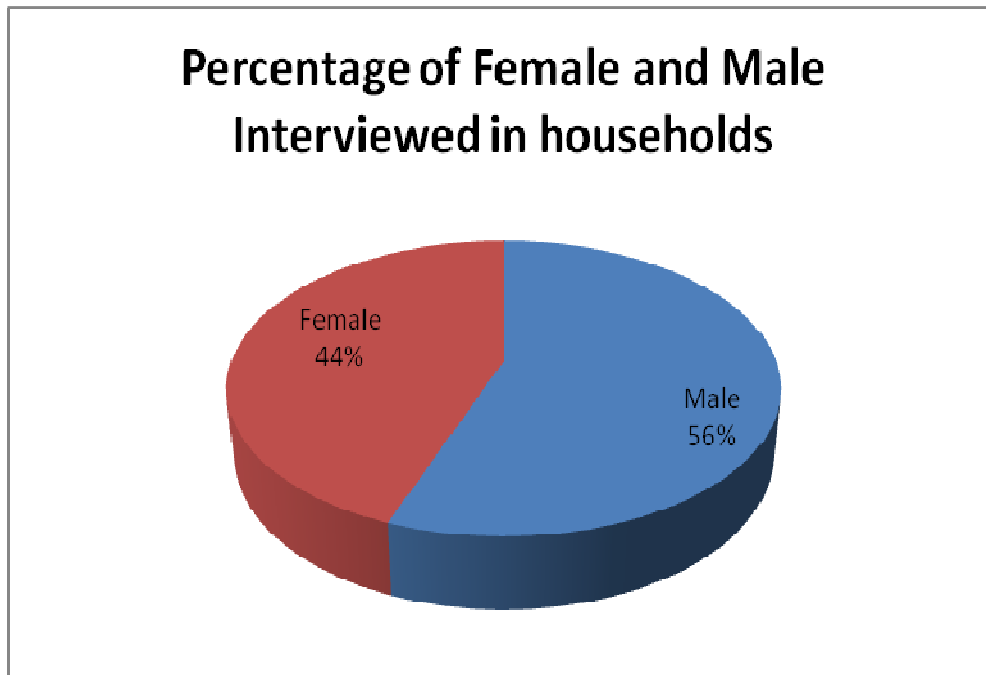
Table 1: Number of Respondents in villages and parishes

DISTRICT	SUB COUNTY	NAME OF PARISH	NAME OF VILLAGE	NUMBER OF RESPONDENTS
Kabarole	Karangura	Nyakitokoli	Rwabala	10
			Kighumu	10
			Total	20
	Katebwa	Nsuura	Tusingene	10
			Kaisenda	10
			Total	20
Total				40
Bundibugyo	Bukonjo	Busamba	Bulemba	10
			Total	10
	Ngamba	Kikyo	Bungangasi	10
			Teya	10
			Total	20
Total				30
OVERALL TOTAL				70

The majority of respondents from the communities were male (39 out of 70 respondents) and female were 31 respondents. This was however minimal variation because of use of random sampling techniques where all persons in a selected village had equal opportunity to participate.

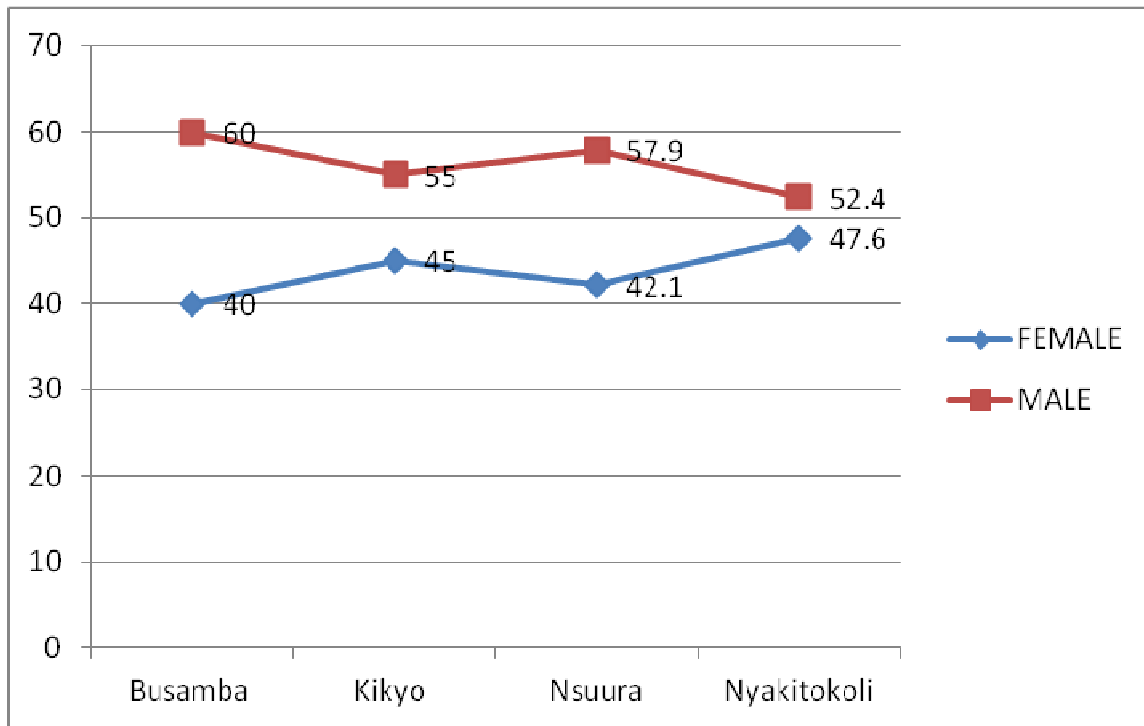
The key informants were all male and Park Rangers who filled the self administered semi-structured questionnaires had only 1 female out of 9 people who returned questionnaires.

Figure 1: Comparison of percentage of females and males interviewed in the communities



This gender variation was also reflected in all parishes where the interviews were conducted. There was simple majority of male interviewees as seen below. Data on gender of interviewees were collected for purpose of analysis of gender differences if any in access to park resources in different parishes.

Figure 2: Line graph showing percentage of gender distribution of Individual Interviewees.



The respondents interviewed were mainly household heads (55.9%) and a few were spouses (wives) constituting 29.4% and 14.7% were other members of households (those were neither household head nor spouses but above 18 years of age). There were more males than females respondents because the researcher missed interviewing some women who had been selected. The women were missed because they were either in the garden till late in the evening or busy in some domestic work while men were largely at home after garden work in the mid morning. There were chances of replacing missed respondents but the criterion was also random selection from the entire study population in the village which could not necessarily replace missed women with their fellow women. The key interviewees were mostly men due to gender gap in public employment and participation in public affairs where male gender dominates.

The level of education among the study population is low with up to 17.9% of interviewees who never went to school and only 9% completed secondary education.

Table 2: Educational Level of Respondents and Percent of Community members that have attained different Levels of Education

EDUCATIONAL LEVEL	RESPONDENTS	
	Number	Percent
No Education	12	17.9
Did not Complete Primary Education	21	31.3
Completed primary Education	16	23.9
Did not Completed Secondary Education	8	11.9
Completed Secondary Education	6	9
Post Secondary Education	3	4.5
Vocational Education	1	1.5
Total	67	100

Source: Research finding

The level of education of individual interviewees in table 2 above also shows the level of education of community members living around Rwenzori Mountains National Park. The majority of communities have not gone above secondary education which constitutes a critical hindrance to development. The level of education among community members also dictate the economic occupation they engage in.

The main economic occupation of the community is peasant farming with a few engaging in business activities such as small scale sale of commodities in markets, shops among others. Among individual interviewees at least 61.2% were peasant farmers thus reflecting the main

economic activity in the communities. These people would be so much dependent on park resources without possible alternative resources in the close vicinity.

Table 3: Occupation of Interviewees by Percentage

OCCUPATION	PERCENT
Peasant farming	61.2
Salaried work	9
Business	19.4
Student	7.5
Others	3

Source: Research findings

The occupations of the interviewees indicate that the majority of community members are peasant farmers and therefore dependent on park resources for their domestic needs.

3.4 Sampling Procedure

3.4.1 Sample size

There were at least a total of 116 respondents selected from 2898 registered resource users and RMNP staff. 70 respondents (community members) were reached through individual interviews representing 70 households, 9 UWA staff (Community Conservation and Law Enforcement Rangers), 7 key interviewees who included Warden Community Conservation and Assistant warden Research and Monitoring from RMNP, Natural Resources Officer, WWF-

RMCEMP II, 3 chairpersons of Resource Use Committees and 1 Chairperson of Local Council I. 30 people (community members) participated in 3 Focus Group Discussions (FGDs).

3.4.2 Sampling Techniques

A total of 4 parishes where data was collected were selected using two sampling techniques; purposive and simple random sampling. Out of the 4 parishes, 2 parishes; Nyakitokoli (formerly part of Kazingo) and Nsuura were selected purposively because they were the only first parishes which were allowed to access both plant and service resources in 2008. They therefore could have gained enormous experiences in resource use that would be vital for this research. The other 2 parishes; Busamba and Kikyoo were randomly selected from 13 other parishes which signed MOUs for use of service resources in 2009 and among them 6 parishes in 2011 signed new MOUs to access both plant and service resources. Simple random selection technique was therefore vital because all the 13 parishes had similar experiences and any could provide relevant information.

All the villages in the 4 selected parishes were randomly selected using simple random technique by lottery. Simple random is a process where every member of the population has the probability of being included in the study list (Frerichs, 2008). Lottery was used by assigning numbers to all listed parishes that had a chance of participating in the study and numbers were shuffled. Two numbers were randomly picked where Kikyoo and Busamba were selected. For selection of villages, all villages in a parish were assigned numbers and only 2 numbers were

randomly picked except in Busamba where only 1 number was picked because there was need to select only 1 village. Only 1 village was selected from Busamba because I considered that the sample size was adequate and also appropriate in line with cost and time constraints.

Respondents were also selected using simple random and purposive sampling method. Individual interviewees from the communities were selected using simple random technique by use of lottery. Lists of residents in the selected villages were obtained and in each village a number was assigned to each name. Each number was written in a small piece of paper and put in a small box for each selected village. The papers in each box were shuffled and the researcher then randomly picked 10 pieces of paper containing numbers representing selected respondents in a village. Random sampling method was used to select individual interviewees because it enables collection of data that represents the general communities without bias. Random selection of individual interviewees was effective because the local council chairpersons in the selected villages had lists of residents from which respondents were selected.

The respondents who were selected purposively were key interviewees who included UWA staff; Warden Community Conservation and Assistant Warden Research and Monitoring, the Natural Resources Officer of WWF- RMCEMP II, 3 chairpersons of Resource Use Committees and 1 Local council I chairperson. Warden Community Conservation was selected because of his role in supervising resource use on behalf of UWA. Assistant Warden Research and Monitoring was selected because he supervises routine monitoring of quantities of resources accessed by local communities. The Natural Resources Officer of WWF- RMCEMP II was selected because he is in-charge of supporting RMNP to engage with communities and reach

understanding on resource access. These key interviewees, because of their official functions, are knowledgeable about resource use in Rwenzori Mountains National Park. The other key interviewees from the communities were purposely selected because of their roles in issuing permits and monitoring resource access as heads of resource Use Committees and local leaders.

The Park Rangers who filled the self-administered questionnaires were selected purposively based on their work experience on monitoring resource use. I selected Park Rangers who had at least worked or were currently working in the parishes where communities are allowed to access park resources. They therefore have experienced the processes and witnessed the results of resource use in the parishes where they worked or currently work.

3.5 Data Collection Methods and Instruments

Data was collected using primary and secondary methods. Primary methods included questionnaire, Focus Group Discussions (FGD), Individual Interviews and key informants interviews while secondary method included review of documents from Uganda Wildlife Authority.

i. Questionnaire method

The study used questionnaire method to collect information from 9 UWA staff (Community Conservation and Law Enforcement Rangers) using self-administered semi-structured questionnaires (in appendix III) as a data collection tool. Questionnaires were sent out

to some selected Park Rangers to fill and return. Questionnaire method allowed collection of data that required the respondents to crosscheck from records to ascertain them. It also gave the respondents ample time to think about some sensitive questions such as those about illegal activities. 12 questionnaires were sent out and 9 were returned. This was an optimum return rate because the Warden Community Conservation of RMNP was interested in the research and made follow up with rangers who were selected for written interviews.

ii. Key Interviewees

7 key interviewees were interviewed using key interview guide (refer to appendix IV). They were persons who have knowledge and privilege information on resource use in Rwenzori Mountains National Park. They include Warden Community Conservation and Assistant Warden Research and Monitoring, Rwenzori Mountains National Park, the Natural Resources Officer, World Wide Fund for nature, 3 chairpersons of resource use groups and 1 chairperson of local council I. The park staff mentioned above participates in managing and enforcement of MOUs for resource use as well as ensuring that conservation objectives are met. The community leaders were selected because they play direct role in enforcement of the MOUs on behalf of the communities.

iii. Individual Interview method

Interview method involves presentation of oral-verbal stimuli and reply in terms of oral verbal responses (Kothari, 2004). The researcher identified 2 Data Enumerators who fluently spoke English and Lukonjo to interview respondents using interview schedule (see appendix II). Lukonjo is a local language commonly spoken in the study area. The interview schedule

contained both open and closed ended questions. Individual interview method was used to collect data from 70 interviewees. This method was used for three reasons; it helps in collection of more information and in greater depth, interviewer can overcome resistance by creating rapport and observation can as well be made (ibid). In spite of the advantages of interview method listed above, there could had been resistance from respondents because of the physical presence of the interviewers but this was mitigated by working with data enumerators who spoke Lukonjo and therefore easily gained rapport. The data enumerators were persons with interpersonal skills that helped in relating with respondents.

iv. Focus Group Discussion

3 Focus group discussions (FGDs) were held with local community members from parishes that are allowed by Uganda Wildlife Authority to access some resources from the Rwenzori Mountains National Park using FGD guide (see appendix IV). A total of 30 people who access some resources from the park from 3 selected parishes participated in the FGDs. Each FGD had between 8 to 12 participants. The participants were from Nsuura, Nyakitokoli and Busamba parishes in Katebwa, Karangura and Bukonjo Sub Counties respectively. The FGDs in Nsuura and Nyakitokoli parishes were held with people who were within the same age bracket of 35 to 45 years while the FGD in Busamba parish was held with members of Resource Use Committee of Busamba Resource Use Group. Holding FGDs with participants of similar characteristics was to increase level of participation in the group discussions. FGD method ensures collection of data from a large number of people within a short time. It however suffers from limitation posed by domination of discussion by some participants which limits others thus reflecting the views of a few. This inherent limitation was mitigated by purposely selecting

individuals with similar characteristics to compose focus groups and using good facilitation skills which give chances to all to contribute. This created conducive environment which stimulated discussion.

v. Documents review and analysis

Different relevant literature were reviewed and analyzed to find information from other writers and compare with the primary data. Some of the documents that were analyzed are collaborative resource use policy paper, Uganda Wildlife Authority reports on resource use, MOUs between Uganda Wildlife Authority and local communities for resource use and records of resources accessed.

3.6 Quality Control Methods

The following tasks were undertaken to ensure quality; data collection tools were reviewed to check inconsistencies and edited; the researcher also adhered to the tools designed which avoid collection of unnecessary data; there was immediate field editing of questionnaires together with data enumerators to ascertain that information recorded is consistent and with minimal errors.

3.7 Data Management and Processing

A comprehensive analysis plan was developed before data collection and used for compiling the dissertation. The plan specified key themes required for reporting on each specific objective. Qualitative data was summarized in a template (in the analysis plan) that provided a basis for analysis. For quantitative data, responses were coded using numerical (such as 1, 2, 3) and phrase (summary of statements representing a response) codes and were entered in “Epi info” to process for analysis. The codes were documented for reference during analysis. “Epi Info” is a statistical program for data entry and analysis that was developed by Center for Disease Control to support disease surveillance but has since been adapted to analyze other types of data.

3.8 Data Analysis

The study employed both qualitative and quantitative methods of data analysis in order to provide required qualitative and quantitative information. Data was analyzed quantitatively using “Epi Info” to generate frequencies and percentages of responses and variables of interest. Some of the frequencies and percentages were transferred to Excel to generate graphs for presentation in the dissertation.

Qualitative data was analyzed using thematic and content analysis method. Data was read and themes generated and written in the analysis plan. Data from similar questions were sorted

together and summarized according to themes in the analysis template. Also data from similar respondents were sorted to analyze their contents and summarized according to different themes and category of respondents. Contents from different categories of respondents that are summarized in different themes are compared to assess trends and patterns of information. Findings were therefore generated from related contents which formed the basis for discussion. Key issues generated by qualitative and quantitative analysis methods were compared to concise findings and discussions.

3.9 Ethical Consideration

Ethical considerations were part and parcel of the study in order to ensure that respondents and their particular information are confidential. This was achieved by explaining the purpose of the study to all respondents and informed them of how they were chosen to participate in the study. There was also assurance that information obtained from respondents shall not be disclosed in their names. The researcher sought informed consent from the selected respondents before commencement of the interviews. During and after the study, no information was attributed to particular respondent to the extent that such a person can be identified without his or her consent. Only those who offered verbal consent had some information attributed to them. This ensured confidentiality and respect for the respondents which create trust in future research.

3.10 Limitations of the Study

Loss of some information occurred during interviews because of interpretation and translation of questions and responses from Lukonjo to English and vice versa. However, this was minimized by training and testing of tools with data enumerators before data collection. They were trained in interpreting questions, translation, recording responses, building rapport with respondents and managing their resistance. The limitation was also mitigated by recruiting two data enumerators who have obtained at least Uganda Advance Certificate Education or equivalent and spoke Lukonjo and English fluently.

The other limitation was time constraint. There was limited time to complete the research and meet the University timeline. This would have led to inadequate data collection, analysis and reporting had it not been because of working with data enumerators from the local area. The enumerators were persons who had lived in areas around Rwenzori Mountains and are adapted to climbing hills. They therefore took shorter time to reach households on the hilly areas around Rwenzori Mountains. This reduced the time the researcher would have spent in the field for data collection.

The most outstanding limitation of this study is inadequate records on resource use from the management of Rwenzori Mountains National Park. Records that were required included periodic number and rate of illegal activities in each area or segments in the park, periodic number of suspects of illegal activities arrested and the parishes they live. These records would be useful for statistical description of changes in level of illegal activities in the park in general

and in parishes in particular for comparison between those with resource use program and those without. This would support demonstration of changes in level of illegal activities attributable to resource use. These records are not available because the Management Information System (MIST) which UWA uses does not generate area specific information. This denied the researcher vital information however, anecdotal evidence and narrative description of changes based on factual accounts from respondents were used for description of changes.

In this chapter, I have discussed the research approach that I used. I indicated that this research is more qualitative but quantitative aspects were considered to collect data based on measurement. This was intended to strengthen and validate the findings. I have also pointed out that, interviewees were selected using purposive and simple random sampling techniques. I indicated the methods of data collection I used and they were; individual interviews, key informant interviews, focus group discussions and self – administered questionnaires were. As a matter of emphasis, the data collection methods enabled generation of information that was inferred to the entire study population. The next chapter covers the study findings, analysis and discussions.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

4.0 Introduction

In this chapter the presentation, analysis, and discussion of findings was made following a set of themes organized in line with specific research objectives. Under each objective, information which is interesting for knowledge sharing and assessment of the resource use as a strategy for conservation of natural resources was organized and presented as themes. The section presents resources in the park that were identified by respondents as being accessed by the local communities. It also covers the effects of resource access on conservation of natural resources in Rwenzori Mountains National Park, the effectiveness and sustainability of resource access strategy for conservation of natural resources in protected areas.

4.1 Resources in Rwenzori Mountains National Park Accessed by Local Communities

Two broad categories of resources were accessed from Rwenzori Mountains National Park by local communities living adjacent to the park. They are plant and service resources. Plant resources are obtained from plants in the park that are either dead or living depending on

the terms and conditions for collecting which the local communities agreed with the park management. Whilst service resources refer to those that communities access to provide themselves with some services that meet their socio-cultural and economic needs. Access to resources from the park begins upon signing a memorandum of understanding between local communities living in a selected parish and Uganda Wildlife Authority.

4.1.1 Memorandum of Understandings for Resource Use

Uganda Wildlife Authority can only allow access to resources in Rwenzori Mountains National Park upon signing a Memorandum of Understanding (MOU) with communities that express interest in the resources. This is also based on the availability of the resources in the park which is established through resource inventory. The MOUs sets terms and conditions that guide access to the park resources. They also indicate resources that can be harvested by local communities.

Uganda Wildlife Authority had a total of 14 MOUs with local communities in 15 different parishes. 6 MOUs were signed for use of traditional footpaths with local communities in Karago in Kabarole district, Bukangama and Buhundu, Ngite and Kasanzi, Bupomboli and Kasulenge in Bundibugyo, and Musandama in Ntoroko. Traditional footpaths are paths which communities previously (before the area was gazetted as a national park) used as routes connecting parishes and also connecting Bundibugyo and Kabarole. 8 MOUs were integrated for plant and service resources namely cultural sites and traditional footpaths with communities in 8

parishes. The parishes are; Nyakitokoli, Kamabale and Nsuura parishes in Kabarole, and Kikyoo, Mabere, Busamba, Kibwa and Kakuka parishes in Bundibugyo. All the MOUs had similar terms and conditions except with some variations in types and quantities of resources to be accessed. These terms and conditions are summarized below.

4.1.1.1 General Terms and Conditions in the Memorandum of Understandings

The MOUs Uganda Wildlife Authority signed with communities living in parishes adjacent to Rwenzori Mountains National Park had the following general terms and conditions;

1. Every person wishing to enter the park for purpose of accessing resources will obtain Resource Use Permits. The permits are issued by Resource Use Committees (in cases of integrated resource access) and Traditional Footpath Committees (in cases of communities allowed to access traditional footpaths only). A permit specifies the types and quantity of resources to be accessed and the time frame for being in the park.
2. Permits are issued for only resources that are allowed in the specific MOUs and follow conditions laid down for each resource.
3. Collection of resources is upon payment of affordable fees to the Resource Use Committees. The committees determine the amounts to be paid in consultation with local communities. Use of traditional foot paths and cultural sites to be without any payment except where one is transporting animals such as goats, pigs and cows. The amount to be

paid for access with a cow and a pig is 2000 Uganda Shillings and a goat is 1000 Uganda Shillings.

4. Medicinal plants are collected for domestic use only anytime upon permission from the committees. Only traditional healers registered with Resource Use Committees and Uganda Traditional Healers Association are permitted to harvest for sale.
5. Dry bamboos collection is restricted to a specific quantity (number of bundles) per week. The quantities were determined based on recommendations from resource inventory.
6. Firewood collection is restricted to fallen dry trees by households which are committed to planting trees at their gardens.
7. Season, days and time for accessing resources are also set for specific resources. Harvesting bamboo is allowed for only 6 months in a year during dry season which is in January, February, March, June, July and August only on Tuesdays and Fridays. Firewood is collected on Saturdays and Sundays only. Mushrooms are collected during wet seasons only. All these resources are collected between 7:00 am to 4:00pm. Traditional footpaths are used between 7:00am to 6:00pm.
8. Harvesting methods, practices and tools are specified. Bamboo culms are cut 30 centimeters after the first node using pangas and sickles only. Mushrooms are collected using pangas, baskets and by hands.
9. Harvesting is allowed only in resource use zones which are 3 kilometers from park boundaries. (Uganda Wildlife Authority, 2008; Uganda Wildlife authority 2011; Uganda Wildlife Authority, 2012).

4.1.1.2 Obligations and Responsibilities of Uganda Wildlife Authority and Local Communities

According to Uganda Wildlife Authority (Uganda Wildlife Authority, 2008; Uganda Wildlife authority 2011; Uganda Wildlife Authority, 2012), in addition to the general terms and conditions written above, resource users, Resource Use Committees and Uganda Wildlife Authority have obligations and responsibilities stipulated in the MOUs. The obligation of resource users are to report incidences of illegal activities cited in the park and to harvest resources using proper methods. They are also to monitor non adherence to the provision of the MOUs and report accordingly, ensure all rubbish and waste materials which resulted from harvesting resources in the park are removed before the next harvesting season and pay for resource use permits as specified by the committees.

The Resource Use Committees are also to issue permits to resource users in line with terms and conditions in the MOUs, sensitize communities on proper methods of harvesting resources, report all cases of illegal activities they found or have been informed about by resources users to management of Rwenzori Mountains National Park, undertake disciplinary actions against resource users who do not follow guidelines and compile and submit quarterly reports on resources accessed by communities to the management of Rwenzori Mountains National Park.

Uganda Wildlife Authority on the other hand had the obligations and responsibilities of sensitizing communities on conservation of wildlife and environment, and Uganda Wildlife policies. They were also to provide permits and carry out monitoring, train Resource Use

Committees on general management and support for collaborative management programmes, monitor resource access and take actions on incidences of illegal activities they find and those reported to them. They are also obliged to resolve conflicts and disputes between Resource Use Committees and resource users.

4.1.2 Types of Resources Accessed by Local Communities

Local communities and the park management reported that they access dry bamboo stems, bamboo sheaths, medicinal plants, fibres, firewood, similax and mushrooms from the Rwenzori Mountains National Park. They also access traditional footpaths, cultural sites and honey. It was found that communities in all parishes adjacent to the park are interested in accessing some resources in the park but only those in the 15 parishes (in section 3.2 and 4.1.1 above) had been permitted by April 2012.

Uganda wildlife Authority permitted local communities in the selected parishes to access most of the resources named above. They are permitted by signing Resource Use MOUs between Uganda Wildlife Authority and the local communities in parishes which were identified for park resource use. The communities are allowed to access only dry bamboo stems, bamboo sheaths, medicinal plants, mushrooms and firewood. However, fibres, similax, and honey have been accessed by some households as noted above yet they are not in the resource use MOUs (Park Rangers, RMNP, 27/4/2012). The resources are accessed by local communities for purpose of meeting their domestic needs upon obtaining resource use permits. Resource use permits are

issued by Resource Use Committees on behalf of UWA. Accessing any resource which is not permitted for in the MOUs and or without resource use permit is an illegal activity and attracts punishment.

Mushrooms, firewood and medicinal plants accessed from RMNP by local communities are consistent with findings of Wild and Mutebi (1996) that, communities around Bwindi Impenetrable National Park were allowed to access mushrooms, firewood and medicinal plants. Wild and Mutebi (1996) observed that there were scepticisms about allowing access to plant resources in Bwindi Impenetrable National Park for fear of depletion. This was also the case in Rwenzori Mountains National Park until 2008 (Natural Resources Officer, WWF, 23/4/2012).

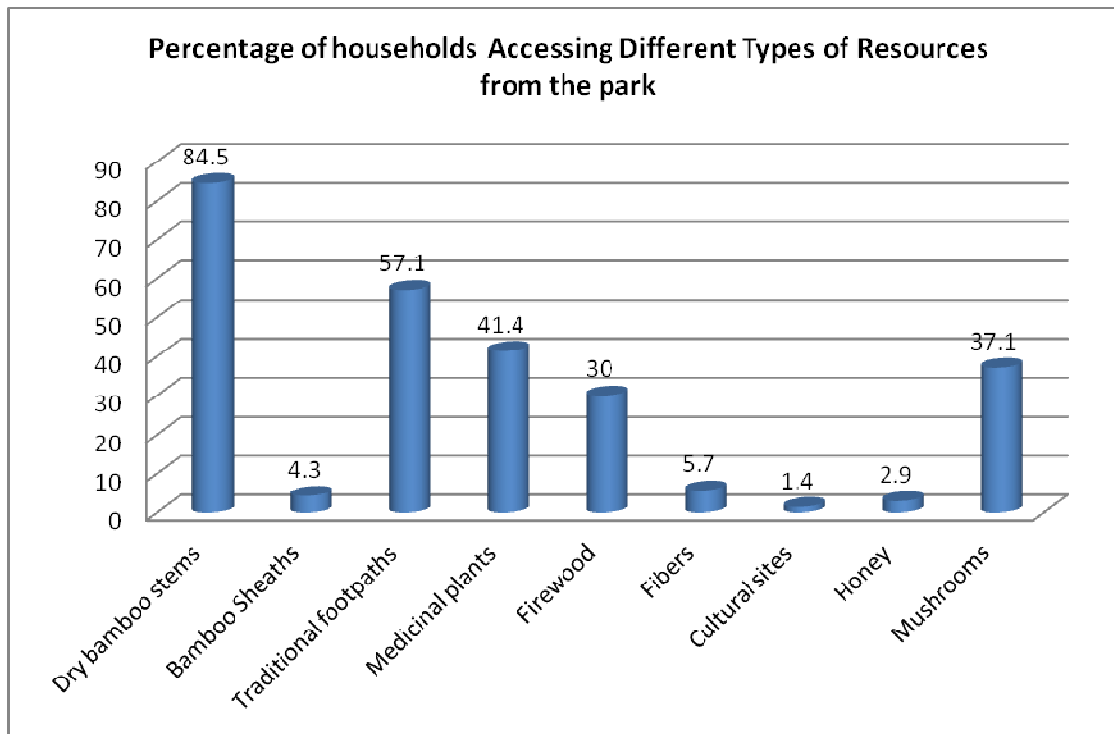
4.1.3 Local Communities Accessing Park Resources

A cross section of local communities access resources from the park. They include; peasants, business persons and salaried workers, married/cohabiting and single/never married, and those who have formal education or have no formal education. 97% of household in parishes which were granted resource access have had at least a member accessed any resource from the park since the inception of the resource use program. There was no significant gender variation in access to resources in the park. 100% of female interviewees admitted that either they themselves or a member of their households have accessed a resource from the park while 94.7% of male interviewees admitted the same.

In Busamba and Kikyo parishes where communities' members were interviewed, 100% of households have ever accessed resources from the park while 94.7% of communities in Nyakitokoli and Nsuura parishes have had access to some resources from the park. The communities in these parishes had for long depended on the park for poles, fibres, meat and routes connecting Bundibugyo and Kabarole. Local communities had been accessing resources though illegally before the MOUs were signed. According to the Park Resource Inventory (World Wide Fund for Nature and Uganda Wildlife Authority, 2011) carried out in the park and among communities living in Kamabale and Busamba parishes as an assessment before negotiation and signing MOUs for resource use in Busamba and Kamabale parishes, 51% of households in Kamabale and Busamba had accessed bamboos, 51% had accessed medicinal plants, 41 % had accessed firewood and 50% had accessed mushrooms.

There were different demands for the resources by households. Some resources were accessed by more households than others. This is due to the significance in the uses of such resources. Dry bamboo stems and traditional footpaths were accessed by more households than others. Demand for dry bamboo stems is not only in communities around Rwenzori Mountains National Park but also in communities around other national parks in Uganda. Bitariho and Mosango (2005) noted that many households in Mgahinga Gorilla National Park access dry bamboos.

Figure 3: Percentage of Households Accessing Different Types of Resources from the RMNP



Source: Research findings

Cultural sites are least accessed by local communities because Christian religion mainly Seventh Day Adventist is commonly practiced in the area which provides credible alternative to cultural worship. Fibres and honey are also less accessed because they are not provided for in the MOUs. Harvesting fibres is not allowed because it involves extracting from fresh standing trees while harvesting honey kills bees. Honey is harvesting using fire which may also increase risk of fire outbreak in the park which destroys biodiversity. Dry bamboo stems and traditional footpaths (TFPs) were accessed by most households

4.1.4 The Uses of the Resources Accessed from the Park

There are specific uses for the specific resources accessed by local communities. The uses are commonly known to various categories of people living in areas adjacent to the park such as staff of UWA, local leaders and the general communities. Communities use dry bamboo stems as poles and ridges for construction of huts, houses and shelters for human domestic needs and ceremonies like funeral rites. They are also used for making shelters for animals. “We use dry bamboo for building houses, firewood for cooking, mushrooms for food, fresh fibers for ropes (and) building” (interviewee, Nyakitokoli, 3/4/2012).

The use and significance of resources collected from Rwenzori Mountains National Park were consistent with other national parks in Uganda. In Mgahinga Gorilla National Park, bamboo was the most significant product collected from the forest (Kingston, 1967; Cunningham *et al.*, 1993 in Wild and Mutebi, 1996) because of its use in local construction. Bamboo sheaths are extracted from dry bamboo stems by splitting for construction especially thatching huts and shades. Fibers are used as ropes for construction while the others park resources such as firewood are used for domestic cooking however with minimal sale. Mushrooms are used as food. Communities revealed that mushrooms are “food with nutritional and medicinal value” (Interviewee, Kikyo, 31/3/2012).

There were many plants; trees, shrubs and grasses with known medicinal values that communities access for treatment of various diseases. The most common plants accessed for medicine are *Prunus Africana*, *Rapanea Rododendroides*, *Embelia Schimberi*, *Psychotria*

mahoni, *Galinnia saxifrage* among others (Uganda Wildlife Authority, 2011). During focus group discussions, communities acknowledged that the medicinal plants helped them in treatment of malaria, as first aid for injuries and for other ailments. Given the terrain of the areas surrounding Rwenzori Mountains, it is difficult for one to walk down to the lower land where health facilities are located but much easier to collect herbs at no cost from the park which is nearer.

Traditional footpaths are used as routes between Kabarole and Bundibugyo. “The Bakonjo are the majority around the RMNP occupying mostly the Mountainous area” (Ochen and Galabuzi, 2011:18). There are many people among them who are related but live on either side of the park (Bundibugyo and Kabarole). There are also some people who are polygamous and have wives on either side of the park, while there are those with gardens they need to cultivate on either side.

Before Rwenzori Mountains National Park was gazetted in 1993, it was a forest reserve where extraction of non-timber forest resources was allowed. Movement through the forest from one point to another was also allowed. “Originally Rwenzori Mountains was a forest reserve and there was general access to resources except timber harvesting. When it was gazetted in 1993 as a park, access was denied and certainly the locals were not happy” (Natural Resources Officer, WWF, 23/4/2012). The local communities used to cultivate gardens on either side of the park and visit their relatives for their socio-cultural functions such as marriages and funerals without being denied entry. However, when the area was gazetted as a national park, access was denied. They had to use a long route by main road that connects Bundibugyo and Kabarole. The

traditional foot paths have therefore provided short routes at no monetary cost to the local communities.

There are 11 traditional footpaths that are gazetted for access by local communities as per the memorandum of understandings between communities and Uganda Wildlife Authority. Some of the paths are; from Kazingo parish in Kabarole to Bukangama and Bumate in Bundibugyo. The same path also connects the two parishes of Bukangama and Bumate. A path from Kamabale parish in Kabarole connects to Buphomboli parish in Harugali Sub County in Bundibugyo district. Another path is from Nsuura parish in Kabarole to Kiringi, Butama and Harugali in Bundibugyo. The same path also connects the 3 parishes in Bundibugyo. A path from Kibagha village in Nyakitokoli parish in Kabarole connects to Busamba in Bundibugyo, a path from Kanyamura in Kabarole connects to Busamba in Bundibugyo, another from Kibwa in Kabarole connects to Kikyoo and Bulambagira in Bundibugyo while also connecting the two parishes in Bundibugyo, one path connects Musandama in Ntoroko district to Butolya parish then to Mabere parish in Bundibugyo. The other connects Kinyampanika village in Nuura parish in Kabarole to Butama in Bundibugyo then to Kakuka and Buchira parishes in Bundibugyo district (Warden Community Conservation, RMNP, 29/4/2012; Community Conservation Ranger, Kilembe Ranger Post, RMNP, 27/5/2012).

The paths mentioned above are not only used by people living in the parishes they pass through and connect to, but they are also used by people in neighbouring parishes. All persons irrespective of the parish one lives have to obtain resource access permit from Resource use committees/Traditional Footpaths Committee that is in charge of a route one intends to access.

4.1.5 Motivation for Resource Access

The areas adjacent to Rwenzori Mountains National Park have been degraded by deforestation and land clearing for agriculture (World Wide Fund for Nature, 2010). The steep slopes remained bare without adequate tree cover. The people for long depended on the forest (before the area was gazzated as a national park) for poles, root foods, fibers and other non-timber products. There were no alternatives sources of these materials outside the park. The need to satisfy the basic domestic needs for these resources underlay the major motivation for demand and access to park resources.

The Bakonjo who are the majority living on the steep slopes of the mountains have historically depended on the forest on Rwenzori Mountains (before 1993) for their economic and cultural needs.

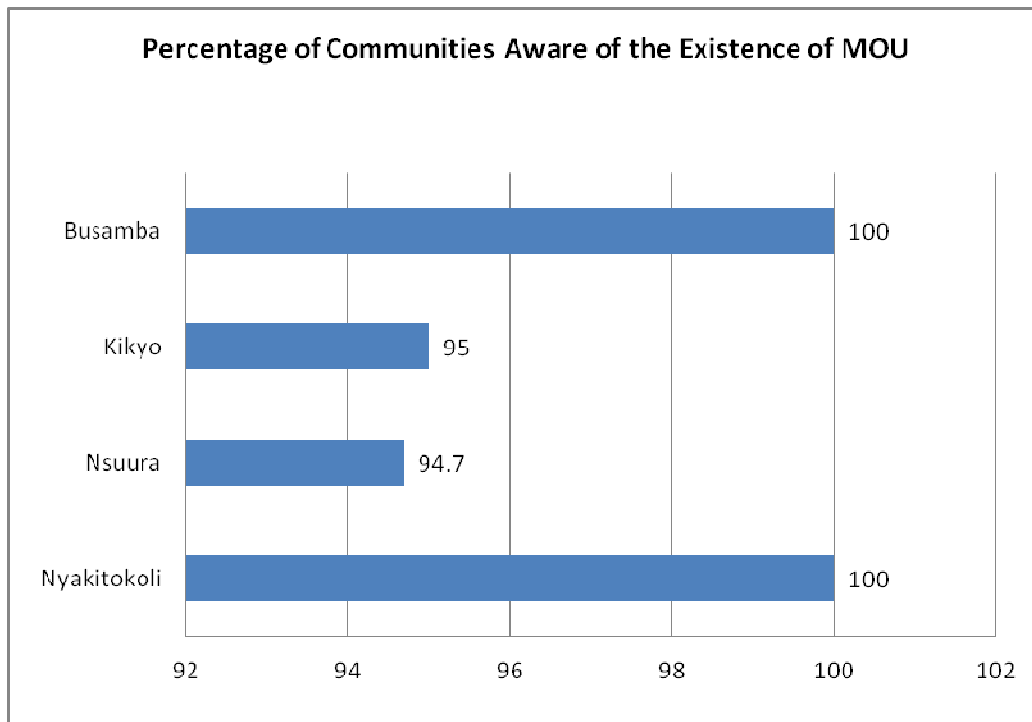
The Bakonjo regard the Mountains as repository of many blessings and their socio-economic well being. They value the Mountains for circumcision rites, rituals to remove curses and for offering sacrifices to their gods. The natural resources therein are valued as a source of building materials, fuel wood, medicine, honey and other products (World Wide Fund for Nature, 2010: 5).

Access to the park for plant and service resources and other food resources such as honey are not just for economic reason but for social satisfaction. They are entrenched and reinforced by cultural beliefs. Such deep rooted cultural feelings cannot be satisfied by providing alternative resources only but by allowing access to resources that directly satisfy them while balancing with the goal of conservation of natural resources in protected areas.

4.1.6. Level of Adherence to the Memorandum of Understandings

97.1% of communities are aware of the existence of MOUs on resource use in their community. They know that access to resources in the park is governed by terms and conditions, and responsibilities enshrined in the MOUs. They are aware of key provisions in the MOUs such as obtaining permits before entry, resources that they are allowed to access and responsibilities of reporting incidences of illegal activities they cite in the park. The level of awareness is wide spread in all parishes that participated in the study as shown in figure 4 below.

Figure 4: Shows Percentage of communities in 4 selected parishes aware of the MOUs that allow access to park resources.



Source: Research findings

There is greater commitment by both communities and Uganda Wildlife Authority to adhere to the MOUs. During FGDs, communities reported that they know and always obtain permits for accessing resources but also acknowledged that not all persons in communities can follow all rules and regulations. Generally the communities respect and follow regulations regarding resource access. An interviewee said, “they obtain permits and harvest in the ways wanted although there are those who also go and harvest illegally without permits while aware of the requirement” (Interview, 27/4/2012). Regardless of the fact that not all persons can follow any law and regulation, the communities are aware of the MOUs and to a greater extent abide by the key provisions.

According to Uganda Wildlife Authority, communities report incidences of illegal activities and suspected characters in the park (Assistant Warden Research and Monitoring, RMNP, 25/4/2012) which is one of their responsibilities in the MOUs. Communities harvest mainly the resources permitted as recorded in section 4.1.2 above. Only 5.7% and 2.9% of communities’ members have harvested fiber and honey respectively (see figure 3, page 55) which are not the resources they are allowed to access. Some community members enter the park perhaps with the intension of harvesting permitted resources but also decide to collect some other resources which they find even if they are not allowed to collect them.

The MOUs are to a larger extent binding on the communities more than Uganda Wildlife Authority. Communities are obliged to follow the provisions in the agreement more than Uganda Wildlife Authority. This is perhaps because they are perceived as being in the receiving ends of the resources from the park and Uganda Wildlife Authority is at the giving end. The

responsibilities of UWA in the MOUs are routine emanating from their statutory duties whether there are MOUs in place or not. For instance UWA is to sensitize the communities on conservation and environment management which is a responsibility of their community conservation department. UWA therefore adheres to the provisions in the MOUs but as part of their routine functions other than meeting their obligations in the MOUs.

4.1.6 Challenges Local Communities Face in Accessing the Resources

There are different challenges experienced by local communities while accessing resources from the park. These challenges are experienced differently by different people. Some challenges are felt by more people than others. During the study, there was attempt to establish the challenges communities face and the magnitude in terms of the percentage of communities experiencing such challenges. Some of the challenges communities experienced are challenges in accessing permits experienced by 14.3% of local communities, charges levied by Resource Use Committees for accessing some resources experienced by 28.6%, distance to resource use areas experienced by 32.9%, inaccessibility of areas with resources (15.7%), rain hitting resource users while in the park (14.3%), rangers disturbing (17.1%) and difficulties in transporting some resources like bamboos experienced by 7.1% of local communities. These challenges negatively impact on attitude towards resource use strategy.

Communities experienced a challenge of accessing permits in many different forms. These include difficulties in finding a member of Resource Use Committee to issue permits, and

challenges in walking down from the hills where they live to obtain permits and then climb up the hills to get back and pass their homes to the park on the mountains. Resource Use Committee members work voluntary without pay and most times they have to go to their gardens or some may move away from their villages or known places where they are usually found.

The resource users at times fail to get permits because of not being able to find any member who issues permits yet they need resources. This is worsened by the fact that all areas around Rwenzori Mountains are hilly and most people live up hills while some Resource Use Committees have offices on low land. For example Resource Use Committees in Nyakitokoli and Kamabale parishes in Kabarole districts have offices in the trading centers found on low land. This makes the resource users to travel from the hills to the lowland for permit and climb back to their homes and proceed to the park. The park is indeed nearer to some people than the low land where some Resource Use Committees' offices are. This could explain the fact that some people enter the park to access resources without permits while aware of such requirements. Some resource use groups in some parishes such as Busamba and Mabere in Bundibugyo do not have offices which reduces the extent of availability of the committee members to issue permits.

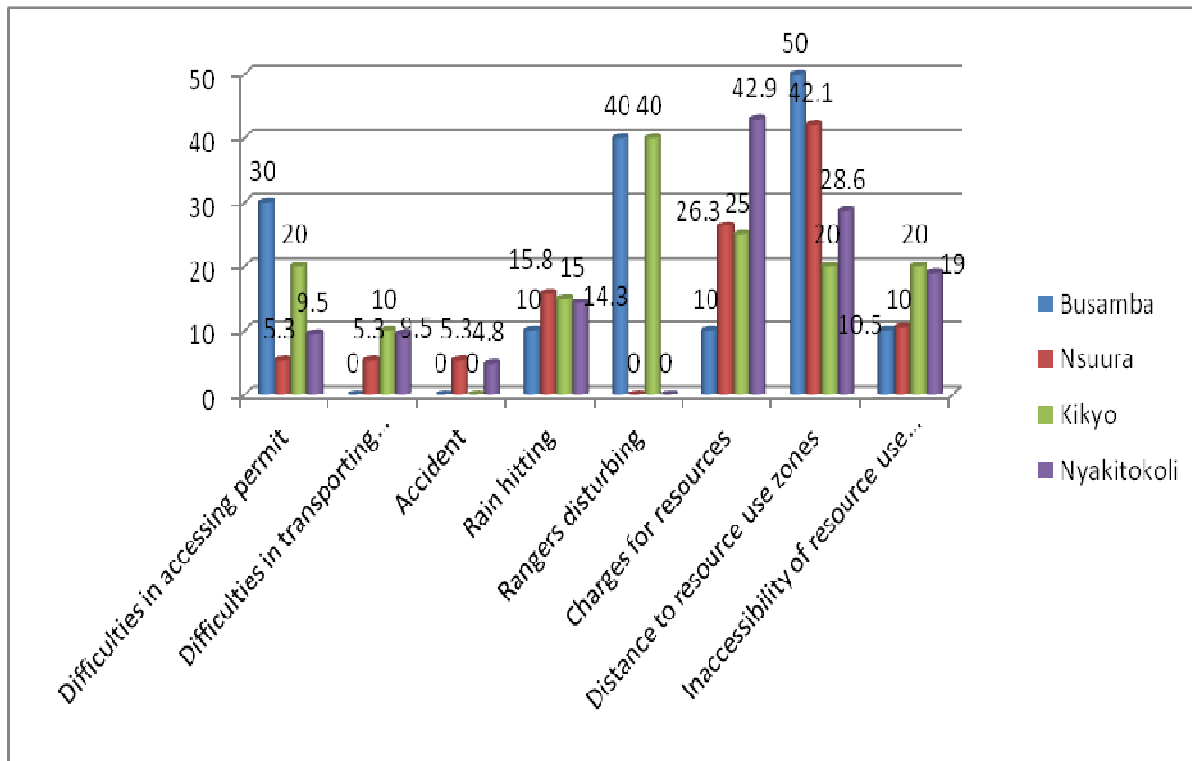
Payments for permits for some park resources are regarded by up to 28.6% of community members as a challenge. Uganda Wildlife Authority and the resource use groups agreed that some permits should be paid for to generate money to facilitate the committees to carry out their functions. However some of these payments (charges) hinder resource access. These charges differ from one parish to another depending on what the Resource Use Committees have

proposed. Generally in most parishes a bundle of dry bamboo stem is 500 to 2000 Uganda Shillings, transporting a goat through the park is 1000 Uganda Shillings among others.

It is possible for communities to agree to pay some money to obtain permits for some resources during the time of negotiation with Uganda Wildlife Authority just for the sake of seeking to be allowed to access resources. During the course of accessing the resources such payments become obstacles to access to park resources. It must be noted that Resource Use Committees would like communities to pay such charges to raise funds for facilitating their work irrespective of communities' capacity and willingness to pay.

Other challenges such as long distance to areas where plant resources are supposed to be harvested (resource use zones) which is usually 3 kilometers from the park boundary, inaccessibility of such areas due to hilly terrain and bushes and frequent rain in the park without shelters are some of the challenges that are outside the control of both Uganda Wildlife Authority and the communities.

Figure 5: column graph below shows percentage of communities in different parishes experiencing challenges in accessing resources in the park.



Source: Research findings

From the column graph above, communities in Busamba and Kikyo parishes in Bundibugyo are more faced with the challenge of difficulties in accessing permits than other parishes. This is because their resource use committees do not have offices in the community but serve people from their homes unlike in other parishes such as Nsuura, Nyakitokoli, and Kamabale. The challenge of charges for resources is higher in Nyakitokoli than other parishes. It is experienced by 42.9% of community members living in Nyakitokoli. The high charges in Nyakitokoli in Kabarole district also affect other parishes in Bundibugyo such as Mabere, Kasithu, Buphomboli, Busamba, and Kikyo among others. This is because Nyakitokoli has a

busy traditional footpath that connects Kabarole and Bundibugyo. It is used by many people from Bundibugyo and Kabarole who travel to either side and therefore must have suffered from this challenge as much as the people of Nyakitokoli parish.

During individual interviews 17.1% of respondents revealed that they face challenges of Park Rangers disturbing them when they are found “with simple mistakes” (Individual Interviewee, Kikyo, 29/3/2012) such as harvesting without permits and or harvesting beyond the quantity specified in the permit. This challenge is specifically experienced in Kikyo (40%) and Busamba (40%) parishes other than other areas. Apparently what the communities term “harassment or disturbance” by Park Rangers is law enforcement. Only those found harvesting outside the regulations are punished or cautioned by rangers. Given the graph above, communities in Busamba and Kikyo also experience a lot of difficulties in accessing resource use permits which perhaps make them enter the park without permits hence attracting what they term disturbance by Park Rangers.

4.2 Effects of Resource Use on Conservation of natural resources in Rwenzori Mountains National Park

The study explored both positive and negative effects of resource use on conservation of natural resources in Rwenzori Mountains National Park. Individual interviewees, key interviewees and Park Rangers working with Uganda Wildlife Authority were asked a set of questions to assess the effects of resource use on conservation of natural resources in Rwenzori

Mountains National Park.

These questions sought specifically to find out ways in which Rwenzori Mountains National Park benefits from park resource access by local communities; ways in which park resource access by local communities support conservation of natural resources in Rwenzori Mountains National Park; ways in which park resource access by local communities hinder conservation of natural resources in Rwenzori Mountains National Park and were also directly asked for the effects of park resource use on conservation of natural resources in Rwenzori Mountains National Park. In the analysis of these themes, I documented the effects of resource use on conservation of natural resources in the park as described in subsection 4.2.1 and 4.2.2 below.

4.2.1 Improvement on Conservation of Natural Resources in Rwenzori Mountains National Park

Collection and use of park resources by local communities improved their relationship with the management of Rwenzori Mountains National Park. Hitherto, “communities had perceived the park as enemies of the people” (Interviewee, 2/4/2012) and the park management could respond to illegal activities with excessive force. There were occasional attempts by some community members to harm Park Rangers and there were several incidences where rangers beat up suspects of illegal activities without subjecting them to face the due processes of the law. 7 out of 9 Park Rangers who were interviewed confirm that resource use created better relationship

between the park management and the communities. 42.9% of individual interviewees report improved relationship between the communities and the park.

Improved relationship implies that communities' earlier negative attitudes towards the park changed to positive. This has made management of the park easier since there is limited opposition to park activities. They are able to interact with the park staff, participate in planning meetings and support conservation of natural resources in the park. Infield and Namara (2001) concurs that communities around Lake Mburu National Park that were involved in community conservation program such as dialogue, education and resource use had more positive attitude than those who were not involved.

Because of improved community – park relationship, there exists increased community participation in conservation of natural resources in Rwenzori Mountains National Park. Resources Use Committees which are constituted by members elected by the communities from among themselves carry out sensitization on sustainable methods of park resource use. They also sensitize communities on environment conservation which all support conservation of natural resources in the park. Resource users have also participated in putting out fire outbreak in the park in 2011 and 2012 and fighting illegal activities in the park. In Bwindi and Mgahinga National Parks, Blomley et al (2010) found communities willing to cooperate with the park authorities over fire control although they were less willing to report illegal activities. Communities have supported conservation of natural resources in the park by fighting fire which would destroy biodiversity in the park. “Local People report fire outbreak in the park. People get their phones and airtime and call to inform about fire outbreak. In Nsuura, when they informed

us they went to the park and fought fire” (Warden Community Conservation, RMNP, 23/4/2012).

The commitment of local communities in fighting fire and illegal activities in the park is crucial for conservation of natural resources in the park. Changes in communities’ behaviors and actions became prominent when the management of Rwenzori Mountains National Park involved them in activities of the park. They started participating in reporting incidences of illegal activities and fire outbreak. “I went (to the park) and got fire burning and reported to Resource Use Committee and the Committee went in and stopped it” (FGD, Nsuura, 26/4/2012). Communities in Nsuura, Kamabale and Busamba for example have frequently found and removed snares in the park and handed over to ranger posts in Katebwa and Kazingo. “when we go to the park to collect resources and see something, we remove and bring to the committee” (Interviewee, Kikyo, 2/4/2012). The discussion on level of community participation in conservation of natural resources in the park presented above is confirmed by the majority of key interviewees and park staff who participated in this research.

The regular presence of resource users, increased vigilance by both resource users and park management and increasing reporting of incidences and suspected illegal activities cited in the park have reduced the level of illegal activities in Rwenzori Mountains National Park. 4.3% of communities felt that there is reduction in the level of illegal activities in the park. 39.2% report that there is reduced poaching while those who felt there is reduced illegal harvesting of plant resources from the park was 14.3 %. The findings of this research on the level of illegal activities is contrary to that of Namara (2006) which did not find change in level of illegal

activities in Bwindi Impenetrable National Park. She noted “...our research shows little change in illegal activities in the park in general, or in the areas where registered resource users carry out their activities in particular” (Namara, 2006: 48). Blomley et al (2010) presented similar findings from Bwindi and Mgahinga where there was a reduction in level of illegal activities but the Park Rangers attributed to their law enforcement. However, Blomley et al (2010) findings could have been similar with mine had they asked the local communities on the same than relying on only responses from Park Rangers. In Rwenzori Mountains National Park, all categories of respondents; Park Rangers, key interviewees from RMNP and communities perceived that there is great reduction in level of illegal activities in the park.

Reduction in level of illegal activities and specifically poaching and illegal harvesting of plant resources is a significant change in conservation of natural resources in the park. This change cannot be brought about only through law enforcement but by positive change in communities’ attitude towards the park and their unconditional participation in protecting it. Communities’ participation in management of natural resources in any protected areas has significant impact in reducing rates of illegal activities. Poachers and other persons who engage in illegal activities come from the communities and were known and condoned in the communities. This is especially so in areas around Rwenzori Mountains National Park where there was perception that the forest was their hunting ground and were only deprived by government of Uganda in 1993 when it gazetted the area as a national park.

In communities adjacent to Rwenzori Mountains National Park, communities started condemning illegal activities after being allowed to access some resources in the park. One of

their responsibilities was to report suspected illegal activities and discipline their members who engage in such acts. Some members of Resource Use Committees in particular revealed during the research that they have cautioned and disciplined many community members they found or suspected to have engaged in illegal activities in the park.

World Wide Fund for Nature and Uganda Wildlife Authority (2011) noted that about 50% of households in Kamabale (formerly Nyabuswa) and Busamba had accessed dry bamboo stems, mushrooms, medicinal plants and firewood before they were allowed by Uganda Wildlife Authority. This means that there were illegal access to some resources and their methods of harvesting could have not been appropriate. In illegal harvesting of plant resources there is no or limited use of sustainable methods of harvesting. There is also no selective harvesting of resources where mature or dry plants are collected for use.

With the park resource use where communities are formerly allowed to access, there is increased selective harvest of plant resources and use of traditional footpaths and cultural sites. Communities are directed to harvest only dry bamboo stems and use proper methods of harvesting. They are supposed to cut dry bamboos at 30 centimeters above the first node to allow germination of new shoots. They are also supposed to harvest medicinal trees by debarking and picking leaves but not uprooting the whole plant. This is essentially being followed by majority of resource users although not all people can surely follow all regulations. During FGDs in Busamba and Nsuura parishes, participants recalled that some footpaths that were visible in the park leading to different places in and outside the park have since closed after some routes were gazatted for use by UWA. Those not gazatted were regarded as illegal routes and are no longer

visible because people have abandoned them. These are demonstration of critical improvement of conservation of natural resources in the park

Conservation of natural resources can only be meaningful when conservation actors have relevant knowledge. One of such actors is the local communities. Uganda Wildlife Policy (Republic of Uganda 1999) provided for participation of local communities in conservation of natural resources in protected areas. This was also the basis for the establishment of community conservation department in Uganda Wildlife Authority to engage communities in participating in conservation of natural resources in protected areas. Park resource use generated communities' interest in conservation which became entry points for sensitization and awareness. Both the park management and resource use committees sensitized communities on conservation of natural resources in the park and environment management outside the park.

There is therefore anecdotal evidence of increase in communities' knowledge of conservation and values of the park. Because of appreciating the values of the park, the level of communities' ownership of the park also increased. Community participants in FGDs during the study echoed that the park belongs to them for their future use other than to the park management. "Most of the communities have known that the park is theirs and therefore there is no need of destroying it" (FGD, Busamba, 29/4/2012). Increased knowledge of conservation and values of the park is an important asset generated from the resource use by local communities living around the Rwenzori Mountains National Park.

4.2.2 Hindrance on Conservation of Natural Resources in Rwenzori Mountains National Park

Soil erosion caused by resource use has been the major hindrance to conservation of natural resources. Soil erosion scientifically is loss of top soil and the biodiversity in it. It can be caused by running water, climate change, over grazing and other means by which soil particles are weakened and removed. It is the top soil that has good nutrients for plants growth and other lives in the ecosystems. Many domestic animals such as goats and cows are driven from Bukuku market in Kabarole district to Bundibugyo through the traditional footpaths in the park. This has widened the paths, created trenches and led to soil erosion. Soil erosion is also caused by dragging bamboos stems during transportation. Resource users drag bamboo stems other than carrying because of difficulties in carrying on their heads as they slope to their homes on the lower land. Resource use has “influenced soil erosion by crossing of animals (sic)” (Interviewee, Nsuura, 12/4/2012). This assertion was confirmed by several Park Rangers in their questionnaires. One Park Ranger wrote that “soil erosion occurs during bamboo (harvesting) season” (Questionnaire number 5). Had there been no resource access in the park it would perhaps have minimal soil erosion that occurs through natural processes than that aggravated by human activities.

There is degradation in the park resulting from increased human activities leading to significant loss of biodiversity. There are several causes of degradation in the park associated with increased human presence as a result of access for plant and service resources One of them is littering the park with polythene materials, food containers and human feces. The other is destruction of grass and other plants in places where bamboos are harvested. “Vegetation in

harvesting zones are disturbed by stepping on them by the resource collectors'' (Questionnaire number 6). When many people go to the same place to cut bamboos, it causes destruction in the park. Biodegradable and biological wastes in the park such as polythene and human feces respectively are inherent risks to the lives of animals and the ecosystem in general.

Littering of polythene increases the risk of killing Rwenzori Duikers. Rwenzori Duikers (*Cephalophus nigrifrons rubidus*) are one of the rare animal species found in Rwenzori Mountains National Park. They are confined to the Ruwenzori Mountains at altitudes of 1,300-4,200 meters (Assistant Warden Research and Monitoring, RMNP, 26/4/2012). Just like goats, they enjoy salty substances and therefore risk eating polythene with food substances littered when people eat and drop in the park. Polythene kills animals when they eat because they cannot be digested and can block the stomach. ''Duikers like goats enjoy salt and if one drops some food in cavera (polythene) duikers eat with cavera and cause their death'' (Assistant Warden Research and Monitoring, RMNP, 26/4/2012).

Similarly, biological wastes such as human feces that are littered in the park by resources users rot and may not harm environment, unlike polythene which does not rot and degrades environment. However, biological wastes are a source of diseases spread to animals. Human feces are a source of spreading human diseases to animals in the park which may lead to catastrophic death tolls. Humans and primates are related and can suffer from the same diseases. According to Woodford (2002), risks, sources and circumstances of disease transmission from human to apes is higher due to frequent contacts during and consequent of habituation of chimpanzees for tourism and research.

Woodford's (2002) argument is consistent with Oates et al. (2011) that frequency of encounters between chimpanzees and humans or human waste leads to higher risks of disease transmission between humans and chimpanzees. Goodall, 1996; Nishida et al. 2003; Hanamura et al. 2006; in Oates et al. (2011) found that the main cause of death in chimpanzees is infectious disease which can be transmitted between humans and chimpanzees. According to the Assistant Warden Research and Monitoring of Rwenzori Mountains National Park, resource access increases contacts between wild animals and humans or human wastes, and with domestic animals that are driven through traditional footpaths in the park. These contacts increases risks of disease spread to animals and threatening conservation of natural resources in the park (Assistant Warden Research and Monitoring, RMNP, 26/4/2012).

Some people cover up as resource users and carryout illegal activities like laying traps to kill animals and cut fresh bamboos instead of dry ones. These constitute great threats to resource use strategy since it undermines efforts by all stakeholders in conservation of natural resources in the park. Individual respondents interviewed concurred with some key informants who argue that some incidences of illegal activities have been found in areas nearer to resource use zones. Snares and some caucus of animals have always been found near resource use areas. Communities also agreed that some of their members cut fresh bamboos which are against the MOUs they signed with Uganda Wildlife Authority.

Uganda Wildlife Authority had the responsibility of training communities on better methods of harvesting plant resources in the park particularly medicinal plants and dry bamboos. Some training was carried out for resource use committees only whereas a few community

members were only sensitized. It is also apparent that financial and logistical resources for community training on resource use are limited. Consequently some community members do not know and or practice proper methods of harvesting resources. The critical case in point is cutting dry bamboos beyond 30 centimeters after the first node. When they are not harvested properly, it does not allow growth of young ones. This constitutes inherent threat to bamboo species in Rwenzori Mountains National Park. Lack of knowledge of good methods of harvesting bamboo can lead to haphazard harvesting. This according to Bitariho and Mosango (2005) leads to depletion of bamboo species.

4.3 Effectiveness of Park Resource Access by Local Communities Living around Rwenzori Mountains National Park as an Incentive Strategy for Natural Resources Conservation

For a strategy to be effective, it must have the capability to produce the desired results. Uganda Wildlife Authority in its General Management Plan (GMP) for Rwenzori Mountains National Park hatched the idea of collaborative resource use with local communities living around the park. One of the Collaborative Resource Access Strategy is access to park resources by local communities. The purpose of Resource Access for local communities were to; prevent conflict between the park management and local communities; involve communities in park management and increase ownership for protection of natural resources in the park. The achievement of these purpose were to lead to the overriding goal of strengthening conservation of natural resources in Rwenzori Mountains National Park.

Resource use strategy to a greater extent is effective in conservation of natural resources in protected areas, given the milestones it has achieved in Rwenzori Mountains National Park. The strategy has been able to improve relationship between the communities and the park, enlisted communities' participation in park management and created ownership of the park among community members. Some of the findings and discussions presented below demonstrate the effectiveness of resource access strategy in conservation of natural resources in protected areas.

Greater changes in conservation efforts involving communities have been realized when resource access was formalized in Rwenzori Mountains National Park. As discussed in subsection 4.2, communities and the park management were arch enemies. Several people were killed in illegal activities and others arrested, prosecuted and jailed since the park was gazetted while the rate of illegal activities continued skyrocketing. This trend was suddenly altered by introducing and formalizing resource access. Local communities and the park management started enjoying improved relationship which was significant in driving many changes in conservation of natural resources in the park. "Friendship with the park has been realised through collaborations. Poaching by Busamba strong boys has reduced because most of them were involved in the resource committees therefore each is supervising one another" (Interviewee, Busamba, 3/4/2012). Similar perspective expressed by local communities was also held by park management. In the questionnaires filled and returned by Park Rangers, 6 out of 9 respondents confirmed that illegal activities have reduced since most groups in resource access areas report incidences of illegal activities to the park management. This is a clear demonstration of the effectiveness of resource use strategy in conservation of natural resources in Rwenzori

Mountains National Park.

The communities begun to participate in park management by reporting illegal activities cited in the park. They also attempt to stop illegal activities carried out by local communities by condemning such acts, levying fines and reporting to the park management. The park management also started working with communities to caution and punish those who commit illegal activities. Communities' participation was confirmed by all the 9 Park Rangers who returned the questionnaires. One Ranger wrote that "Communities can now fight illegal activity by themselves without RMNP staff like fire fighting, and they do report any illegal acts by their fellows to park authorities" (Questionnaire number 7)

There are also limited complaints from communities about harassment from Park Rangers. Only 17.1% of communities reported harassment from the Park Rangers but were all from Kikyo and Busamba parishes in Bundibugyo where individual interviews were carried out. This complaint could have arisen from exercise of law enforcement by rangers as a result of attempts by communities to enter the park without resource access permits. Kikyo and Busamba have challenges of accessing permits as noted in subsection 4.1.6 on page 63. Even in these parishes, the majority do not feel that there is harassment by park management as reported that, "friendship between park and communities has been realized" (Interviewee, Kikyo, 2/4/2012). In Busamba parish, it was expressed in a focus group discussion that, "now we are friends with the park" (FGD, Busamba 29/4/2012). These are testimonies of collaborative working relationship between the park management and communities contrary to previous bad relationship witnessed before the initiation of resource use. It is therefore justified to argue that

this strategy was able to enhance conservation of natural resources by creating spaces for community involvement in conservation in protected areas.

Resource access was hinged on collaboration between communities as resource users and the park management. It was designed that communities get involved in managing and controlling resource access through their elected Resource Use Committees. The communities' involvement in controlling access particularly through Resource Use Committees ensured that regulations governing resource access are respected. Adhering to most of the regulations means that conservation is enhanced. The effectiveness of the strategy is demonstrated by the ability to harness commitment of communities to conserve the natural resources by accessing those that do not undermine conservation of natural resources in the national park. A participant in a focus group discussion revealed that, “We also cut dry ones (only) and leave fresh ones” (FGD, Nsuura, 26/4/2012). This therefore enabled achievement of intended purpose of resource access which is about enhancing conservation of natural resources in protected areas.

To access resources one must use a permit (Republic of Uganda, 1996) which is an effective control measure. Permits specify the resources and quantities to access (in case of plant resources) which has limited excessive exploitation of resources in the national park. Limited exploitation of natural resources in the national park has guarded against depletion of resources while satisfying the needs of the communities. This has been essential for natural resources conservation in Rwenzori Mountains National Park. The use of permits to access resources therefore was effective in institutionalizing control mechanism that is respected and enforced by communities themselves.

Park resource access in Rwenzori Mountains National Park begins after an elaborate process. The process constitutes engagement between Uganda Wildlife Authority and the local communities. It involves negotiations over required resources and mechanisms for harvesting and signing MOUs. The MOUs between resource users and park management are more or less laws governing resource access. The MOUs have stipulated terms and conditions, and responsibilities of all parties that enhance conservation of natural resources in the national park. Because of the MOUs, a sense of responsibility to conserve natural resources in the park is created among community members. In one focus group discussion, a participant noted that; “Most of the communities have known that the park is theirs and therefore there is no need of destroying it” (FGD, Nyakitokoli, 26/4/2012). Besides a sense of responsibility, there is also community ownership of the process of resource access and the Rwenzori Mountains National Park itself. These were not evident before formalization of resource access.

4.4 Sustainability of Park Resource Access by Local Communities Living around Rwenzori Mountains National Park as an Incentive Strategy for Natural Resources Conservation

Sustainability is necessary so that resources do not get depleted within a short period of time and communities backslide to their hitherto actions and negative attitudes towards the park. In assessing sustainability, the research explored controls put in place to regulate resource access, the possibilities of sustainability and factors undermining it.

4.4.1 Control of Park Resource Access in Rwenzori Mountains National Park

One of the key issues with significant impact on sustainability of resource access is the controls put in place. Local communities and Park Rangers were asked two key questions to determine control of resource use in Rwenzori Mountains National Park. They were asked; who controls resource access in the park; and how resource access is being controlled. These were open questions that allowed interviewees to provide as many responses as they would know. An interviewee could mention even more than one response.

The study found that control of access to resources in the park is by park management and Resource Use Committees. During individual interviews, 58.6% of interviewees (41 out of 70 interviewees) mentioned that Resource Use Committees control resource access and 47.1% (33 out of 70 interviewees) mentioned that Park Rangers control resource access. Park Rangers were mentioned to refer to the management of Rwenzori Mountains National Park because communities interact with them more than other park staff. The majority of the communities therefore felt that they controlled resource access in the park through Resource Use Committees.

Similar findings also emerged from Park Rangers who participated and filled the self administered questionnaires. At least 5 out of 9 rangers mentioned that Resource Use Committees control resource access in the park, while 4 rangers mentioned only park management as being in control. This therefore demonstrates that both the park management and local communities share control and responsibility over regulation of access to park resources in

Rwenzori Mountains National Park. However, overall supervision and enforcement of laws and guidance is the responsibility of the park management.

While reviewing the MOUs between Uganda Wildlife Authority and local communities, the research found some mechanisms were put in place to control access to resources in the park. These mechanisms are put in place to ensure sustainability of resource access. They include the use of permits to enter the park to access resources and setting of timeframe for harvesting resources. During focus group discussions, communities acknowledged using permits as a way of regulating access to resources in the park. Previously, communities used to illegally enter the park and indiscriminately collect resources but now they use permits and respect rules and regulations governing resource access (Interviewee, Kikyoo, 2/4/2012; FGD, Nsuura, 25/4/2012; FGD, Nyakitokoli, 25/4/2012, FGD, Busamba, 29/4/2012).

The timeframe for accessing particular resources from the park was set and agreed in the MOUs. Dry bamboos are accessed during dry seasons only, firewood on weekends only and entry and stay in the park for purpose of accessing resources is from 7:00am to 6:00pm. Harvesting following timeframes is a good mechanism that reduces possibilities of depletion of resources and increases sustainability. Without timeframes for accessing resources, they would be over exploited. For instance communities would harvest bamboos during rainy season which would destroy bamboo shoots.

4.4.2 Sustainability of Resource Access as an Incentive Strategy for Natural Resources Conservation in Rwenzori Mountains National Park

The implementation of resource access programs through community committees was a humble strategy that has a high degree of possibility of sustainability of park resource access by local communities. Communities elect Resource Use Committees (where there are only footpaths they are called Traditional Footpath Committee) to oversee resource use in a given parish and ridge on their behalf (Warden Community Conservation, RMNP, 24/4/2012). The committees work voluntarily to control access to park resources.

They work on voluntary basis to issue resource access permits to resource users, monitor access to resources and report regularly to park management, caution and or punish community members who violate expected behavior and conduct while accessing resources in the park and create awareness among community members on sustainable methods of harvesting plant resources and conservation of natural resources in the park (Assistant warden Research and Monitoring, RMNP, 26/4/2012).

The Resource Use Committees are link between the park management and communities. They have helped to reduce administrative and operation costs which the park would had incurred in monitoring resource access. It is logical to argue that community committees generated community ownership of the park and the resource access program. It has also generated enthusiasm on resource access among communities which is necessary for continuity of the program. Since Resource Use Committees work voluntarily without formal pay and communities accept them as their leaders in resource access, the possibilities of sustainability of resource access is high.

Some Resource Use Committees collect some money from issuing permits. They use the money for their office operations such as paying for rent, stationery and some motivational token for Resource use Committee members (Warden Community Conservation, RMNP, 24/4/2012). Members of Resource Use Committees are to be available to issue permits to the local communities and therefore there are other opportunities they forego. Such time must be rewarded if not they lose interest in their work. The Warden Community Conservation of Rwenzori Mountains National park noted that “in places where committees have sources of money, the program is going well but where there is no money the Traditional Footpath Committees have abandoned work. They have not kept files.....” (Warden, RMNP, 24/4/2012).

To sustain active Resource Use Committees therefore, there must be some sources of income generation for the committees to carry out their functions. Uganda Wildlife Authority does not facilitate the functions of the committees other than providing them with permit books. Resource Use Committees that generate some money are active and available to serve their people, for example, in Nyakitokoli, Kamabale among others. The Resource Use Committee in Nsuura parish generated money and initiated goats rearing for its members. They give goats to some members and when a member’s goat produces, a kid is given to another member. The Resource Use Committee in Nyakitokoli has progressed into a Community Based Organization (CBO) called Rwenzori Sustainable Resource Use Association (RRUA). WWF also supported the CBO to sensitize communities and promote soil and water conservation in Karangura Sub County. If many committees become strong to generate some income and or diversify their activities, they will remain active and ensure sustainability of their functions.

The other possibility of sustainability of resource access in Rwenzori Mountains National Park is the functional control mechanisms put in place. Resource access control mechanisms such as harvesting dry and not fresh bamboos and dry wood for making fire, harvesting seasons and time frame entrenches sustainability strategies in to the program. When only dry bamboos are cut and dry fallen wood are collected, resources that need to be conserved are protected. Similarly harvesting season and time frame as discussed above guards against over exploitation. For example dry bamboos are not harvested during rainy season because the process can destroy shoots. These control mechanisms ensures that the permitted resources are also used sustainably.

The park management allowed limited access to resources that do not have adverse effects on the health of the ecosystems. This is significant for sustaining the environment in general and conservation of natural resources in the park in particular, because the effects of accessing such resources on the park are limited. For example, the use of traditional foot paths, cultural sites, harvesting dry bamboos and collecting fallen dry wood for fuel cannot have adverse effects on the health of the ecosystems in the park. Dry bamboos and fallen dry wood are already dead while there are also few traditional foot paths that are open to local communities to access. By promoting access to resources that do not have adverse effects on the natural environment means that resource access is undertaken without compromising the capacity of the environment to meet the needs of future generation. This is a sustainability question all development practitioners seek to answer.

4.4.3 Factors Undermining the Sustainability

Sustainability cannot be discussed with precision because of factors that can undermine it. During the research, there were attempts to examine factors that could undermine sustainability of resource use. Some of them are;

Some members of Resource Use Committees are not transparent on money collected which causes confusion among the committee members and resource use groups in general. The lack of accountability undermines the morale of some members and abandoned the work. In Nsuura parish, the Resource Use Committee members gave a vote of no confidence on the Chairperson in 2010 because of lack of accountability over money collected from issuing permits. This does not only undermine the credibility of the committee, but also their commitment to discharge their functions hence threatening the sustainability of control mechanisms put in place.

Resource Use Committees that do not generate money are weak and some members have abandoned the work due to lack of motivation. Committees generate money for running their activities from issuing permits as presented above. Money is mostly generated from issuing permits for transporting animals through the park and some from bundles of dry bamboos. Most animals are bought from markets in Kabarole and transported to Bundibugyo and so resource users obtain permits from Kabarole before they enter the park and committees from Kabarole therefore collect the money. The Resource Use Committees in Bundibugyo complain that they do not generate adequate money to even rent for an office yet their counterparts in Kabarole

collect some money (Warden Community Conservation, RMNP, 24/4/2012). This weakened many committees and some members have abandoned the work. In some areas it is not easy to get permits because of difficulties in finding a committee member to issue them. This undermines the sustainability of this program which hinged on good will and commitment of Resource Use Committees.

Community members have expressed dismay over payments for permits to access some resources which they feel should entirely be free. Payments to access some resources are stipulated in the MOUs to raise funds for operation of Resource Use Committees. This is a dilemma in that these payments are a hindrance to communities' access to resources at the same time a source of funds for Resource Use Committees to finance their operation and pay for committee members' time. Some committees may turn it as a money making opportunity than delivering services to the people. This undermines the enthusiasms the resource access has created among communities and the associated positive effects on conservation of natural resources in the park.

Initiating resource use in a parish is costly because it requires inventory, training and negotiation. The park management may not afford without external support. WWF has tried to bridge this gap by training UWA staff on resource inventory to reduce costs but still require external support. With such costs, UWA may not in future respond to the communities' needs for resources or does not properly carry out resource inventory as required. When there is no proper inventory, determining thresholds to allow for harvesting becomes difficult. This is also one of the sources of risks of depleting resources and compromising the future use of resource use by local communities.

In this chapter, I have confirmed that local communities living around Rwenzori Mountains National Park access dry bamboo stems and sheaths, firewood (dry wood), medicinal plants, mushrooms, traditional footpaths and cultural sites from the park. Communities access resources after negotiating and signing MOUs with Uganda Wildlife Authority which stipulates resources to access, quantities and time frame for accessing them. I also indicated in this chapter that most of the communities adhered to the provisions of the MOUs regarding the types of resources to access. I noted that resource access has improved relationship between the park management and local communities. It is emphasized that improved relationship has increased communities' participation in monitoring illegal activities, reduced incidences of illegal activities, and increased community participation in environment protection in general and conservation of natural resources in the park in particular.

Owing to the effects mentioned above, I indicated that resource use strategy has been effective in delivering intended results. It has been able to change communities' attitudes towards conservation of natural resources in the park. However, sustainability is still a big question because of factors that may undermine it. These include cost of initiating and maintaining resource use program, motivating Resource Use Committees and threats of infecting wild animals due to human and wildlife interaction. In spite of these factors, sustainability of resource use strategy hinges on access to resources with minimal adverse effects on environment and ecosystem. Resources such as dry wood for firewood and dry bamboos have limited effects on conservation of natural resources. These findings are summarized in chapter five below.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This concluding chapter gives a summary of the major findings of the research. In it, the findings and discussions presented in chapter 4 above are summarised to provide a clear understanding of the research and draw conclusions. This chapter also covers recommendations that are made in relation to the findings. The proposed recommendations are for Uganda Wildlife Authority, Resource Use Committee and Government of Uganda to strengthen resource use in protected areas. There are also suggestions for further research.

5.1 Summary of Findings

Summary of findings provide specific findings that resulted from examination of all findings, analysis and discussions. The following is the summary;

From the data analyzed, it is established that local communities access, and use plant and service resources from RMNP. Plant resources that are accessed are dry bamboos stems, bamboo sheaths, mushrooms and fire wood. Service resources that are accessed are traditional foot paths

and cultural sites. These resources are mainly used for domestic purposes as dictated in the MOUs. Communities use these resources for various functions; dry bamboo stems and bamboo sheaths for constructing houses and other form of shelters; fire wood for cooking; mushroom as food; and traditional footpaths are used as routes connecting Bundibugyo and Kabarole districts and neighbouring parishes within the two districts.

Most of the resources that are accessed by communities are allowed in the MOUs they have with Uganda Wildlife Authority. However a small section of community members access some resources which are not in the MOUs. These resources are fiber, simlax and honey. Although they constitute the minority (less than 5.7%), their actions undermines the essence of specifying resources for access by local communities in the MOUs.

Almost all households (97%) in parishes which were granted resource access have had at least a member accessed a resource from the park since the formal inception of the resource use. Both males and females access resources from the park. There was therefore no significant gender variation in accessing resources from the park.

The majority of the people living around Rwenzori Mountains are Bakonjo whose motivation to access park resources is social cultural satisfaction. This is entrenched by cultural beliefs where they have for long depended on the park for resources to meet their daily needs of shelter, food and routes. Such needs cannot be satisfied by providing alternative sources of resources but by allowing access to park resources.

Access to resources from the park is governed by MOUs between communities and the Uganda Wildlife Authority. The majority of the communities are aware of the existence of the MOUs and some of the provisions. Even those who at times do not adhere to some terms and conditions, they are none the less aware of the existence of the MOUs.

The MOUs between communities and Uganda Wildlife Authority are binding and respected. Communities regard them as a set of rules and regulations that govern them in resource access which must be adhered to. The MOUs bind communities to access resources in accordance with expectations of Uganda Wildlife Authority but do not have binding force on Uganda Wildlife Authority.

The outstanding challenges affecting local communities in access to resources are difficulties in accessing permits, and payments for permits to access some resources such as transporting animals through the park. Up to 28.6 % of communities regard charges for access to some resources as a challenge. The difficulties in accessing permits are due to difficulties in finding members of Resource Use Committee to issue permits. Considering the hilly terrain around Rwenzori Mountains, there are difficulties with some community members moving from hilly areas which are nearer to the park to low land where most Resource Use Committees have offices.

Park resource use has improved relationship between local communities and management of Rwenzori Mountains National Park. Previously there was bad relationship between the two parties because communities were engaged in illegal activities both directly and indirectly by

condoning where as the park management was all out to enforce laws on protecting the park under all circumstances. Currently, there exists good working relationship between communities and park management when the former was allowed to access some resources.

There is increased community participation in conservation of natural resources in Rwenzori Mountains National Park. They participated in putting out fire outbreak in the park, monitoring resource access, and reporting illegal activities cited in the park. They also confiscate snares and other equipments used in illegal activities whenever they find and handover to the park management.

Resource use has led to reduction in the level of illegal activities in the park. This was due to regular presence of resource users in the park, increased vigilance and reporting incidences of illegal activities by resource users to park management. However some people cover up as resource users and carryout illegal activities like laying traps to kill animals and cut fresh bamboos instead of dry ones. These constitute great threats to resource use strategy since it undermines efforts by all stakeholders in conservation of natural resources in the park. This is however to a limited scale due to increased community vigilance and ownership of the park and resource use processes.

There is increased selective harvesting of plant resources and use of service resources. Communities are directed to harvest only dry bamboo stems and use proper methods of harvesting such as cutting dry bamboo stems at 30 centimeters above the first node to allow germination of new shoots. They are also supposed to harvest medicinal trees by debarking and

picking leaves but not uprooting the whole plant. During the time when communities used to accessed resources illegally, selective harvesting was not practiced which hindered conservation of natural resources in the park. There were many routes in the park leading to areas of illegal activities and tress pass. When some routes were gazzated and communities allowed to use as traditional footpaths, those which were not gazzated have since closed and are not visible. This demonstrates reduction in tress pass and illegal activities in the park but also selective use of resources which enhances conservation in the national park.

Soil erosion and degradation of the environment in the park has been increased by resource access by local communities. Communities drag bamboos stems during transportation and driving many animals through the traditional footpaths. This created potholes and making soil loose thereby increasing soil erosion. The environment in the park is also degraded by littering biological and biodegradable materials in the park. Biological wastes such as human feces lead to spread of human diseases to animals whereas biodegradable such as polythene that is littered by resource users do not rot and degrades environment. Polythene littered with some food substances that is salty may be eaten by Rwenzori duikers and that could kill the duikers.

Resource use is capable of creating desired changes in natural resources conservation in RMNP and therefore demonstrating its effectiveness. This is demonstrated by its ability to harness commitment of communities to conserve the natural resources in the park. Resource access is capable of improving relationship between the park management and communities. Evidence of improved relationship includes communities' participation in monitoring and reporting incidences of illegal activities they cite in the park, participating in park activities such

as fighting fire outbreak among others. Resource access by local communities was effective in creating these changes in the management of the park and conservation of natural resources in Rwenzori Mountains National Park thereby meeting the intended purpose.

There is control over park resource access by the management of Rwenzori Mountains National Park and the local communities. Local communities control resource access through Resource Use Committees they elect prior to signing MOUs with Uganda Wildlife Authority. Rwenzori Mountains National park devolves some of its powers to Resource Use Committees to oversee resource use on their behalf and on behalf of the local communities. This created ownership and increased sense of responsibilities among resource users.

There exist possibilities of sustainability of resource use as an incentive strategy for natural resources conservation in protected areas. The sustainability hinges on implementation of resource use through Resource Use Committees which are elected by the community from among themselves. Other possibilities of sustainability are permitting access to only resources that do not have adverse effects on the health of the ecosystems; and some committees generate money to facilitate their functions through issuing of permits which creates some form of self reliance.

The study found functional control mechanisms in place to regulate park resources access. They include use of permits to access resources. Permits specify the type of resources one has been allowed to access, quantity and date of collection and expiry of the permits. They

also include timeframe and seasons for accessing certain resources. These mechanisms are reliable possibilities of sustainability of resource access by local communities.

There is lack of transparency among some members of Resource Use Committees on money collected from permits issued especially in areas which have busy traditional footpaths. This caused confusion among the committee members and resource use groups which undermines sustainability of resource use by local communities.

Apparently Resource Use Committees that do not generate money to facilitate their functions are very weak. Some members have abandoned the work due to lack of motivation. In some instances only chairpersons and few members are active while the majorities have either abandoned or they are dormant.

Communities are not happy with payment for permits for accessing resources which they believe should be accessed without payment. For example paying 2000 Uganda Shillings to access 1 bundle of bamboo which has 10 stems is expensive. Such payments hinder resource access and will undermine its sustainability, commitment and interest in natural resources conservation in the park.

5.2 Conclusions

From discussions and data analyzed, it is confirmed that communities harvest resources that are allowed in the MOUs they signed with UWA. This made resource use program to deliver to the expectation of UWA and significantly contributed to natural resources conservation in Rwenzori Mountains National Park. Only fiber and honey are harvested outside the MOUs and by only 5.7% of households in communities accessing resources under the MOUs.

The relationship between communities and management of Rwenzori Mountains National Park has improved since formalization of resource use. Improved relationship is evidenced by increased communities' participation in protecting the park, reporting incidences of illegal activities among others.

From the findings discussed in chapter 4 above, it is noted that, resource use has enhanced natural resources conservation in the park. This was through increased selective harvesting of resources by local communities, increased participation of communities in natural resources conservation in RMNP, monitoring and reporting of incidences of illegal activities and communities' condemnation and discouragement of illegal activities committed by their fellow community members.

Testimonies from resource users and park management revealed that regular presence and vigilance of resource users, and their resolve to continue fighting against illegal activities has reduced incidences of illegal activities in the park. This is evidenced by reduction in number of

snarcs found, tree foot stamps and animal caucuses.

Implementation of resource use in collaboration with Resource Use Committees increases communities' ownership and control over natural resources in the park. It has also increased acceptance of the program and enhanced possibilities of sustainability of resource use strategy.

Discussions held with local communities and key interviewees indicated that, the control mechanisms put in place regulate access to resources. This increases protection of resources as well as enhancing the well being of the local communities by meeting some of their needs for resources.

From the data analyzed, it is realized that, Resource Use Committees that do not generate money for their facilitation from issuing permits are very weak. It is usually very difficult to find them available to issue permits. This is because they are not motivated to be available all the time to serve their communities.

Payment to Resource Use Committees for permits to access some resources is a disincentive to resource access by local communities. It therefore threatens communities' participation and interest in protecting the park. Although these payments are a good way of generating funds for carrying out the functions of the Resource Use Committees, they are a disincentive to resource access by local communities. Resource Use Committees may abuse the payments for resource permits as an opportunity to generate money to pay their allowances.

From the data received from local communities, it was noted that, they experience difficulties in accessing resources use permits. This is especially in areas where Resource Use Committees do not have offices such as in Busamba, Kikyo among others. These difficulties emanate from the fact that resource users have to look for some committee members who issue permits from their homes or wherever they have gone; whether in their gardens or in the markets. This increases tendencies of entering the park without a permit especially those who look for permit when they are already on their way to travel through the park.

Resource use is an effective strategy for conservation of natural resources in Rwenzori Mountains National Park and in protected areas in general. The effectiveness of resource use strategy is demonstrated by its ability to harness commitment of communities to conserve the natural resources in the park. The communities begun to participate in conservation of natural resources in the park by monitoring and reporting incidences of illegal activities they cited or knew. Their relationship with park management also improved yet previously, they perceived each other as enemies. Currently complaints of harassment from park rangers have also reduced signifying improved relationship.

5.3 Recommendations

The proposed recommendations may not only be applicable to Rwenzori Mountains National Park but to any protected area. They are directed to different stakeholders in natural resources conservation which include Resource Use Committees, Uganda Wildlife Authority and

the government of Uganda.

5.3.1 Recommendations to Resource Use Committees

1. Develop duty rota and allocate work schedules to all Resource Use Committee members to issue permits to resource users. Committee members will therefore serve in turn which reduces the burden of work on a few members and increases full participation.
2. The committees should also have mechanisms of replacing members who are reluctant to work during their allocated schedules.
3. Establish a known place where people can find the Resource Use Committee members to obtain permit. This is particularly for those without offices. These places can be in a public place such as trading centres, churches or mosques or any other place generally known in the community. This will reduce incidences of people searching for them at their homes or in market places and attempting to enter the park without permits.

5.3.2 Recommendations to Uganda Wildlife Authority

1. Strengthen the capacity of Resource Use Committees to engage in income generating activities that motivate them to continue supporting communities to access resources.
UWA can support income generating activities through their regular programs aimed at

increasing conservation benefits to communities for example the 25% revenue sharing scheme. This will reduce tendencies of overcharging for permits for some resources with the motive of generating money for their operation.

2. Regulate charges that are levied for access to some resources than letting it to be decided by the committees and local communities. This is because local communities have little negotiation power when discussing about such payments.
3. UWA should organize regular election of Resource use committees and set duration of service such as two or three years. There must not be term limits because there are few interested and capable people in parishes. Regular election will increase accountability to communities.

5.3.3 Recommendation to Government of Uganda

1. Government of Uganda should formulate policies to guide and regulate resource use in protected areas. This will ensure coordinated resource access in protected areas to safeguard resources while maintaining communities' interest and participation in conservation of natural resources in protected areas.

5.4. Suggestions for Further Research

The following areas have been suggested for further research to concretely inform resource use as an incentive strategy for natural resources conservation in protected areas. They are;

1. The impact of Resource Use on the livelihoods of local communities. This is because the impact on livelihoods of communities living around the park are not adequately documented and demonstrated in most writings.
2. Ecological changes and the health of the ecosystem resulting from park resource use. This is because my research did not focus on the ecology of the park rather changes in practical conservation efforts by the park management and the communities.

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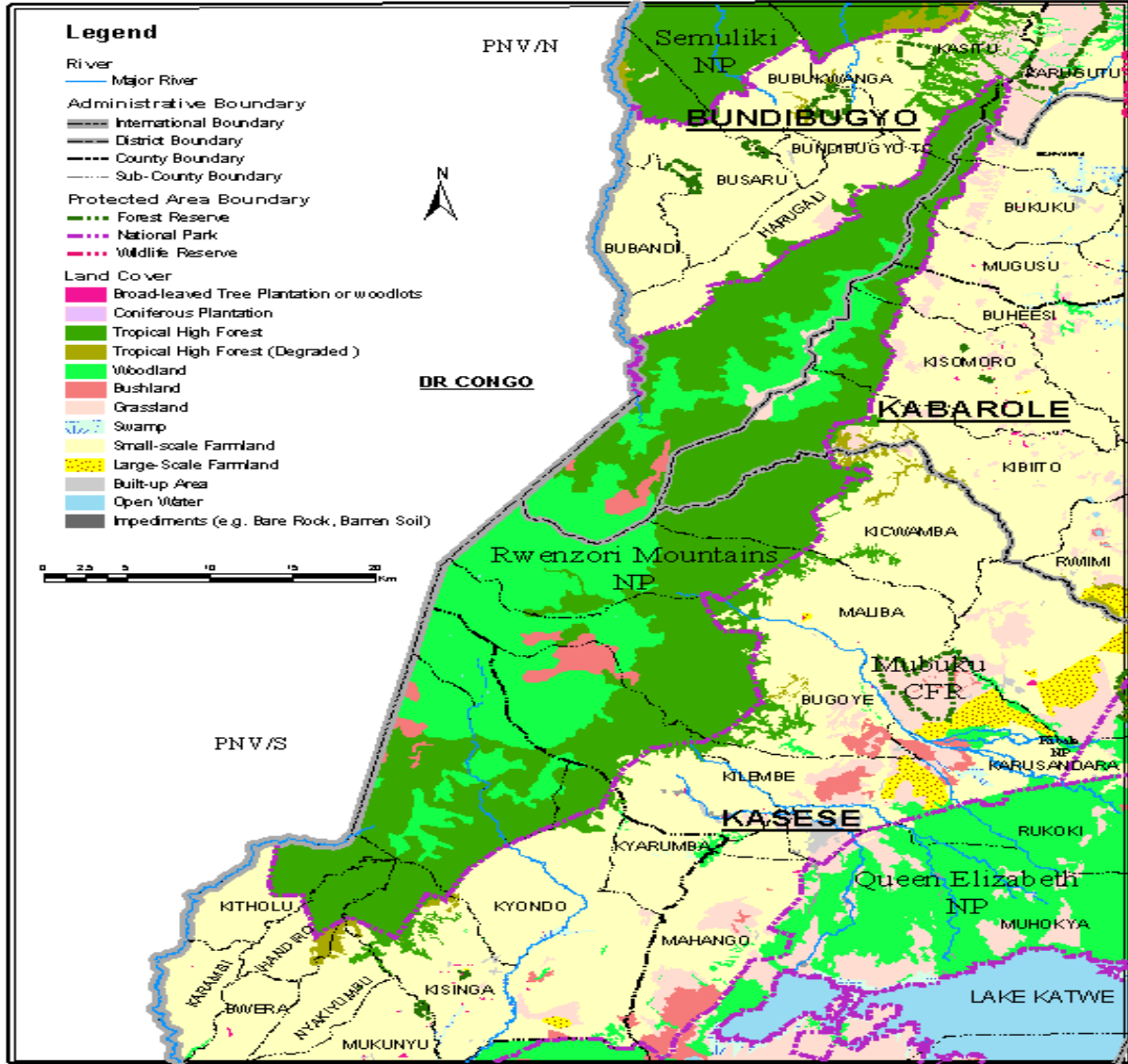
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APPENDICES

APPENDIX I: Maps Showing Location of RMNP and adjacent Districts

Rwenzori Mountain Conservation and Environmental Management Project



Source: World Wide Fund for Nature and Uganda Wildlife Authority (2011)

APPENDIX II: Interview Schedule

UGANDA MARTYRS UNIVERSITY

INTERVIEW SCHEDULE FOR

ASSESSMENT OF IN-PARK RESOURCE USE BY LOCAL COMMUNITIES AS A
STRATEGY FOR NATURAL RESOURCES CONSERVATION IN RWNZORI MOUNTAINS
NATIONAL PARK

Interviewers Name _____

Date of interview_____. Interview schedule No_____

Location of interview:

District_____ Sub County_____

Parish_____ Village _____

Introduction

My name is _____ from Uganda Martyrs University, Nkozi.

We are carrying out a research on the impact of resource use by park adjacent communities on conservation of natural resources in the RMNP. The main purpose of the research is to collect data for a research dissertation for partial fulfillment for award of Master of Arts degree of Uganda martyrs University. The other purpose is to inform decision makers about the impact of resource use on conservation for informed decision making.

Do you agree to participate by answering some of the questions I may ask you?

(Note to interviewers: do not proceed with the interview in case the potential respondent declines to participate).

SECTION A: BASIC DATA OF RESPONDENTS

Instruction: Responses are recorded in the column for code either by circling the numerical code or writing in the space provided using pencil.

No	Question	Code	Skip
Section 1:			
1	Sex of respondent	1. Female 2. Male	
2	Age of respondent		
3	Educational level	1. No education 2. Did not complete Primary education 3. Completed Primary education 4. Did not complete Secondary education 5. Completed Secondary education 6. Post secondary education 7. Vocational education	

4	Marital status	<ol style="list-style-type: none"> 1. Single- Never married 2. Married/ cohabiting 3. Widowed 4. Divorced/ separated 	
5	What is your status in your household?	<ol style="list-style-type: none"> 1. Household head 2. Spouse 3. Other household member 	If answer is 1 then skip 107
6	What is your main occupation?	<ol style="list-style-type: none"> 1. Peasant farmer 2. Salaried worker 3. Business person 4. Fishing 5. Student 6. Other_____ 	
7	What is the main occupation of the head of your household?	<ol style="list-style-type: none"> 7. Peasant farmer 8. Salaried worker 9. Business person 	

		10. Student 11. Fishing 12. Other_____	
8	How many people stay in this household	1. Below 5 years..... 2. 6-17 years..... 3. 18 + years.....	

SECTION B: INFORMATION ABOUT RESOURCE USE

SUB-SECTION I: RESOURCES IN RMNP BEING ACCESSED BY LOCAL COMMUNITIES

9. Do communities where you live access some resources from Rwenzori Mountains National Park (RMNP) Yes No (if No skip Q10, 11 and 12)

10. What resources have your community accessed from Rwenzori Mountains National Park?.....

(If no resources – plant and TFP are accessed by community members then skip Q

11)

11. What does the community use the resources mentioned above for?

.....

12. What challenges does your community face in accessing resources in the park?

.....

.....

13. Have you or any member of your household ever accessed any resource from Rwenzori

Mountains National Park since 2008? Yes No

(if no go to Q17)

14. What resources have you or any member of your household ever accessed from Rwenzori

Mountains National Park since 2008?

.....

15. What makes you interested in accessing park resources you mentioned above?

.....

16. What challenges do you face in accessing resources in the park?

.....

17. Does your community have any agreement with Uganda Wildlife Authority on access to

resources in the park? Yes No (if No skip Q18)

18. What resources does the agreement permit your community to access?

.....

**SUB-SECTION II: EFFECTS OF PARK RESOURCE USE ON NATURAL RESOURCES
CONSERVATION IN RMNP**

19. In what ways have you benefited from being allowed by the park management to access some resources in-park?

.....

20. In what ways has the RMNP benefited from allowing your community to access some resources in the park.....

21. Have you ever participated in any activities of Rwenzori Mountains National Park?

Yes No (if No go to Q25)

22. If yes, what activities did you participate in?

.....

23. What motivate you to participate in such activities?.....

.....

How have these activities you participated in supported conservation in RMNP?

.....

24. If No, why have you never participated in any activity for the Rwenzori Mountains National Park?

.....

25. In what ways do in- park resource use by your community support conservation of natural resources in RMNP?

.....

26. In what ways does access to park resources hinder natural resources conservation in RMNP?

27. What are the effects of in - park resource use on conservation of natural resources in RMNP?

.....

SUB-SECTION III: EFFECTIVENESS OF IN-PARK RESOURCE ACCESS BY LOCAL COMMUNITIES ADJACENT TO RMNP AS STRATEGY FOR NATURAL RESOURCES CONSERVATION

28. What changes in conservation of natural resources in Rwenzori Mountains National Park have been realized from in – park resource access?

.....

29. What is the effectiveness of resource use strategy in conservation of natural resources in RMNP?

30. What is the ineffectiveness of resource use strategy in conservation of natural resources in RMNP?

SUB-SECTION IV: SUSTAINABILITY OF IN-PARK RESOURCE ACCESS BY PARK ADJACENT COMMUNITIES AS A STRATEGY FOR NATURAL RESOURCES CONSERVATION IN PROTECTED AREAS

31. Who controlled resource access in the park?

.....

32. How is resources access in the park being controlled?

.....

33. What methods do communities use to harvest plant resources from Rwenzori Mountains National Park?

.....

34. Are there incidences where park resources are misused within the park?

Yes NO

35. If yes explain

.....

36. Are there incidences where park resources are misused in the community (outside the park)? Yes NO

37. If yes explain

.....

38. Are there incidences of resources being depleted in the park as a result of access by local communities? Yes No

39. If yes explain

.....

SECTION C: LESSONS, CHALLENGES AND RECOMMENDATIONS

40. What lessons do we learn from resource access strategy?

.....
41. What has gone well in the park resource access and why?

.....
.....

42. What has not gone so well in the park resource access and why not?

.....

43. What challenges does the community face in the in - park resource use?

.....

44. How have the communities addressed these challenges?

.....

45. What are your recommendations for in-park resource use in RMNP?

.....

Thank you.

APPENDIX III: Questionnaire for UWA Staff

UGANDA MARTYRS UNIVERSITY

QUESTIONNAIRE FOR UWA STAFF

FOR

ASSESSMENT OF IN-PARK RESOURCE USE BY PARK ADJACENT COMMUNITIES AS

A STRATEGY FOR NATURAL RESOURCES CONSERVATION IN RWNZORI

MOUNTAINS NATIONAL PARK (RMNP)

Introduction

My name is Ismael Ochen Ochen from Uganda Martyrs University, Nkozi. I am carrying out a research on assessing resource use by park adjacent communities as a strategy for conservation of natural resources in the RMNP. The main purpose of the research is to collect data for a research dissertation for partial fulfillment of the requirement for award of Master of Arts degree of Uganda Martyrs University. The other purpose is to inform decision makers about the resource use as a strategy for conservation for conservation of natural resources.

If you agree to participate, answer the questions below?

SECTION A: RESOURCES IN RMNP BEING ACCESSED BY LOCAL COMMUNITIES

1. What resources does the community access from RMNP?

.....
.....
.....

2. What does the community use the resources you mentioned above for?

.....
.....

3. Do the communities that access resources have any agreement with UWA on access to resources in the park? Yes No (if No skip Q4)

4. What resources do the MOUs permit the community to access?

.....
.....

SECTION B: EFFECTS OF PARK RESOURCE USE ON NATURAL RESOURCES CONSERVATION IN RMNP

5. In what ways has the RMNP benefited from permitting the local community to access some resources in the park.....

.....

.....
.....

6. Do community members living adjacent to the park participate in any activities which support conservation in RMNP? Yes No
(If No go to Q 9)

7. If yes, what activities did they participate in?

.....
.....

8. How do the activities you have mentioned above support conservation in RMNP?
.....

9. In what ways do access to park resources by the community members support conservation of natural resources in RMNP?
.....

10. In what ways do harvesting park resources hinder natural resources conservation in RMNP?

.....

11. What are the effects of in park resource use on conservation of natural resources in RMNP?

.....

SUB-SECTION III: EFFECTIVENESS OF IN-PARK RESOURCE ACCESS BY LOCAL COMMUNITIES ADJACENT TO RMNP AS STRATEGY FOR NATURAL RESOURCES CONSERVATION

12. What changes in conservation of natural resources in RMNP have been realized from in – park resource use?

.....

13. What purposes did RMNP have for resource access by its adjacent communities?

.....

14. Has RMNP achieved the purpose for permitting communities to access some resources from the park? Yes No

15. Justify your answer above.....

.....

16. What is the effectiveness of resource use strategy in conservation of natural resources in RMNP?

.....

17. What is the ineffectiveness of resource use strategy in conservation of natural resources in RMNP?

.....

SUB-SECTION IV: SUSTAINABILITY OF IN-PARK RESOURCE ACCESS BY PARK ADJACENT COMMUNITIES AS A STRATEGY FOR NATURAL RESOURCES CONSERVATION IN PROTECTED AREAS

18. Who controlled access to the park for resources?

.....

19. How is access to resources in the park being controlled?

.....

20. What methods do communities use to harvest the resources from RMNP?

.....

21. What average quantity of the resources mentioned above is harvested over a period of three months?

22. Are there incidences of resources being depleted in RMNP as a result of access?

Yes No

23. If yes explain.....

.....

24. What is the sustainability of resource use strategy in conservation of natural resources in RMNP?

.....

.....

SECTION C: LESSONS, CHALLENGES AND RECOMMENDATIONS

25. What has gone well in the park resource access and why?

.....
.....
.....

26. What has not gone so well in the park resource access and why not?

.....
.....
.....

27. What challenges does RMNP face due to communities' access to park resources?

.....
.....
.....

28. How have you addressed these challenges?

.....
.....
.....

29. What are your recommendations on in-park resource use in RMNP?

.....
.....
.....

Thank you for answering the above question and please return this questionnaire to Ismael Ochen Ochen.

APPENDIX IV: Key Informants' Interview Guide/Focus Group Discussion Guide

KEY INFORMANTS' INTERVIEW GUIDE/FOCUS GROUP DISCUSSION GUIDE

1. What resources do communities living around RMNP access since 2008?
2. What resources does the resource use MOUs permit the community to access?
3. How has in park resource use supported conservation of natural resources in RMNP?
4. How has in park resource use hindered conservation of natural resources in RMNP?
5. What are the effects of in park resource use on conservation of natural resources in RMNP?
6. What are the purposes of in-park resource use?
7. What purposes have been achieved?
8. What controls are in place to regulate access to resources in the park?
9. How has the park resource use MOUs between UWA and the local communities been adhered to? (probe for adherence by communities and UWA)
10. What is the effectiveness of resource use strategy in conservation of natural resources in RMNP?
11. What is the ineffectiveness of resource use strategy in conservation of natural resources in RMNP?
12. What is the sustainability of park resource use strategy in conservation of natural resources in RMNP?

APPENDIX V List of Key Informants

SN	NAME	TITLE	ADDRESS
1	Mbogha Francis	Warden Community Conservation	Rwenzori Mountains National Park
2	Otike Pabious Duli	Assistant Warden Research and Monitoring	Rwenzori Mountains National Park
3	Tumwesigye Anthony	Natural Resources Officer	Rwenzori Mountains Conservation and Environment Management Project, World Wide Fund, Kasese
4	Kakiri Yowasi	Chairperson Resource Use Committee	Nyakitokoli Parish, Karangura Sub county, Kabarole District
5	Kauta Rolex	Chairperson Resource Use Committee	Nsuura parish Katebwa Sub county, Kabarole District
6	Visathiro M. Sedrack	Chairperson Resource Use Committee	Busamba Parish Bukonjo Sub County, Bundibugyo District
7	Jongo Abraham	Chairperson Local Council I	Kibati Village Nsuura Parish Katebwa, Kabarole district

APPENDIX VI: List of Participants for Focus Group Discussions