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Does Equity Matter in Natural Resource and Livelihood Benefits? Revenue Sharing Policy Implementation at Bwindi Impenetrable National Park, Uganda

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ABSTRACT

This paper presents and interprets key parameters within Revenue Sharing policy implementation framework and links them to people's livelihood improvement and conservation. This study creates a linkage between equitable distribution of Revenue Sharing projects, people's livelihood improvement and conservation support. The paper further presents the distribution of projects across various sections of people boardering with Bwindi. Data was analysed both quantitatively and qualitatively to generate frequencies and percentages in order to illustrate the differences. Not all the variables to explain benefit distribution were significant for both livelihood improvement and conservation support. Significant variables included; resource users, ethnicity, gender, proximity from park boundary and homestead distance to vehicle roads and village centres. Results further indicate that projects are not well targeted and there is no equity during implementation. Those who bear the most conservation costs are not well targeted by resource benefits. The paper recommends a Revenue Sharing Equitable Framework and Community Based Monitoring approach in order to improve the policy implementation practice.

Keywords: Equity; Revenue Sharing Policy; Benefit sharing; Integrated Conservation and Development; Revenue Sharing Equitable Framework; Livelihood Improvement

INTRODUCTION

Globally, the phenomenon of community and individual livelihood security in the face of resource revenue and benefits is attracting international and local debates as to whether conservation policy interventions are equitably shared to address people's livelihoods (Wells *et al*., 1993; Hughes and Flintan, 2001; Simpson, 2008; Blomley *et al*., 2010; Salafsky, 2011:975; Twinamatsiko and Muchunguzi, 2012; Twinamatsiko *et al*., 2014). There is often contestation between local communities and protected area premised on inadequate benefits from Protected Areas (PAs) to address their livelihood needs yet such communities bear conservation costs (Archabald and Naughton-Treves, 2001; Bush and Mwesigwa, 2008). As a result of the perceived inequitable distribution of benefits, unauthorised resource use (URU) takes place.

Revenue Sharing is conceived as one of the Integrated Conservation and Development programmes that have the potential to address the question of equity in Protected Area management and Natural Resource Management (Ahebwa et *al.,* 2012; Salafsky, 2011). Its projects represent a new approach different from

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protectionist approach to the conservation of biodiversity and ecological systems (Wells and Brandon, 1993). According to Blomley *et al*. (2010), Integrated Conservation and Development holds the promise of achieving mutually accepted outcomes, generating impacts for both conservation and local development. Important to note however, is that linking conservation with poverty alleviation through revenue benefits is more than effective national park management but rather requires gaining support of local communities for conservation and resolving local conflict issues (Baker *et al*., 2013). This can be fully achieved if adjacent communities perceive equitable distribution of benefits.

ICD has formally evolved since 1987 in Uganda with many dimensions. ICD is a combination of many interventions that all address community-based approaches to conservation. The interventions under ICDs have been categorized as coupling and decoupling strategies (Blomley *et al*., 2010). Blomley in his socioeconomic assessment of ICDs at Bwindi between 2001-2002 using households' surveys, illustrates coupling strategies as interventions that link local people to the resource and helping communities to generate some benefits and increase their willingness to manage and protect a resource in a long term. What Blomley failed to tackle were the implementation challenges that would deter support for conservation. Decoupling strategies include those ICDs that provide alternatives for income generation and reduce community dependence on park resources (Blomley *et al*., 2010). In response to criticism, a second generation of refined ICDPs was developed. Based on the principle that local populations will only abide by conservation measures once their own socio-economic well-being is assured (Kremen *et al*., 1998), the aim was to provide communities with sustainable economic alternatives to destructive harvesting and land use practices (Wells and Brandon, 1993; Alpert, 1995). Particular emphasis was given to resolving conflict between protected areas and communities by a broad array of strategies to alleviate local conservation costs and ensure local benefits.

Revenue sharing objectives are premised on improving people's livelihoods in order to gain their support for conservation (Archabald and Naughton-Treves, 2001; UWA, 2012a, UWA, 2012b). Revenue sharing is one of the Integrated Conservation and Development policies. It is a strategy that aims at achieving community support for conservation through improved livelihoods of people surrounding PAs (Blomley *et al*., 2010; Tumusiime and Velderd, 2012; UWA, 2012b, p. 2). The issue of delivering benefits generated from Protected Areas has long been recognised as an important factor towards conservation (Scherl *et al*., 2004; Garnett *et al*., 2007; Salafsky, 2011; Twinamatsiko *et al*., 2014). It has been documented that failure to link conservation to benefits accruing from protected areas and people's livelihoods leads inevitably to loss of biodiversity. The purported successes are not linked to improvement in wellbeing of people neighbouring such protected areas.

The policy of sharing revenue sets 20% of gate entry fees to be shared among community members that bear conservation costs. This is premised on the fact that shortcomings are likely to arise in ensuring biodiversity conservation (Adams *et al*., 2004). There are key justifications for sharing revenue with communities that include among others; a recognition that conservation and development needs are key to be integrated; conservation is likely to be undermined if poverty is not addressed; there is a moral obligation for conservation not to compromise with poverty reduction and poverty conservation itself depends on the conservation of living resources (Garnett *et al*., 2007 while quoting Adams *et al*., 2004). The empirical realities however show that the practice of revenue sharing policy around Bwindi does not address the initial objectives of the policy which look at human livelihood improvement to gain support for conservation. Failure to achieve this pathway has resulted into negative attitudes towards conservation (Ahebwa *et al*., 2012; Twinamatsiko *et al*., 2014). This justifies the understanding of the failed linkage of revenue sharing policy to address community livelihoods and facilitate support for conservation.

Around PAs, local people continue to agitate for conservation benefits in order to embrace conservation since they bear more costs of conservation (Archabald and Naughton-Treves, 2001; Bush and Mwesigwa,

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2008; CARE, 2006). There is a big linkage between inadequate community livelihoods and unauthorised resource use which is a measure for support for conservation (Twinamatsiko *et al*., 2014) yet those who bear conservation costs have always been excluded or not well targeted when it comes to the distribution and sharing of benefits. This is attributed to the failure to perceive the importance of conservation due to limited benefits that address their livelihoods and a desire to meet livelihood needs with the easiest option available to them. Revenue sharing policy has the potential to create a linkage between conservation and development. If well implemented using an equitable framework, it can be a pathway for improving people's livelihood and influence their support for conservation of Protected Areas (PAs). Effective benefit distributions as well as governance are key elements of equity. Policy implementers ought to consider them in order to achieve the best conservation results. Borrini-Feyerabend *et al*. (2004) stated that, benefit sharing failed to acknowledge the importance of governance and power in determining many conservation development outcomes at the local level.

THEORETICAL AND CONCEPTUAL CONTEXT

The Ecotourism theory and Justice Framework have been used to construct and explain the relationships that exist between and among Revenue Sharing benefit distribution, people's livelihood improvement and conservation. This is aimed at understanding the implementation framework in order to understand whether equity has been exercised. Ecotourism theory explains the linkage of benefit sharing, livelihood improvement and conservation support. The Justice Framework creates an understanding of the process of implementation to better understand the linkage. The theoretical perspectives have been applied using the Policy Arrangements Approach (PAA).

Scholars in the area of conservation and development integration (Ross and Wall, 1999; Sandbrook, 2006) have used the ecotourism theory among other theories to explain policy arrangement of revenue sharing and other ICDs. This is further aided by the theory of access developed by Ribot and Peluso (2003) on access to benefit from natural resources. Ecotourism theory creates a linkage between tourism, local livelihoods and biodiversity. The studies agree that the new conservation debate should entail a strong focus on the livelihoods of people surrounding the protected areas (Sandbrook, 2006; Blomley *et al*., 2010; Twinamatsiko *et al*., 2014). The new conservation approach should bridge two irreconcilable and opposing truths (Salafsky, 2011).

METHODS AND MATERIALS

Site Description

The research was carried out in the 19 parishes that boarder Bwindi Impenetrable National Park (BINP). Bwindi is located in the Albertine Rift in South Western Uganda and covers three districts of Kabale, Kanungu and Kisoro. Bwindi Impenetrable National Park is home to half of the world's endangered population of mountain gorillas and a world heritage site. As an afromontane forest is southwest Uganda, Bwindi is an area of high biodiversity with many rare and endemic species (McNeilage *et al.,* 2006). The park boarders 27 densely populated parishes that are highly marred by poverty levels. Bwindi was gazzetted in 1932 as the Kasatoro and Kayonza Crown Forests (UWA, 2001). In 1942, the two Crown Forests were unified as Bwindi Central Crown Forest, which, in 1961, was gazetted as a gorilla sanctuary and in 1991 the area was gazetted as a National Park (Tumusiime & Svarstad, 2011). There are various categories of people within Bwindi parishes. The Bakiga, Batwa forest people and Bafumbira are the main tribes around Bwindi.

Study Approach and Methods

A mixed method research approach was used after a review of various literature sources by authors who

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discussed various limitations and strength of other research designs. Creswell (2009: 203) recommends use of mixed methods research in order to broaden understanding of the discipline by incorporating both quantitative and qualitative research approaches or to use one approach to better understand, explain or build on the results from the other approach (Creswell, 2009:204-205). In the mixed method design, cross sectional and case study designs were used for quantitative and qualitative approaches respectively (Creswell, 1998; Neuman, 2011; Creswell, 2011).

This study employed a cross section of people around Bwindi population in order to substantiate and correlate various views on revenue sharing policy governance. The study was composed of 565 local community members as primary respondents, 30 key informants (10 staff of Uganda Wildlife Authority, 01 senior staff of Bwindi Mgahinga Conservation Trust, 01 senior staff of International Gorilla, 3 planners of District Local Governments, 10 Local Government elected leaders and 05 opinion leaders around Bwindi including old staff from ITFC and elders in the community). 120 selected local leaders, former CPIs and local opinion leaders participated in 10 Focus Group Discussions (FGDs) to understand the local perceptions and what communities thought as local solutions to the proper implementation and governance of revenue sharing policy. Sampling was done using stratified sampling, simple random and purposive sampling.

Primary methods included; Household surveys, Key Informant Interviews, Focus Group Discussions (FGDs) and observation. Secondary data method included documentary reviews in journals, book chapters, field reports and UWA records. Validity and Reliability of the study were ensured to achieve some high degree of accuracy and consistence of the data collected. This was achieved through conducting a pilot test of the instruments that were used in data collection. The household survey questions were pre-tested and sorted during data collection process. Creswell (2009:27) suggest that validity in qualitative research estimates whether the researcher sees what he or she thinks so that there is evidence in the data for the way in which data are interpreted. Validity of research instruments were measured using content validity (Polit and Beck, 2004). The researcher went ahead to calculate a Content Validity Index (CVI). The CVI range for this study was 0.7 and this justified the accuracy of the results for each of the values on the scale (I-CVI) and the overall values (S-CVI). The use of NVivo computer package in coding and managing data further enhanced validity of data. Reliability of the instrument on the variables was tested using the Cronbach alpha method and a Cronbach alpha (α) of 0.7 made the instrument to be taken reasonably reliable. Reliability of research questionnaire was measured using test and retest technique.

All generated data from the field was cleaned, coded and entered into Microsoft access 7. Quantitative data collected from household surveys was analyzed using STATA 11 statistical package. Statistical tests were undertaken using parametric and non-parametric tests according to the way the data were distributed. Multinomial Logistic Regression (MLR) and Linear Regression (LR) formed most part of the analysis of the various processes of revenue sharing implementation and livelihood improvement of people around Bwindi. This study further used Polychoric Principal Component Analysis (PCA) to generate indices for indicators of livelihood improvement and conservation support (Kolenikov & Angeles, 2004). Qualitative data was analyzed using thematic content analysis. This was aided by NVivo computer package.

RESULTS AND DISCUSSION

Revenue Sharing Project Distribution across Various Sections in the Population to Improve their Livelihood and Support for Conservation

Revenue Sharing benefit distribution and Resource Users at Bwindi

Resource users around Bwindi were predetermined and categorised during exploratory studies before the surveys commenced. These were categorised according to how they used Bwindi as their source of

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livelihood. Community members identified that Batwa were the original inhabitants of Bwindi Forest. Another category identified to be more attached to Bwindi was the Unauthorised Resource Users (URUs). They are URUs because the current UWA laws do not allow access to Bwindi resources by local people without any legal arrangement although to them, Bwindi is their historical natural resource. The last category under this section is the random community households. These include other members in the community who have a stake on Bwindi resources. The intention of this categorisation was to determine the approach of Revenue Sharing benefit distribution and the extent of benefit across these various categories of resource users around Bwindi. This was guided by the distributive dimension of equity framework.

Most respondents who had benefited from Revenue Sharing were random community households represented by 310 (78%) of the sample followed by Batwa 78 (18.4%) and 36 (8.5%) Unauthorised Resource Users as shown in Figure 21. In the category of those who had not benefited from Revenue Sharing, majority were random community households 98 (69.5%) followed by Batwa 28 (19.9%) and lastly Unauthorised Resource Users 15 (10.6%).

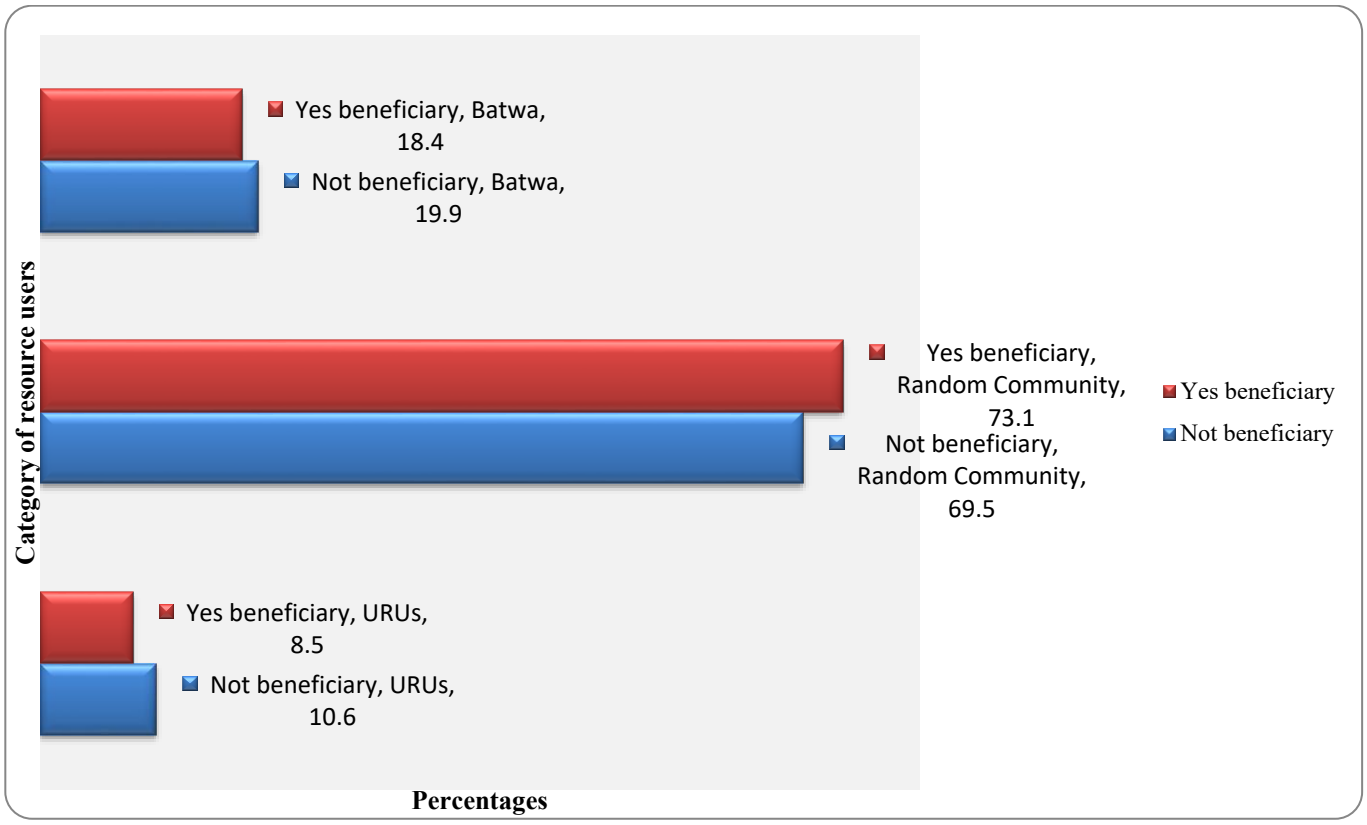


Figure 1: Revenue Sharing and Resource Users at Bwindi

This record reveals that when selecting beneficiaries for Revenue Sharing, the target is not biased towards those who have rights over Bwindi INP and those who do harm to Bwindi INP but a random distribution is applied. In the equity framework and ecotourism theory, this kind of distribution is not adequate enough to woo conservation support. The equity framework asserts that, in distributive equity, benefits should target; those who have rights to benefit, those who do harm to the natural resource, those who support conservation initiatives and where there is an opportunity cost. This helps to target all sections in the community who matter most to conservation.

In FGDs, the Batwa were identified as forest people who have more rights over Bwindi than other people in the community. This was revealed by both Batwa and non-Batwa participants. Targeting them for more benefits would enhance conservation support and address historical injustices of displacement. The targeting

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of more Unauthorised Resource Users is likely to bring them on board and discard bad behaviour that creates harm to biodiversity. Results reveal that Revenue Sharing projects are just disbursed in the communities surrounding Bwindi without this critical equity consideration.

Box 1: Local community perception on Batwa targeting

"These people (Batwa) used to live in the forest. We would see them come out of the forest with meat and we would exchange with them sorghum and Irish potatoes. We still know them as forest people. That is why they have even failed to practice agriculture because they do not know how to dig.. (Mukiga elder 78, Byumba FGD, Bujengwe, Kanungu District).

"We Batwa have been marginalized. You see we are forest people. This Bwindi you see belongs to us but when they are giving out money from our resource, we are not considered as Batwa.." (A Mutwa from Nyabaremura FGD, Rubuguri, Kisoro District)

Figure 1 indicates that most projects are allocated randomly to community members as represented by 310 (73.3%) of the beneficiaries compared to 78 (18.4%) Batwa and 36 (8.5%) unauthorised resource users. Batwa benefited from all projects apart from other livelihood projects. Unauthorised Resource Users benefited from most projects apart from other livelihood projects and other general projects.

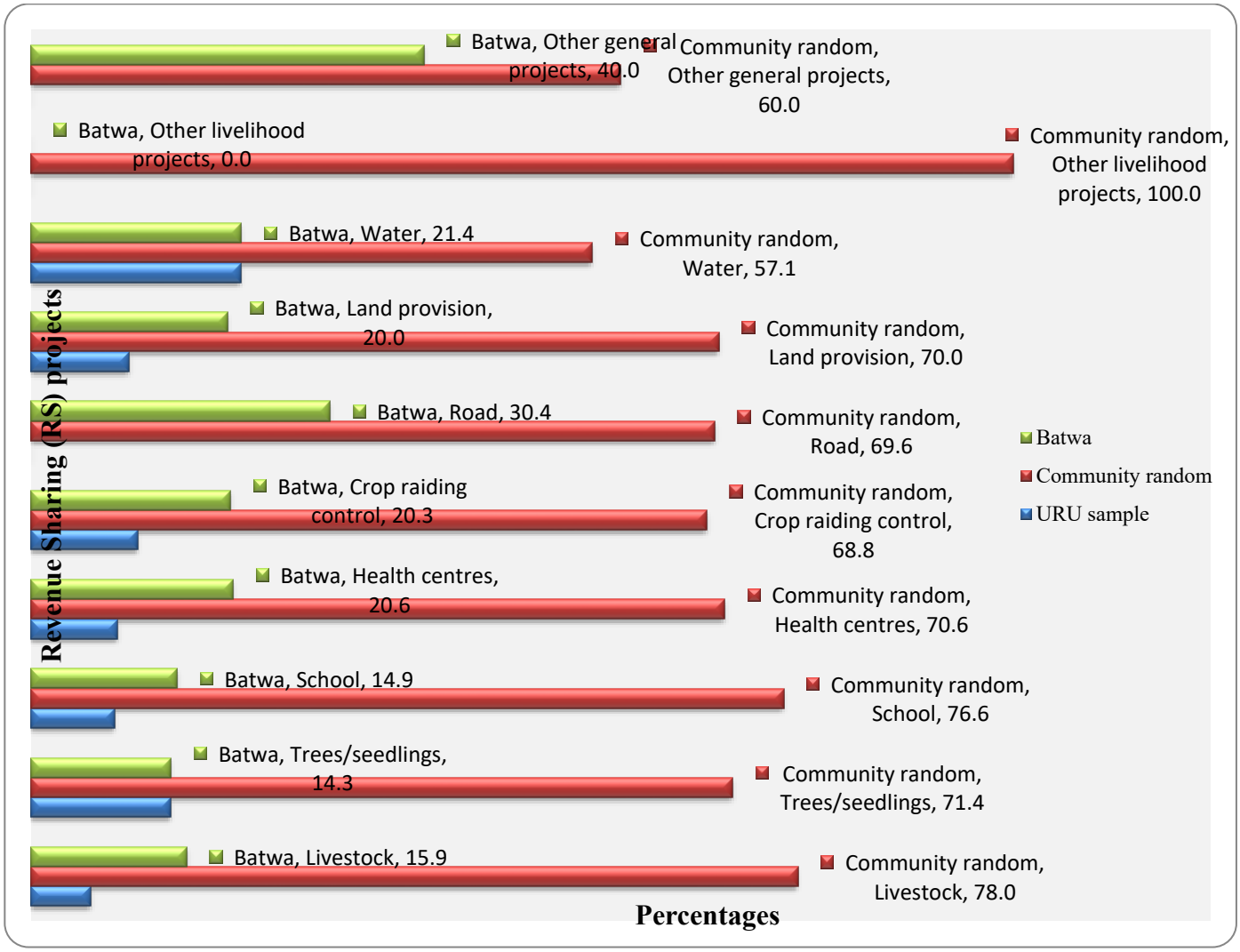


Figure 2: Distribution of Revenue Sharing Projects across resource users

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Results show that when selecting beneficiaries, there has not been specific targeting of projects to different categories of people in society. This implies that, the recognitive and contextual dimensions of equity are not applied in project distribution at Bwindi.

The study revealed differences that exist in terms of socioeconomic well being of the Batwa and non Batwa. Most Batwa live within 1 km from the national park boundary as frontline residents. Batwa are poorer compared to non-Batwa. The Batwa had fewer neighbors, less years of formal education, fewer sanitation facilities, and go hungry with not most of them having above one meal per day. From the distance to access water, the Batwa fetch water from an unprotected water sources. The Batwa rated their quality of life lower than non-Batwa.

It was revealed that from the revenue generated by Bwindi Mgahinga Conservation Trust, most Batwa land was bought near the national park. The reason behind this arrangement related to a need to maintain their forest attachment. The other reason was relating to land availability and affordability. Land near park boundary is cheaper compared to land far from the national park. This land near the park boundary was found out to be prone to crop raiding a reason why most local residents have abandoned it for serious commercial crop production. Regarding Revenue Sharing projects, the Batwa were more likely to have benefitted from a livestock project and a land provision project. This related to lack of specific targeting for the Batwa local residents in the resource access programme.

Unauthorised resource users were found out with relatively large families with more than one wife (since all were males). Majority of the arrested individuals live in the frontier villages (within 1 km from the park boundary) which are composed of poorer members of the communities. The study however did not completely conclude that it is poverty that drives unauthorised resource use since there were other motivations for unauthorised resource use. Some of these individuals however had received a benefit from Revenue Sharing projects (section 4.4).

Revenue Sharing benefit and Gender

Gender is an important factor that determines inclusive development approaches and equitable benefit sharing. In this study, both men and women were integrated as part of the surveys and also in Focus Group Discussions. This was intended to establish the current distribution of benefits across gender and find out some of the limitations to benefit from Revenue Sharing projects for both men and women. It is important to note here that women interact with the environment more often than men and bear the burden of looking for most of the household livelihood needs such as firewood, water and food. Previous UWA records revealed that women undertake unauthorised resource use on minor forest products such as firewood and bean stakes (UWA, 2010). This justified the inclusion of gender as a key variable for the analysis.

Figure 2 indicates that majority of the respondents benefiting from Revenue Sharing 294 (69.3%) were males compared to 130 (30.7%) females. In the category of those that had not benefited, males 95 (67.4%) were the majority while women were the minority with 46 (32.6%). Results from FGDs and Key Informant interviews further confirmed inequalities in benefit sharing by both men and women. 9 FGDs (90%) out of 10 mentioned lack of gender equality when distributing benefits.

Being a random selection criterion for household surveys, it shows that most households around Bwindi like other places in Uganda are headed by men and therefore stand more chances of participating in research. In terms of comparing gender with the level of Revenue Sharing benefits, involvement and ownership, it was found out that men felt more involved with Revenue Sharing projects compared to women. Men felt strong ownership and benefit from Revenue Sharing projects compared to women. This implies gender inequalities among Bwindi communities and households.

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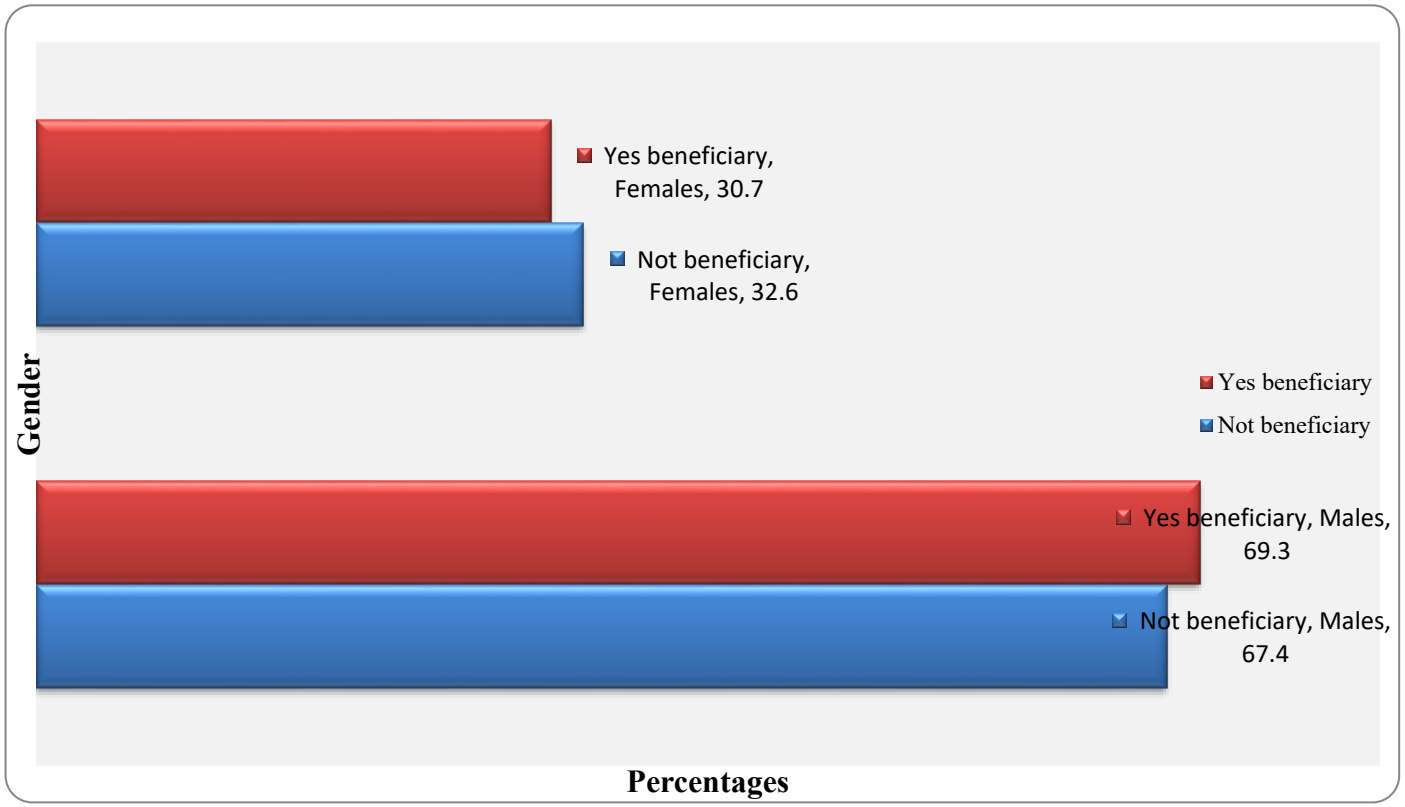


Figure 3: Revenue Sharing benefit and Gender

With 81.6% of the participating households being headed by men, there are minimal chances of women to benefit from Revenue Sharing projects. Men are the ones that represent families in meetings and when projects are selected, they are owned by men as household heads. Women who were found involved, benefited or owning Revenue Sharing projects were either widows or those that were having separate households as second or third wives. During FGDs, participants revealed that benefits are not distributed equally and equitably to both gender. This leaves women behind the benefiting line compared to men. There were no differences in gender considerations across Bwindi communities. In all communities, gender consideration is not an issue when distributing benefits to local people.

Box 2: Local community perception on gender consideration
"For us women we have been left behind these interventions. Our men take a lion's share. Everything in a household belongs to a man. Even when you have your own project, a man claims it is his. One time I went to pick a goat from a meeting for our family. I found the name on the list was for my husband not mine. When the goat reached home, the man took it to the trading centre and sold it. We did not see him again until the money was over as spent on drinking…" (A woman member of Nteko village FGD, Nyabwishenya, Kisoro).

Results further show that, Revenue Sharing projects do not specifically target women. The projects to fund are determined by a community. The community decides on what project to implement and to be funded. The community also nominates the list of beneficiaries for the selected projects. With the identified cultural constructions and rigidities around Bwindi, women are more likely to lose out of the Revenue Sharing benefits. When projects are funded, they are meant to benefit a household. The study revealed intra gender differences which make it hard for women to benefit from household projects. The patriarchy setting of Bwindi makes a man a head of the household and with sole authority to make decisions for and on behalf of the family. Therefore, such positions attribute to low socioeconomic wellbeing on part of women compared

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to men.

Figure 3 indicates that, majority of the projects allocated to males were 'other livelihood projects' such as poultry and passion fruit growing (100%) , land provision (85%) and crop raiding control measures (79.7%). The project that were mostly allocated to female beneficiaries was water (92.9%) .

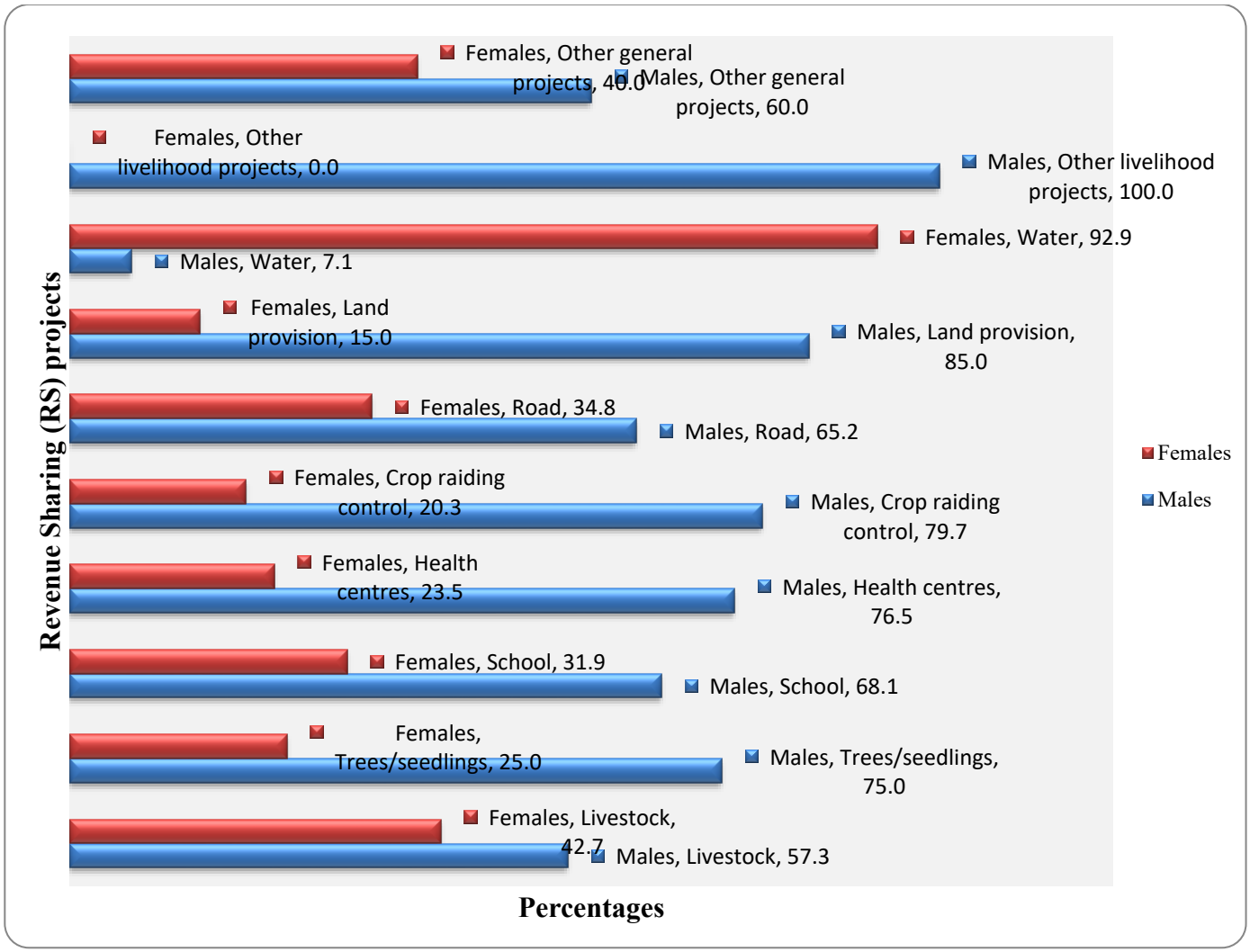


Figure 4: Showing Distribution of Revenue Sharing Projects across gender

Results show differences in projects funded to benefit both men and women and the degree of benefit for both gender. Over all, men perceive more benefits from almost all projects apart from water compared to women. This implies that gender needs ought to be integrated into the projects that are funded in order to equally benefit both gender. Both men and women have different gender needs as mentioned in Focus Group Discussions (Box 3). For instance women mentioned more funding to go to water, health and credit schemes. Men mentioned crop raiding control measures and livestock. Targeting gender needs is a pathway for inclusive development.

Box 3: Local community perception on project funding
"In one meeting we told them that we needed a water project but men over ruled that we put money on the council hall. How do we as women benefit from that hall since we never take part in Sub County leadership? Even when we have meeting there for resource use group members, we meet under the tree outside the hall."(A Mukiga woman, Mpungu FGD, Kanungu District).

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Distribution of Revenue Sharing benefits across ethnic groups

The study disaggregated Revenue Sharing benefits across ethnicities and the livelihood situations of different ethnic groups around Bwindi. Figure 5 reveals the findings from household surveys which indicate that most beneficiaries were Bakiga as represented by 338 (79.7%) of the total 424 beneficiaries. They were followed by Batwa 78 (18.4%), Bafumbira 05 (1.2%) and others as represented by 03 (0.7 %) as indicated in Figure 5.

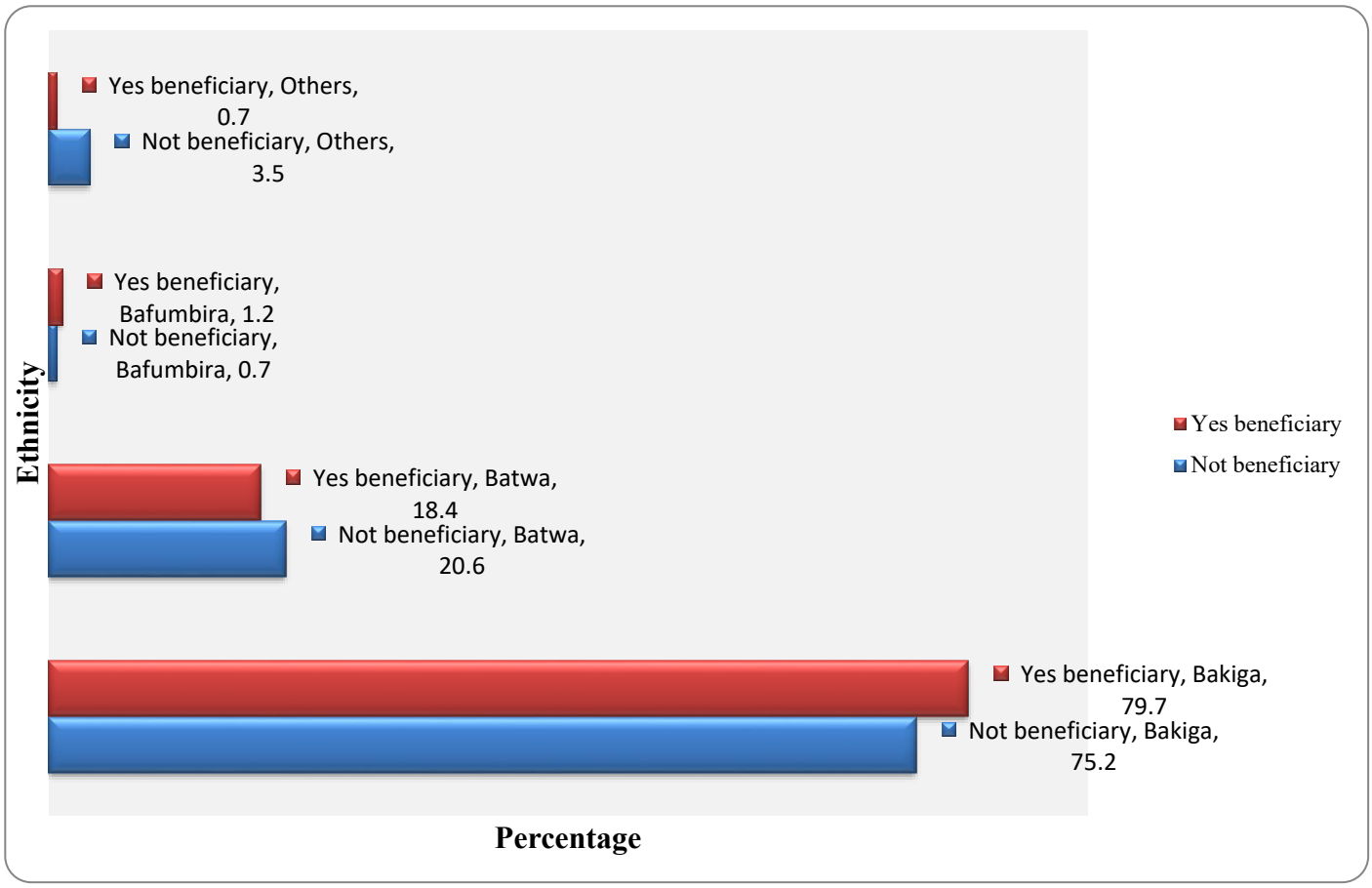


Figure 5: Revenue Sharing benefits across ethnicities

The study stratified ethnic groups in order to get a representative sample in each ethnic group. This reveals how Bakiga are many compared to other tribes that boarder with Bwindi. Similarly, the study by Sandbrook revealed the same dominant category of the Bakiga around Bwindi. The baseline survey found 589 households across the six study villages, with a total of 2,821 members. These individuals were drawn from 13 East African ethnic groups. Of these, the Bakiga were strongly dominant with 96.4% of individuals, and only five other groups had four or more members. These results were almost similar to those given by CARE (1994), who found that 94.5% of people living around BINP were Bakiga (Sandbrook, 2006).

The distribution of RS across ethnic groups has also not been purposive in order to put various factors such as property rights, population size of the ethnic group and poverty levels within the benefiting groups. The lists of beneficiaries in 2012 from Bwindi southern sector reveal that no Mutwa received a benefit across the 12 villages of Nteko, Rubuguri and Iremera (UWA, 2012c). This shows how a specific lens to balance benefits is not worn while distributing them. This is likely to affect the proportion that each ethnic group is likely to get from Revenue Sharing funds. Figure 6 below indicates the disaggregation of projects across ethnic groups at Bwindi.

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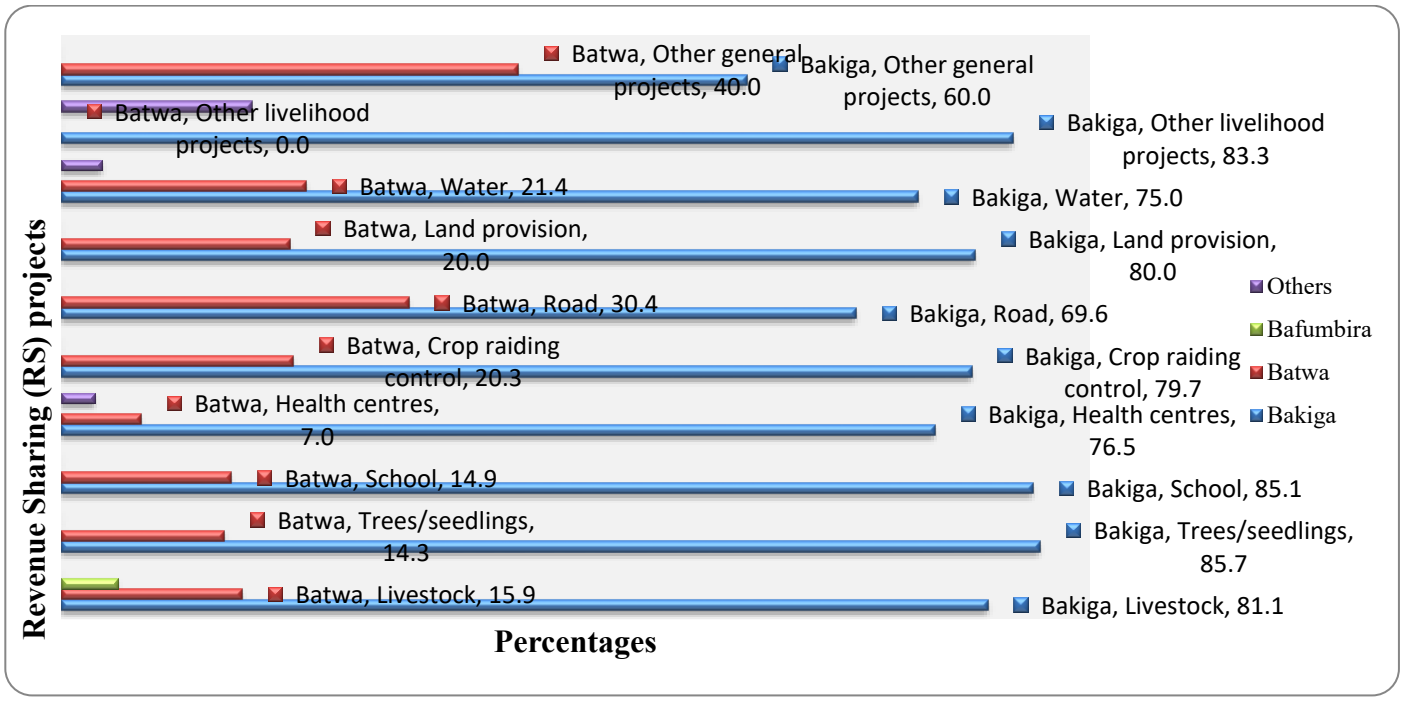


Figure 6: Showing Distribution of Revenue Sharing Projects across ethnicities

As indicated in Figure 6, Bakiga have been allocated most of the projects compared to other tribes. Figure 6 further indicates that this allocation is across all funded projects under Revenue Sharing. Batwa received benefits across all projects apart from other livelihood projects. Other livelihood projects included; irish potato growing, vegetable growing, passion fruit growing and tea planting. This indicates limited level of Batwa's involvement in commercial farming and other income generating ventures. The most projects that Batwa were involved in were other general projects. These mostly included savings and credit schemes locally known as *"akabox"*.

It was established through Focus Group Discussions that most Batwa are involved in the savings and credit scheme. Batwa results show that land, livestock and savings and credit schemes were most prefered to other projects. Bafumbira were only allocated livestock project. This has a livelihood implication on the Bafumbira people since livestock alone may not generate potential avenues for livelihood improvement. Bafumbira ranked livestock projects as their most preference but emphasised diversification from sheep to cows and 3 goats per household. This was attributed to the Bafumbira traditional relationship with sheep which they did not prefer as a domestic animal. They also linked their dislike of sheep to the potential returns that sheep can give compared to other livestock.

This implies that most projects are randomly funded which puts Bakiga in a more advantaged position to be selected as beneficiaries compared to other ethnic groups. The ethnic composition of Bwindi communities entails diversities of communities in terms of resource use and cultural differences in terms of priority projects. Consideration of such diverse settings is paramount within the equitable framework of Revenue Sharing since needs and priorities of certain ethnicities would be put into proper consideration. This would enable different ethnicities get their priorities and live in harmony since they would all be considered during beneficiary selection. These are the recognitive and contextual dimensions of equity as per the Justice/ Equity framework.

Revenue Sharing benefits and Homestead distance

Respondents were asked to mention the estimated distance they take in order to access both a vehicle road

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and a village centre. This measure originated from a study that was conducted at Bwindi from 2012 to 2013 that revealed that people in remote areas were likely to be poor, with less education, poor sanitation and less access to social services (Twinamatsiko *et al*., 2014). Other previous studies such as Bush and Mwesigwa (2008) had revealed that ICDs were targeting places of easy access. Therefore, in order to understand who is likely to benefit from Revenue Sharing, respondents identified the distance they cover from their households to vehicle roads and village centres. This was measured in terms of less than 1 hour walk or over 1 hour walk.

Table 1 indicates that most people who benefit from Revenue Sharing live less than 1 hour walk from a vehicle road and a village centre. This is represented by 325 (76.3%) for those under 1 hour walk compared to 99 (23.3%) for beneficiaries over 1 hour walk from vehicle road. Further still, in terms of homestead distance to the village centre, those who benefited in a walk distance under 1 hour were 332 (78.3%) compared to 92 (21.7%). This is attributed to the process of Revenue Sharing implementation where those in remote areas over 1 hour walk to reach a vehicle road and village centre are not always targeted. Awareness, consultative and distribution meetings are always conducted in places of easy access which is likely to limit chances of potential beneficiaries far from places of reach.

Table 1: Benefits across homestead distance to roads and village centres

Category of beneficiaries	**Closeness to the vehicle road**				**Closeness to the village centre**			
	Under 1hr walk (Freq)	***Under 1hr walk (%)***	***Over 1hr walk (Freq)***	***Over 1hr walk (%)***	***Under 1hr walk (Freq)***	***Under 1hr walk (%)***	***Over 1hr walk (Freq)***	***Over 1hr walk (%)***
Not beneficiary	106	75.2	35	24.8	108	76.6	33	23.4
Yes beneficiary	325	76.7	99	23.3	332	78.3	92	21.7
Total	431	76.3	134	23.7	440	77.9	125	22.1

Results from Focus Group Discussions further indicate that most of these people living over 1 hour walk are closer to the park boundary and spend most of their time guarding crops from raiding by Bwindi problem animals and vermin. This poses two threats; one threat rotates on the motivation to attend meetings which limits ones' chance of being selected as a beneficiary. The second threat is being held back to attend meetings because of guarding crops from being raided since almost 96% of people around Bwindi depend on subsistence agriculture (UBOS, 2011).

Box 4: Local community perception on people near park boundary

"We cannot attend meetings because we have to guard our crops from being raided. How can I leave my garden in the hands of Gorillas and i go for a meeting? Do I feed from those meetings? That is why we opt to remain guarding our crops from crop raiding." (A married male Mukiga, Rushaga FGD, Rubuguri, Kisoro. March 2014)

I have never seen park people come to brief us from our gardens. Instead, they call us to meet at Ntungamo trading centre. This means I have to walk for 2 hours to attend to them. Where should I live my garden? Will any one give my family food? They should instead hold meetings here so that they see what damage these animals create on our crops and they compensate us. I even feel bad about the value of this park (Elderly Mufumbira key informant in Murore village, Nteko parish, Kisoro)

This implies that, if Revenue Sharing meetings and selection activities do not target people in remote areas, there are high chances of not being selected as beneficiaries. Such people in the population are likely to have

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limited impact of Revenue Sharing on both their livelihoods and support for conservation.

Revenue Sharing Benefits and Proximity to the National Park Boundary

Revenue Sharing policy guidelines stipulate that money will be distributed to those who live in the frontline villages adjacent to the park (UWA, 2012a, p. 4). This distance is estimated to be 1-2 km from the park boundary. The Community in frontline LCI comprises of the entire population of individuals and households in a LCI that shares a boundary with wildlife Protected Area. The overall goal of Revenue Sharing is *"to ensure strong partnership between protected areas management, local communities and local governments leading to sustainable management of resources in and around protected areas by enabling people living adjacent to protected areas obtain financial benefits derived from the existence of these areas that contribute to improvements in their welfare and help gain their support for protected areas conservation"* as stated in the policy guidelines (UWA, 2012a: p. 6).

This study used Bwindi shape files to measure the 1 km distance from the park boundary. The researcher further geo-referenced household locations of all the 565 respondents who included; 106 Batwa households, 408 community random household and 51 Unauthorised Resource Users. This helped to determine and compare the distance from the park boundary with the location of Revenue Sharing beneficiaries. Figure 27 illustrates the location of beneficiaries in the face of park boundary. It indicates the red buffer line of 1 km from Bwindi Park boundary and the locations of different categories of beneficiaries who were the respondents in this study.

From the analysis run using descriptive statistics, 424 (75%) compared to 141 (25%) of the respondents were beneficiaries of Revenue Sharing. Results show that most of the respondents were above 1km of the park boundary. Regarding Revenue Sharing benefits, there was no significant difference in the level of benefit reported by residents living up to 1km from the national park boundary and those above 1 km.

People living within 1km from the national park boundary however reported benefiting from fewer Revenue Sharing projects than those above 1km. This implies that beneficiaries beyond 1 km of park boundary are likely to perceive great benefits compared to those within 1 km. This contravenes what the policy targets- people who are closer to the park. It also implies that people who bear the most conservation costs such as crop raiding and other human wildlife conflicts are likely to be targeted less compared to those above 1 km. Crop raiding was mostly reported in Focus Group Discussions as a hindrance to livelihood improvement.

Box 5: Local community perception on crop raiding and livelihood improvement

"Crop raiding is what has increased our vulnerability in this place. You can plant your crops but before you harvest them, you are sure to get nothing or a quarter of the produces because of these wild animals. What disturbs us as a community, Gorillas come to our gardens and they trek them from there…while they are destroying crops. When it comes to Revenue Sharing, this cost is not specifically considered. That is why we now look at the park as our number one enemy to livelihood security". (FGD in Mayanja cell, Bujengwe, Kanungu District)

The policy stipulates that *"It can be stated with reasonable confidence that implementation of these guidelines will contribute significantly towards reduction of human-wildlife conflict and improvement of livelihoods of households in communities adjacent to wildlife protected areas since the guidelines are built on broad consensus and comply with all laws and financial regulations of the country" (UWA, 2012a: p. 4).*

The study further analyzed the poverty differences between residents close to the park and those far from the park. It was found out those local residents who live within 1 km of the national park boundary were significantly poorer (P-value ≤ 0.05) compared to residents living beyond 1 km from the park boundary. Residents in 1km distance also had less years of formal education and fewer sanitation facilities than those

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who lived beyond 1 km from the national park boundary. Most of these people rated their quality of life lower than residents above 1 km. These results illustrate that people living in frontline communities (within 1km of the national park boundary) are the poorer compared to others in the same parishes.



Figure 7: The frontline zone of Bwindi Impenetrable National Park

Relationship between distribution of benefits and Livelihood Improvement

Revenue Sharing projects funded across various sections of people in society

Various projects that have been funded by UWA were identified from the community conservation department at UWA offices in Buhoma. The records revealed a number of both common good and livelihood projects that have been funded since 1996 and distributed across Bwindi communities. Common

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good projects include those projects that benefit a community as a whole while livelihood projects benefit individual households. Discussions with UWA staff before household surveys were intended to have proper planning and design of the questionnaire. UWA staff revealed that from1996 to 2010; the policy emphasis was on funding common good projects.

In 2010 after the revision of guidelines, livelihood projects were then prioritized. Therefore, from records and anecdotal discussions, various projects including livestock, trees/seedlings, schools, health centres, crop raiding control measures that included planting of Mauritius fence and pepper, roads, land provision, water, other livelihood projects and other general projects were included on the list. Other livelihood projects were; Irish potato growing and tea planting. Other general projects included; savings and credit schemes, distribution of furniture in schools and construction of council halls and repairing bridges. Figure 10 reveals data that was mapped in line with projects that UWA has funded since 1996 as generated from UWA records.

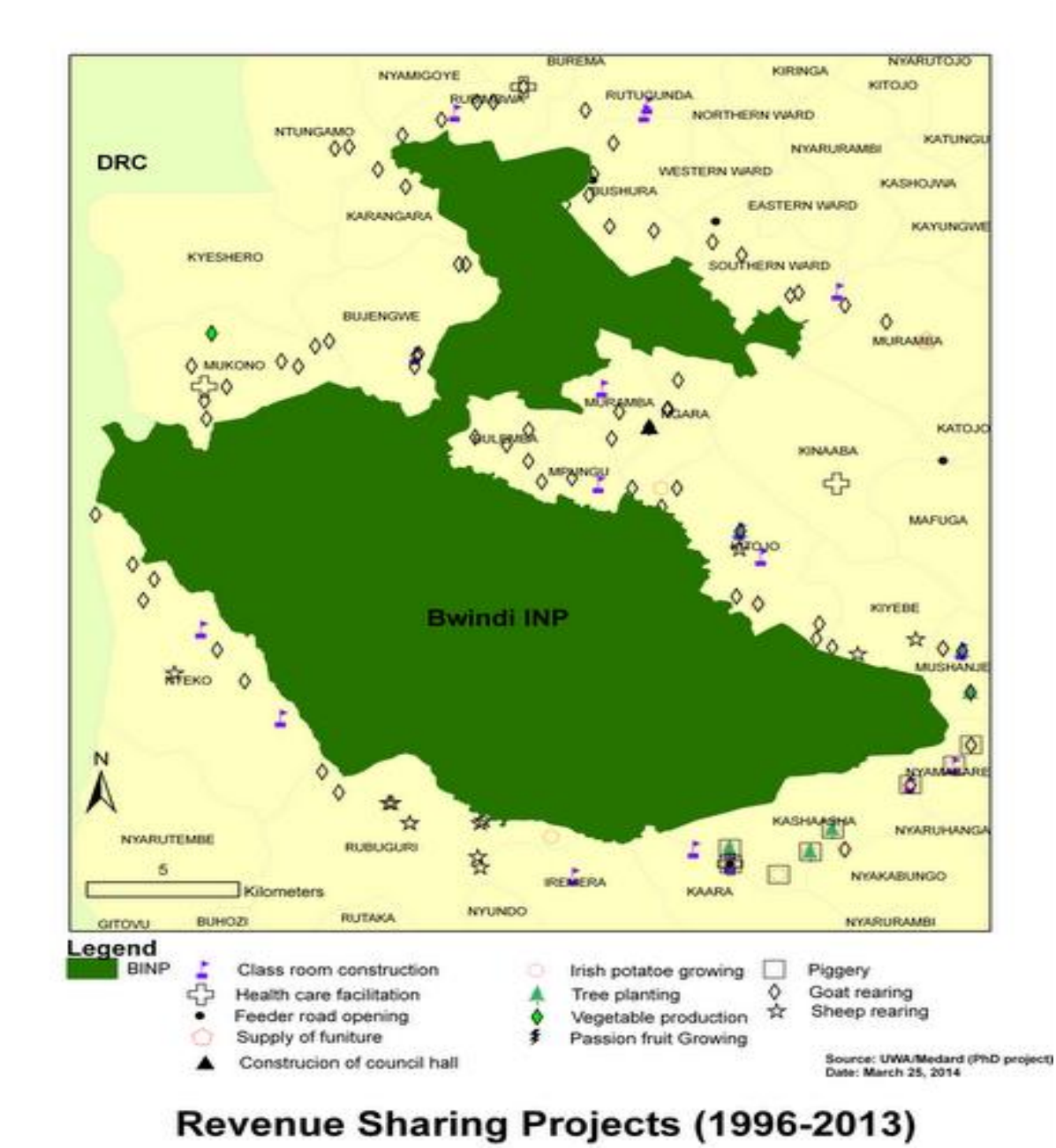


Figure 8: Map of Bwindi Showing Revenue Sharing Projects Implemented 1996-2013

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Majority of funding has gone to livestock as represented by 164 (38.7%) followed by crop raiding control 64 (15.1%). The least funded are the 'other livelihood projects' such as poultry, passion fruit growing and Irish seedlings with 6 (1.4%). Selection of projects has a significant influence on livelihood improvement (*P*-value ≤ 0.05).



Figure 9: Showing Distribution of Revenue Sharing Projects in percentages

The current livestock funded (goats and sheep) are not adequate enough to address livelihood insecurity across Bwindi communities. During Focus Group Discussions, participants mentioned projects they would desire to see funded if their livelihoods were to improve. The most mentioned livelihood projects in their order of ranking included; commercial cultivation, livestock projects that focus on cows, 3 goats per distribution phase (not 1 goat), group poultry farming, tea planting, village savings and credit schemes, and small-scale business enterprises.

At household level, livelihood projects are most preferred compared to common good projects such as roads, health centres and schools which are more preferred by local leaders. The preference of livelihood projects at household level was attributed to a need to raise household income whereas local leaders mentioned in Focus Group Discussions that common good projects show and create more impact compared to livelihood projects. It was however understood from community interactions that local leaders prefer common good projects to boost their political empires and platforms in their communities.

The revelation shows controversies on Revenue Sharing projects between community leaders and local beneficiaries. It was reported that most of the common good projects that were constructed before 2010 were always used by politicians as campaign tools to gain political support. As most key informants reported, the shift from common goods to livelihood was intended to avoid duplication of Government

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social services yet results indicate that in Buhamba Batwa community, Revenue Sharing goats were eaten the next morning after distribution. This implies that, if livelihood projects are to improve people's livelihoods, sensitization and monitoring of funded projects remain important. Also change in livelihood projects funded could be explored. For instance, a focus on tangible livelihood projects such as cows or group farming that have the capacity to change livelihood situations and easy to monitor would be important to be prioritized for funding. This would depend on people's priorities and land use pattern. It is better to target few people but with tangible projects and rotate in next rounds of disbursement.

Revenue Sharing Benefit Distribution and Livelihood Improvement

This section presents the level of significance and the relationship that various distributive parameters have on people's livelihoods. The initial parameters to measure this relationship included; resource users, type of projects funded, ethnicity, gender, length of stay in the community, homestead location to the vehicle road and village centre and proximity from the park boundary. Not all the parameters were significant (*P*-value ≥ or ≤ 0.05). After running linear regression, only resource users, ethnicity, projects funded and proximity distance from the park boundary were most significant (*P*-value ≤ 0.05). There were however differences across parameters in terms of the relationship they currently have with livelihood improvement.

Livelihood improvement was measured in terms of basic necessities, life representation, hunger score, access to water, education levels, position in society and disease burden. In order to create a particular index to represent livelihood improvement polychoric PCA was used. Parameters under Revenue Sharing distribution were then collated with the livelihood index. Table 2 below indicates results from the analysis. It is indicated that Ethnicity, proximity from the park boundary and resource use are highly predictive factors that influence livelihood improvement but negatively associate with livelihood improvement (*P*-value < 0.05). The type of projects to be funded is also a significant factor for livelihood improvement although with a negative relationship (*P*-value < 0.05).

Table 2: Linear regression model between Revenue Sharing benefit distribution parameters and livelihood improvement

RS distribution variable	Coefficient	*P*-value	T	Standard error
Resource users	-.470***	0.002	-3.10	.14
Ethnicity	-.540***	0.000	-3.78	.14
Projects funded	-.040**	0.037	-2.09	.02
Proximity from park boundary	-.540***	0.000	-3.78	.14

*** Very highly significant at 5%

** Highly significant at 5%

This implies that while distributing RS projects, implementers should put much focus on the most predictive factors identified in Table 2 if livelihood improvement is to be registered. This does not mean that other factors such as age and gender are not important. Evidence shows that the level of significance among considerable factors differs in terms of which elements in society are mostly likely to associate with livelihood improvement. Although there is a relationship between the parameters in distributing RS projects and benefits, the relationship is negative.

The study further ran a Multinomial Logistic Regression to determine differences in relationship across various measurements of life representation. Five ranked categories of life representation of respondents included; worst, somewhat bad, average, fine and best. Results show that the livelihood of resource users in

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the category of worst is more significantly influenced by Revenue Sharing project distribution compared to other categories in the population. This is true since people in the worst category of the population can easily observe change in livelihood compared to other categories. It is established that most Batwa and people living closer to the park boundary ranked among the worst category.

Results further indicate a strong positive relationship (Coeff=2.200, *P*-value=0.000, SE=0.4, df =564) between distribution of projects and livelihood improvement. This implies that as more Revenue Sharing projects are distributed to people in society within various categories of the population, the more their livelihood improvement is felt among those beneficiaries. Limited targeting of such categories, limits their livelihood improvement.

Among ethnic groups, results further indicate that, the livelihoods of those in the category of worst are more significantly influenced compared to other categories such as somewhat bad, average, fine or best life representation. There is also a strong positive relationship (Coeff=0.720, *P*-value=0.01, SE=0.3, df=564) between distribution of Revenue Sharing benefits to certain ethnicities such as Batwa, majority of whom were in worst category and their ability to realize improvement in their livelihood. This implies that the more funding targets ethnic groups in the worst category of life representation, the more improvement of livelihood of such ethnicities is likely to occur and vice versa. Since most Batwa are ranked in the worst category, targeting them would easily show improvement in their livelihood compared to other people in the same communities. People who have low livelihoods are likely to show improvement in livelihood when targeted by Revenue Sharing projects compared to those with other livelihood sources.

In some other ethnicities however, that were in the category of average, the negative relationship implies that the targeting of such groups does not necessarily facilitate improvement in their livelihoods. This is true since most people in the average category have alternative sources of livelihood such as business or formal employment. Other parameters of life representation did not indicate any relationship with Revenue Sharing benefit distribution. The funded projects that showed a level of significance include; land, trees/seedlings and other livelihood projects that included; Irish potato growing, passion fruit growing and poultry.

Revenue Sharing Benefit Distribution and Conservation Support

This study analysed the relationship between Revenue Sharing benefit distribution and people's support for the conservation of Bwindi. Results show that there is a significant relationship between conservation support and some parameters in the distribution of Revenue Sharing benefits. The most predictive factors were; ethnicity, resource use and proximity from park boundary (*P*-value < 0.05). Ethnicity was looked at in terms of Bakiga, Batwa, Bafumbira and other ethnicities. Resource users were categorised as URUs, random community and Batwa people. This implies that diversities in ethnicity, resource use and proximity from the park boundary compared to other factors, matter most when distributing Revenue Sharing projects. This is in line with the contextual and recognitive dimensions of equity where a specific lens should focus on significant attributes in society.

The three significant attributes also differed in their level of significance although they are all important in terms of targeting benefits. Proximity to the park boundary highly significantly influenced conservation support (*P*-value =0.000, Coeff= -0.540) compared to ethnicity and resource users. Ethnicity significantly influenced conservation support (*P*-value = 0.008) more than resource users (*P*-value=0.020). Table 3 below illustrates the summary of levels of significance and relationship.

Table 3: Linear regression model between Revenue Sharing benefit distribution and conservation support

RS distribution variable	Coefficient	*P*-value	T	Standard error
Resource users	.270*	0.020	2.32	.12

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Ethnicity	-.350**	0.008	-2.16	.16
Proximity from park boundary	-.540***	0.000	-3.78	.14

*** Very highly significant at 5%

** Highly significant at 5%

* Significant at 5%

From Table 3, there is evidence of a significant negative relationship between revenue sharing distribution and ethnicity (*P*-value= 0.008; r = -0.350) and a highly significant negative relationship between revenue sharing distribution and proximity from the park boundary (*P*-value = 0.000; r = -0.540). The negative relationship is attributed to the current practice where in the distribution of revenue sharing, there is no consideration of one's ethnic group or how close or far one is from the park boundary yet such factors significantly affect conservation support. This implies that the integration of the two factors (ethnicity and proximity) are paramount if we there is a need to realize significant conservation support at Bwindi.

Results from FGDs confirmed these findings. Out of 10 FGDs, 08 (80%) mentioned changing the formula of distributing benefits since Bwindi community is diverse. It was noted that the Batwa and Bakiga are different in terms of socioeconomic and cultural construction. One FGD participant had this to say;

Box 7: Contextual distribution of benefits

"As Batwa we have been mistreated when it comes to giving us Revenue Sharing projects. They give us same things as Bakiga. Bakiga are agriculturalists while us Batwa are forest people. We have tried to learn cultivation but it is still a challenge to us. Last season the warden gave us Irish potatoes to plant as was given to the Bakiga. We did not harvest anything at the end of the season yet Bakiga's gardens were flourishing…" (A mutwa elder Buhamba FGD, Rutugunda, Kanungu District)

This implies that consideration ought to be put on the context of benefit distribution as confirmed from both household survey results and FGDs. This however entails an analysis of needs and priorities of various elements in society during project selection and prioritisation meetings. Having separate meetings to select projects based on needs and priorities would enable acceptability of the projects funded.

DISCUSSION OF RESULTS

It is vital to recall that Bwindi Impenetrable National Park is home to half of the world's endangered population of mountain gorillas and a world heritage site (IGCP, 2011) yet surrounded by poor villagers. As an Afromontane Forest is southwest Uganda, Bwindi is an area of high biodiversity with many rare and endemic species (Butynski, 1984; Cunningham, 1992). Results in this section reveal differences that exist in the distribution of Revenue Sharing benefits across different sections of people within the community. Significant variables such as resource use, ethnicity, gender and proximity have been established. There are however other factors that this study considered but were found not significant. These include; age, education levels, length of stay in the community, position in the community and marital status.

What is key to note here is that resource use and proximity to the park boundary are highly significant compared to other variables and had a relationship with both livelihood and conservation support. This means that the more implementers target specific categories of resource users and those closer to the park boundary, the more improvement in livelihood and support for conservation is likely to be registered. The key categories under this group of resource users are unauthorised resource users, Batwa and other community members in the same communities. It however came out that Batwa and Unauthorised Resource

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Users had a strong relationship with the livelihood improvement and conservation support compared to other members in their communities.

This finding corresponds with the equity framework in benefit sharing that emphasis a deeper lens of distributive, contextual and recognitive dimensions of equity (Schlosberg, 2007); McDermott *et al*., 2012). It is emphasised here that when distributing benefits from Protected Areas, specific considerations should be made to those local residents that have more property rights compared to others and also those who do harm to the resource. In the context of Bwindi, this approach is relevant. The Batwa people are historically known as forest people and inhabitants of Bwindi (Kabananukye and Wily, 1996; Kidd, 2008, Infield and Mugisha, 2010). Since gazettment of Bwindi in 1991, Batwa were chased out of Bwindi. Because they have been left with limited livelihood sources in the communities they live in, they are likely to look for means of surviving. Since most of them live closer to the national park, it could be a source of their livelihood support without permission from Bwindi Park management.

The Unauthorised Resource Use is another area that should draw attention of Bwindi Park management. The equity framework emphasizes the need to target people who do harm to the resources in order to change their behavior. Revenue Sharing benefit distribution does not currently consider this. This explains the negative relationship that exists. Since there is a good will from poachers to reform and form associations as it is the case for Mpungu, Mushanje and Rubuguri, more targeting of these people while distributing Revenue Sharing benefits would further change of behavior.

It has been presented in results section that people living within the frontline villages were poorest members of their society compared to other residents. It was also found out that most Batwa and Unauthorised Resource Users live in the distance of 1 km of the park boundary and were likely to have limited access to education, health care, road, good sanitation and information. Key findings also reveal that, most of the frontline local residents suffer from crop raiding. It was not easy to conclude whether crop raiding was responsible for limited livelihoods or other factors relating to being far from such social amenities.

It is however important to note that, people who live closer to the national park boundary and those who have land near the park boundary suffer most of the conservation costs compared to residents who live far away from the national park. The conservation costs carried by such residents contribute greatly on their livelihood status. Crop raiding as found out by this study creates a lot of damage to the potential harvests that would have addressed the problem of livelihood insecurity. Secondly, young children of school ongoing age, miss out education as a result of staying behind to chase away vermin and problem animals. People in Ruhija, Rushaga and Kashasha mostly reported elephants while those of north and north east sector of Bwindi reported baboons.

This livelihood situation is similar to what happens at Queen Elizabeth National Park where crop raiding by Elephants and Buffaloes continue to affect Bakonjo's and some Basongora's livelihood avenues (Twinamatsiko, 2013; Babaasa *et al*., 2013). In Mgahinga Gorilla National Park, buffalos, porcupines and elephants have continued to affect people's livelihood (Babaasa *et al*., 2013). Rwenzori Mountain National Park (RMNP) is also not an exception where blue and vervet monkeys, chimpanzees and push pigs greatly affect people's gardens and have increased poor support for conservation. This shows how the problem at Bwindi is the same as other communities that boarder with National parks in Uganda which require a national policy solution.

This is also similar to what a study by Plumptre *et al*. (2004) found out although the methodology of data collection and analysis differed. The Plumptre *et al*. (2004) report was produced by some NGOs and generated data using rapid survey techniques. This was a quick survey and did not internalize issues around Bwindi. The study also lacked peer-review which limits confidence in the data they collected. The report however showed that crop raiding was a challenge in hindering livelihood improvement and socio-economic

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well being of people boardering with Bwindi. In Rwanda, the policy provides for compensation of such losses where 5% of the total revenue collected from the parks compensates community losses (Babaasa *et al.* , 2013). Although valuation of losses incurred is still a challenge, there is however hope built among local people neighboring such PAs. As such their support for conservation is high. This could be further explored to understand the implementation modalities to improve the practice at Bwindi.

In this understanding, it would mean that conservation benefits should go direct to such categories of people in the frontline villages. Much as the new Revenue Sharing guidelines cater for human wildlife conflict by putting aside 15% of the disbursed amount to the benefiting communities (as guidelines for gorilla levy), the household questions are not adequately answered. It would have been better if a formula to calculate the losses was instituted or to set in place a compensation policy that would address crop raiding challenge. From the research findings, the frontline villages ought to appreciate the efforts of conservation when all interventions involve them and benefit them.

Bwindi being a world heritage would be surrounded by an able population that would be capable of meeting their livelihood needs if implementation of such programmes is focused adequately. The issues of livelihood insecurity pose other questions as to whether those who undertake unauthorised resource use are driven by factors relating to meeting their livelihood needs. Until the funds are targeted towards improving socioeconomic well being, efforts to conservation remain in shortfalls. This study argues proper targeting of Revenue Sharing projects most especially to those who have historical rights over Bwindi and those who bear the most conservation costs. The targeting should entail different approaches to different sections of the populations since all have divergent needs and problems. Generalization of Revenue Sharing benefits will not address the objectives of Revenue Sharing policy.

The socioeconomic well being of the Batwa is another important factor to look into. As noted, Batwa live in the frontline villages and hence are part of the poorest members of the communities. It was found out that Bwindi Mgahinga Conservation Trust bought land for most Batwa at the periphery. Batwa are living on this land without any viable economic livelihood venture. The land bought for the Batwa boarders with the park and therefore this puts them at a disadvantage of being victims of crop raiding since we have realized the challenge of crop raiding. With their limited zeal to undertake agriculture, this challenge becomes a disincentive to livelihood improvement and conservation support.

Much as many conservation organizations are working with the Batwa, some organizations use them as conduits of profit making. As a result, the Batwa continue to face social and economic exclusion and are more likely to remain marginalized if deliberate efforts are not made to systematically involve them in Revenue Sharing programmes and other ICDs. The small percentage allocated to marginalized groups does not specify the Batwa and as a result, benefits that go to the Batwa have remained low to address their livelihood needs. Batwa have specific concerns which ought to be looked at separately. They are not civilized compared to non Batwa, which makes them passive participants when it comes to park meetings that determine who to benefit.

As a separate entity, women were looked at with specific lens. The results show that women as compared to men are living in poor socioeconomic status. This was attributed to the fact that Revenue Sharing benefits use a community and a household as a unit of benefit. Most communities surrounding Bwindi are patriarchal and therefore the position of women in terms of community or household property ownership is minimal. This continues to put women at a disadvantage to get out of poor socioeconomic status compared to men. There is a need to address gender gaps that exist at all levels which continue to challenge women's hope to meet their livelihood needs and priorities.

All respondents attributed their low socioeconomic and wellbeing to crop raiding. When asked what affects their possession of basic necessities and quality of life in a negative way, most respondents described the

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impacts of crop raiding that have increased livelihood insecurity especially food and economic security. This is the same at other National parks in Uganda such as Mgahinga, RMNP and QENP. From household surveys using the basic necessity score, the key conservation cost mentioned was the loss of food from crop raiding by wild animals. Other impacts of crop raiding were a reduction in income to buy basic necessities, abandoning land because of crop raiding and the challenge of children not going to school because of guarding crops.

The main reason for the ranking of low quality of life was still connected to crop raiding. All the 10 FGDs (100%) out of 10 of respondents listed 'animals raid my crops' as the main reason for a low livelihood improvement. Crop raiding was mentioned as a key factor affecting household income yet Revenue Sharing policy has not given attention to funding people that are mostly affected by crop raiding. This implies that crop raiding is a negative factor for livelihood improvement. Results from FGDs further show that there is no deliberate effort made to connect Revenue Sharing to crop raiding apart from the 15% of the allocated funds which is set aside for crop raiding and marginalized groups. Respondents however revealed that this amount of money was too little to address the costs of crop raiding.

In the southern sector of Bwindi, the results show that gorillas come out the park and spend about 60% of their time on community land raiding crops and stalling crop production. In Ruhija Sub County (Kitojo parish), elephants were identified as challenges to crop production. In Mpungu and Kayonza Sub Counties, baboons were highly reported as negative contributors to livelihood insecurity. Results show that over years from 1996, no much effort has been put on board to address this problem. From local government act, it is clear that vermin will be controlled by the local Governments while problem animal are a responsibility of Uganda Wildlife Authority.

It was also revealed from household survey that most Revenue Sharing projects are scanty and do not have meaningful contributions towards addressing livelihood insecurity. This was substantiated with key informant interviews where local leaders preferred common good projects compared to livelihood projects as it was in the old Revenue Sharing guidelines. This was attributed to limited and inadequate livelihood projects such as goats, sheep, Irish potatoes that were not enough to address household needs. Some respondents mentioned that each of the selected households may receive a young goat of averagely UGX 50,000 which may not address livelihood needs for the entire households. Local people suggested distribution of tangible projects such as a cow or three goats. Such projects were seen by most people as tangible enough to address livelihood insecurity.

Household surveys and key informant interviews showed that what is actually budgeted by Uganda Wildlife Authority and what is on paper is not what is actually practiced. In some sub counties such as Ruhija and Kashasha (Ikumba) and Mpungu, the last disbursement of 2013, saw a lot of fraud in terms of Revenue Sharing project funding. Some goats distributed were budgeted for UGX 120,000 but later distributed goats of UGX 50,000 per household. Households in Ruhija were asked to come up with goats from their homes to pause for photos and get UGX 50,000 while those of Mpungu pocketed UGX 80,000. The level of corruption therefore in some communities was attributed to increased livelihood insecurity.

As part of its approach to the long-term conservation of Bwindi Impenetrable National Park (BINP), UWA has implemented collaborative management agreements with both local communities and local government. It has been noted by the studies conducted that BINP's approach to collaborative forest management has involved local communities (Bitariho, 2013; Namara, 2006). It is vital to note that, threats to the BINP include uncontrolled exploitation of forest resources as well as fire damage and the indirect pressures of demand for land which therefore poses a concern since such organised groups are supposed to address such scenarios through intelligence report submission and sensitisation of their fellow community members. There is however increasing evidence that areas of outstanding conservation importance coincide with dense human settlement (Butynski, 1984). This situation is common in sub-Saharan Africa, where areas of high

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conservation value are under threat due to the increasing populations whose livelihoods depend upon the natural resource base (Balmford *et al.,* 2001).

CONCLUSIONS AND RECOMMENDATIONS

This study establishes that local people are concerned about both involvement (procedural equity) and receiving benefits (distributive equity) to the local people. The distribution of Revenue Sharing projects across various sections within the population seems not well targeted. People who bear most of the conservation costs and live closer to the park boundary have not been effectively targeted by Revenue Sharing. This also relates to the recognition and contextual dimensions of equity where those who have historical property rights such as Batwa people and those who do harm to Bwindi resource have not been given special consideration during the implementation process. The two categories of people both live within the 1 km of the park boundary and are likely to bear conservation costs. Curtailed by historical injustices, Batwa and URU's support for conservation remains low.

There are varying differences in the socioeconomic and well being status and needs of people around Bwindi. The problems that connect to low wellbeing are different across Bwindi among the Batwa and non-Batwa, men and women, unauthorised resource users and those who refrain from unauthorised resource use. In implementing RS policy however, this has not been put into consideration which attributes to the failure to implement the policy well. The formula of Revenue Sharing implementation has to be tailored towards understanding the status of people the policy is supposed to impact. It is also important to recognize that generally, most people surrounding Bwindi are not well off. They lie in the category of poor people as manifested in the levels of best, average, somewhat bad and worst. No one was able to choose best category and this was validated by the observational socioeconomic household profiles.

Projects that are currently funded at Bwindi under Revenue Sharing policy are inadequate to improve people's livelihood but have the potential to attract conservation support. Since the policy guidelines indicate that conservation support will be achieved through improved livelihoods of people boardering with PAs in Uganda, then a need to fund projects that bear more impact would be a good strategy for conservation managers. Key hindrance to translate Revenue Sharing benefits to livelihood improvement rotates on the procedural and distributive inequities. This relates to limited involvement of the local people which affects level of benefit appreciation and ownership, poor implementation approaches, a high bureaucratic system and a poor monitoring system by stakeholders that are charged with the monitoring task. If Revenue Sharing benefits do not translate into livelihood security, collaborative community-based conservation will not be achieved. This is likely to fail efforts towards reducing unsustainable resource use.

Revenue Sharing projects impacts were generally the same across all communities neighboring Bwindi although the policy guidelines are implemented differently. Overall, the impacts of RS policy were not visible to match with the hopes and increases in funds generation as a result of gorilla tourism. Habituation of more Gorilla groups has increased the number of visitors over years and hence increases in revenue generation. Much as UWA's policy is to submit all collections to the central treasury, the dispossession of local people amidst plenty of resources ought to be addressed.

Recommendations for Policy and Implications

Revenue Sharing Equitable Framework (RSEF) has been developed as a precursor for improved livelihoods and support for conservation using Revenue Sharing policy as one of the ICDs. The framework assumes that funds from UWA will be disbursed in time after submission of accountabilities of the previous reimbursements.

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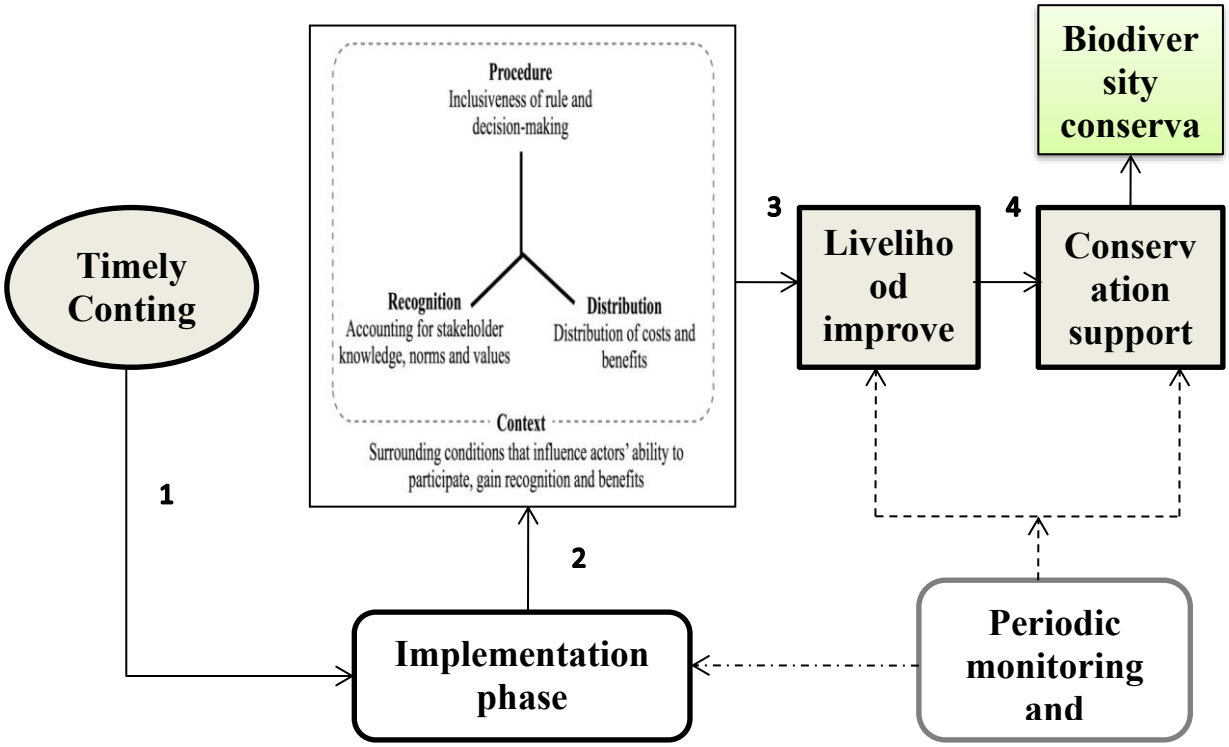


Figure 49: The proposed RSEF for BMCA

Source: Researcher's own elaboration based on theories and empirical data

The study proposes the RSEF as a key tool to aid the proper practice of Revenue Sharing policy. The RSEF is based on a critical analysis of the current implementation processes and the failure to translate this practice into improved livelihoods and support for conservation. Support for conservation will result into sustainable biodiversity conservation. Using the RSEF, this study proposes the following actions for policy makers and implementers in Uganda and the world at large;

There is a need for timely disbursement of funds to the benefiting communities in order to consistently address livelihood needs. The breakdown of annual funds distribution is likely to break the positive trend of livelihood improvement. Results have revealed that Revenue Sharing benefit is positively related to improved livelihoods. This can be achieved using the following actions;

1. That UWA's community conservation department and finance department treats Revenue Sharing policy as an important part of the Annual Operational Plans (AOPs). This would mean proper timely planning and coming up with realistic work plans each year that clearly spells out how the process will be addressed. This process also entails mapping out communities that will benefit early enough based on the current information but not old data. The study proposes a zero-based planning and budgeting rather than the current incremental type. The process of implementation should not be hurried since this is likely to affect outputs and outcomes of implementations (3&4).
2. The implementers such as the proposed BMCT and CBOs or the current structure of Local Government submit accountability reports in time. UWA's disbursement of the available annual funds should be based on accountable systems by the implementers. The current situation revealed that delays in submitting accountabilities contributed to break down in the flow of funds to be distributed to the benefiting communities. A strong system of accountability should be based on moral obligation but also rules as described in the Policy Arrangements Approach in Chapter one of this thesis.
3. That UWA makes a follow-up of who receives the funds and how they eventually reach the intended

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beneficiaries. UWA should not be active only at the declaration of the available funds and receiving of accountability reports. Its role should roll over from the beginning to the end. This can be charged with both top managers but also junior officers such as Community Conservation Rangers.

The current implementation of Revenue Sharing policy has been proven as inefficient to translate into livelihood improvement and support for conservation. This study proposes that UWA at Bwindi pass through BMCT and Community Based Organisations (CBOs) and an empowered local community to aid the implementation process. On question that arises is that Revenue Sharing policy is a national policy not a Bwindi policy yet BMCT operates around Bwindi and Mgahinga. It should be noted that, BMCT is established by the act of Uganda parliament. Therefore, there is a possibility of identifying and even establishing other conservation trusts in Uganda's PAs.

Research results indicate that most local people trust the work of BMCT and have perceived benefits from the trust that link to their livelihood. Working with trust is more likely to increase livelihood benefits using their model of implementation in the context of equitable dimensions illustrated in the RSEF. Trust can be a receiving agency for RS funds since it operates in all the frontline villages. Local people ought to be empowered to start CBOs where funds will be remitted after identifying the projects that meet their needs and priorities. This increases legitimacy and build an accountability system. Selected projects should be funded based on Revenue Sharing guidelines.

This study further recommends that the equity dimensions be adopted when identifying beneficiaries. Results show poor targeting of projects and beneficiaries as a major challenge in ensuring equity. Projects have not targeted specific people within the frontline villages. Equity is a key element that RS implementers should target to achieve at Bwindi and other PAs in Uganda. The following issues have been raised for consideration based on the objectives of this study and the proposed RSEF;

1. Procedural Equity; that benefits are shared while involving people in decision making processes. This should entail greater involvement of people right from the beginning of the projects (design phase) to the end (evaluation phase). This is what people defined as good governance. Inclusiveness is vital in bringing everyone in the community on planning and implementation. The more people felt involved, the more they perceived benefits and support for conservation.

Revising Revenue Sharing guidelines should also involve local people to identify critical gaps that should be addressed in order to achieve policy objectives. There is need for more meaningful involvement of the frontline poorer, remote residents in Revenue Sharing design and implementation. This would help to overcome challenges of information flow, meeting attendance and ensuring feedback sessions with local people.

2. Distributive equity. The study recommends that projects should be distributed based on the costs for conservation. Those to benefit from Revenue Sharing projects should be those people around Bwindi who bear the most conservation costs. Results show that such people are poor compared to others in the same communities and live closer to the park boundary. If cases arise for people bearing conservation costs beyond 1km of the park boundary, then specific considerations could be effected. For instance, people in Kikomo village, Nteko parish, Kisoro district suffer from gorilla raiding yet they are not closer to the park. Such people could be looked at after evaluation of the costs they bear. Capacity building for frontline households to develop RS project proposals and implement funded projects.
3. Recognitive dimension of equity is important while sharing Revenue Sharing benefits. This study proposes that, the implementers should consider people who; have historical property rights such as the Batwa; those who have unique values and traditions that can support conservation efforts and those that are pro-conservation. Such categories could be integrated in the benefit sharing process.

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4. Contextual dimension of equity ought to be adopted. This relates to putting on specific lenses on key elements in society that could affect conservation costs. Implementers can look at surrounding conditions that could influence the ability of actors to participate, gain recognition and benefit. In the context of Bwindi, this would entail gender issues and inequalities where women, Batwa people and Unauthorised Resource Users should be specifically targeted.

Unauthorised Resource Use is a major hindrance to biodiversity conservation. This study recommends that efforts should be made to reach out to Unauthorised Resource Users. Reformed Poachers Associations (RPAs) in Mpungu, Rubuguri and Mushanje should be encouraged (recognitive dimension) and funded during implementation. This will act as a conduit to woo other poachers to come on board hence changing their behaviour.

As also observed by Twinamatsiko *et al.* (2014), rotational livestock schemes aim to reduce poaching by creating a 'livestock bank' for the rural poor. The schemes are based on the principle that households receiving livestock return the first born to a central base, for redistribution to the next family. Many such schemes also include visitor attractions where tourists are given a guided tour of the scheme and households involved with opportunities to buy local produce. A rotational livestock scheme targeted at poorest, remote frontline villagers of Bwindi linked with conservation education programmes on hunting could overcome limitations of the current goat-provision schemes in reducing hunting.

Monitoring and Evaluation should be periodic. A comprehensive monitoring framework should be developed and utilised. This study recommends a combined approach of monitoring where the role of UWA and Local Governments (LGs) is pertinent. UWA should monitor through the community conservation department since almost every district, there are more than two ranger outposts. This study however observes that the current mandate of CC rangers is wide and may not juggle out all the activities in the department. Monitoring and Evaluation efforts of RS to report on indicators of good governance, including identifying whether local people perceived that they were involved, had ownership of and benefited from a RS project.

It is recommended from this study that, UWA ought to strengthen its operations with community-park institutions if her work of planning, implementation and follow-up ought to be done more efficiently. This institution should be trusted by both the local community members and the mainstream local government especially the Sub County which is a key player in project implementation. From discussions with CPIs, stretcher groups operate in all the communities surrounding BINP and command a good level of community trust. This is attributed to their methodology of selection and operation.

The overall goal of Revenue Sharing is to ensure strong partnership between protected area management, local communities and local governments leading to sustainable management of resources in and around protected areas by enabling people living adjacent to protected areas obtain financial benefits derived from the existence of these areas that contribute to improvements in their welfare and help gain their support for protected areas conservation. It is therefore recommended that UWA looks at empowering the stretcher groups that seem to be trusted by the community members.

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