

## LOCAL ATTITUDES AND IMPACTS OF COMMUNITY CONSERVATION AND DEVELOPMENT AROUND BWINDI & MGAHINGA CONSERVATION AREA

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# I INTRODUCTION

The Enterprise, Environment and Equity in the Virunga Landscape of the Great Lakes (EEEEGL) program is a joint venture between CARE International and the International Gorilla Conservation Program (IGCP) the program was funded by the Howard G. Buffet Foundation (HGBF) with a grant of approximately USD 9 million over five years (2007-2011). The program takes an integrated approach to addressing the interconnected problems of poverty, conflict, and environmental degradation around the protected areas (PAs) of the Virunga Volcanoes in three countries; Volcanoes National Park (VNP) in Rwanda, Virunga National Park (ViNP) in the Democratic Republic of Congo (DRC) and Mgahinga Gorilla National Park (MGNP) and Bwindi Impenetrable National Park (BINP) in Uganda. This report covers EEEGL's work in Rwanda and Uganda, whilst the DRC component of this program was halted in 2008. EEEGL is comprised of four different strategies: enterprises, participatory natural resource management, community empowerment and transboundary collaboration and learning.

In Uganda the project has delivered a multi-pronged effort to support collaborative park management, prevention and mitigation of people-parks conflicts and bottom-up development for the frontline communities ([www.virunga.net](http://www.virunga.net)).

This report is a product of EEEGL's M&E work. The study was undertaken to produce an assessment of people-parks relations which would enable to assess impacts of different types of conservation and collaborative management measures (undertaken by EEEGL and others) and the trends of relations and attitudes over time.

The survey provides not just current information on attitudes towards conservation to compare with previous studies (Blomley et al. 2010; Bush & Mwesigwa 2007); but also include information on areas that these surveys have not covered. Specifically previous studies have principally sought to assess overall scope of impacts of development projects amongst different wealth groups and subsequent attitudes to conservation. This study looks deeper into these issues and additionally assesses the level and distribution of those impacts on project beneficiaries. The study is an adaptation of elements of the more detailed study conducted in communities adjacent to the Rwandan part of the Virunga (Volcanoes National Park) by Bush et al. (2010).

## 1.1 Rationale and objectives

The main objective of the opinion survey is to collect and generate useful data for the Program M & E system. The activity is part of project activity as planned in major activity 4.5 to develop and implement a project M&E system for assessing progress in achieving activities, results and objectives, and critical assumptions, including peace and conflict impact assessment and benefits harms analysis. The survey was planned as specific activity 4.5.1 to conduct opinion survey on natural resource conservation.

Specifically the survey is intended to achieve the following:

*Collect primary data on attitudes, knowledge and practices from communities living adjacent to protected areas in EEEGL target area in reference to community conservation activities*

## 2 METHOD

The survey sample was selected with close reference to Bush and Mwesigwa (2007) sampling procedure. Frontline parishes sharing boundary with the national parks of Bwindi Impenetrable and Mgahinga were selected as the sample frame. Villages (LC1) selected according to a stratified random sample of those that shared a direct boundary with the park and those that did not. Further stratification was according to the presence of community conservation activities and other social factors e.g. collaborative forest management activities (emphasis on forest resource access program) with Uganda Wildlife Authority, presence of marginalized groups especially Batwa communities and gorilla tourism. Within the parishes two villages will be selected. This enables us to compare directly the aggregate results with the Bush & Mwesigwa 2007. Although no direct statistical comparison of

results has been possible, in general where differences are observed between the two studies, if they are more than say 5 or 10% it would be safe to conclude that these are real and significant changes, below 5% at the very least a trend may be established.

A list of parishes that have gorilla tourism, forest resource access and harvesting program and with Batwa communities was populated from which 10 parishes were selected randomly. Selection of the ten parishes was done by first arranging the list of parishes that meet the set criteria in alphabetical order and correspondingly allocating numbers to them in ascending order. The numbers that represent parishes will then be randomly picked to select 8 parishes around Bwindi and repeat the procedure for 2 parishes around Mgahinga.

The following parishes were selected as a sample for the opinion survey in line with the criteria proposed above:

Table 1 Sample Frame

Parishes that satisfy sampling criteria	Selected parishes
Buremba	Buremba
Kaara	Karangara
Karangara	Kashasha
Kashasha	Kiyebe
Kitojo	Muramba
Kiyebe	Mushanje
Mukono	Nteko
Muramba	Mukono
Mushanje	-
Nteko	-
Nyamabare	Gitenderi
Rubuguri	Gisozi
Rutugunda	-
Gisozi	
Gitenderi	
Rukonji	

## 2.1 Data collection

Data was collected from respondents by administering a household questionnaire. Enumerators were recruited from the same parishes where data was collected in order to shorten their movements to and from work. The enumerators were first be trained on the use of questionnaires and taken through a practical session on administering the same questionnaire. The survey was conducted concurrently in all parishes in January 2010. Zonal Supervisors were also hired to help EEEGL staff in supervising the field work on data collection. The zones will include Mgahinga, Nteko, Ikumba, Rutenga and Kayonza. The zonal supervisors assisted through on technical backstopping and logistical assistance where the enumerators find problems in the course of work. Because of the need for quick travelling and the relevance of local governments in this exercise, the project bought on board the sub-county Community Development Officers who already have motor-bikes and the project met the cost of fuel and their staff time.

## **2.2 Selection of respondents**

Within the villages households were selected at random and in proportion to wealth strata. The project team will first conducted a wealth ranking with local council leaders in each village from which a random selection of 40 households representing all wealth ranks was selected. Each parish was represented by 80 households.

The wealth ranking exercise in each village was conducted through a focus group discussion with key informants. During the discussion local issue related to wealth were examined and typologies of different classes of households were established. The households in the village were then allocated to each of the wealth classes. This resulted in a distribution of households between classes that was not necessarily equal e.g. some classes had more households allocated to them than others. The sample of 80 households was drawn from each wealth class in proportion to the number of households found in each e.g. 30 % of all households in a village were found in the poorest wealth group, then 24 out of the 80 households were drawn at random from that strata. The sampling effort was proportional to wealth group to ensure that no one group unduly biased the average findings e.g. in order that findings could be applied in aggregate to the entire sample frame.

Data was be entered into computer spreadsheets (MS EXCEL) and analyzed with SPSS. Whilst the data collection was conducted by CARE EEGL project staff, data entry and drafting of report from the survey was contracted out because of the intensity of the work and the limited staff available to handle the task. However the project staff and the hired expert worked closely together throughout. Non parametric tests were used in the analysis of data, reducing biases introduced by strict assumption regarding the functional distribution of the data e.g. assuming it is not normally distributed and of unequal variance. This is typical of wealth data that often tends to be highly skewed e.g. a larger proportion for the sample falling in to the poorer categories with very few wealthy households. In addition and that most of the data is not numeric e.g. ordinal data that can be ranked in order of magnitude. Principally we rely on the Chi Square test for the analysis of contingency tables. Where the sample size was too small to allow for the expected counts in cells to be equal to five or more the likelihood ratio test was applied. Where a causal relations ship is inferred Phi was calculated to understand the nature of the influence.

### 3 RESULTS

#### 3.1 Attitudes to the park

Table 2 Was the park creation a good thing? Responses by wealth group

			Park creation a good thing			Total
			No	Yes	Not Sure	
Wealth Rank	Very Poor	Count	9	17	4	30
		% within Wealth Rank	30.0%	56.7%	13.3%	100.0%
	Poor	Count	57	148	14	219
		% within Wealth Rank	26.0%	67.6%	6.4%	100.0%
	Average	Count	34	258	4	296
		% within Wealth Rank	11.5%	87.2%	1.4%	100.0%
	Rich	Count	5	51	4	60
		% within Wealth Rank	8.3%	85.0%	6.7%	100.0%
	Very Rich	Count	1	3	0	4
		% within Wealth Rank	25.0%	75.0%	.0%	100.0%
Total		Count	106	477	26	609
		% within Wealth Rank	17.4%	78.3%	4.3%	100.0%

The results show that the overall 78% of respondents answered that the Park creation was a good thing. However there is a significant difference in responses among wealth groups where: 75% of the very rich category compared to the 85% of the rich to the 56% of the very poor ( $X^2=44.306$ ,  $df=8, p<0.01$ )

Table 3 Appreciation of the park by people

Wealth Rank	APPRECIATION OF THE IMPORTANCE OF THE PARK BY PEOPLE				Total	
	Much Improved	Improved	Little Improved	Not At All Improved		
Very Poor	Count	7	9	9	5	30
	% within Wealth Rank	23.3%	30.0%	30.0%	16.7%	100.0%
Poor	Count	45	60	63	55	223
	% within Wealth Rank	20.2%	26.9%	28.3%	24.7%	100.0%
Average	Count	64	141	64	47	316
	% within Wealth Rank	20.3%	44.6%	20.3%	14.9%	100.0%
Rich	Count	17	16	18	10	61
	% within Wealth Rank	27.9%	26.2%	29.5%	16.4%	100.0%
Very Rich	Count	0	1	0	3	4
	% within Wealth Rank	.0%	25.0%	.0%	75.0%	100.0%
Total	Count	133	227	154	120	634
	% within Wealth Rank	21.0%	35.8%	24.3%	18.9%	100.0%

In general, 56.8% of locals among all wealth groups responded that the appreciation of the park importance has improved or much improved. However, there was a very significant difference of responses among wealth groups: the average category (44.6%) and the very poor (30%) had higher response rates than other income groups in answering that the appreciation of the park importance has improved ( $X^2=35.384$ ,  $df=12$ ,  $p<0.01$ ). This is indicative in general terms of improving relations between local communities and the park.

Table 4 Sensitization of local communities by park authorities

Wealth Rank	LOCAL AUTHORITIES SENSITIZE LOCAL COMMUNITIES ON THE PARK IMPORTANCE				Total
	Much Improved	Improved	Little Improved	Not At All Improved	
Very Poor	Count 9 29.0%	8 25.8%	9 29.0%	5 16.1%	31 100.0%
Poor	Count 35 15.7%	60 26.9%	71 31.8%	57 25.6%	223 100.0%
Average	Count 27 8.5%	100 31.4%	102 32.1%	89 28.0%	318 100.0%
Rich	Count 12 19.7%	13 21.3%	16 26.2%	20 32.8%	61 100.0%
Very Rich	Count 0 .0%	0 .0%	2 50.0%	2 50.0%	4 100.0%
Total	Count 83 13.0%	181 28.4%	200 31.4%	173 27.2%	637 100.0%

In general, 31.4% of respondents among wealth groups answered that sensitization of local authorities to the local communities on park importance has had little improvement compared to the 28.4% who answered the sensitization efforts has improved. However there was a small significant difference in responses among wealth groups: the very rich respondents answered that the sensitization had little improvement (50%), a percentage rate which is higher than other responses rates from other wealth groups. It means that the very rich do not sense an impact of sensitization on park importance to the local communities ( $X^2=22.659$ ,  $df=12$ ,  $p<0.05$ ). however in terms of conservation of the parks, the wealthiest groups are probably of least concern, and it is encouraging that the lower wealth groups are showing more positive responses.

### 3.2 Impact assessment of park and community conservation activities

Table 5 Overall impact of park on the household

			Score Impact			Total
			Low	Medium	High	
Wealth Rank	Very Poor	Count	9	11	11	31
		% within Wealth Rank	29.0%	35.5%	35.5%	100.0%
	Poor	Count	67	82	72	221
		% within Wealth Rank	30.3%	37.1%	32.6%	100.0%
	Average	Count	57	135	125	317
		% within Wealth Rank	18.0%	42.6%	39.4%	100.0%
	Rich	Count	8	25	27	60
		% within Wealth Rank	13.3%	41.7%	45.0%	100.0%
	Very Rich	Count	2	1	1	4
		% within Wealth Rank	50.0%	25.0%	25.0%	100.0%
Total		Count	143	254	236	633
		% within Wealth Rank	22.6%	40.1%	37.3%	100.0%

In general, 37.3% of locals responded of parks having a high impact on households and 22.6% of locals scoring of parks having a low impact on households. There was a significant difference in responses rate between wealth groups who answered that the park was having a low impact on households: 50% of very rich respondents compared to the 13.44% of rich category to the 29% of the very poor respondents ( $X^2=17.260$ ,  $df=8$ ,  $p<0.05$ ).

Table 5 Who is directly benefitting from park activities?

			DIRECT BENEFIT FROM ACTIVITIES		Total
			No	Yes	
Wealth Rank	Very Poor	Count	20	10	30
		% within Wealth Rank	66.7%	33.3%	100.0%
	Poor	Count	134	86	220
		% within Wealth Rank	60.9%	39.1%	100.0%
	Average	Count	134	174	308
		% within Wealth Rank	43.5%	56.5%	100.0%
	Rich	Count	22	36	58
		% within Wealth Rank	37.9%	62.1%	100.0%
	Very Rich	Count	2	2	4
		% within Wealth Rank	50.0%	50.0%	100.0%
Total	Count		312	308	620
	% within Wealth Rank		50.3%	49.7%	100.0%

Overall 49.7% of respondents agree that the Park surrounding Projects had have direct benefits. However among wealth groups, there is a significant difference among wealth groups of benefits deriving from CC projects; from the responses, 62% of the rich are benefiting from the CC Projects than the 33.3% very poor and 39.1% of the poor respondents; from the responses, the very poor and the poor are less benefitting from Park activities ( $X^2=22.355$ ,  $df=4$ ,  $p<0.01$ ).

Table 6 Is community conservation helping local people?

			CC HELPING LOCAL PEOPLE		Total
			No	Yes	
Wealth Rank	Very Poor	Count	4	20	24
		% within Wealth Rank	16.7%	83.3%	100.0%
	Poor	Count	31	147	178
		% within Wealth Rank	17.4%	82.6%	100.0%
	Average	Count	39	212	251
		% within Wealth Rank	15.5%	84.5%	100.0%
	Rich	Count	3	40	43
		% within Wealth Rank	7.0%	93.0%	100.0%
	Very Rich	Count	1	2	3
		% within Wealth Rank	33.3%	66.7%	100.0%
Total		Count	78	421	499
		% within Wealth Rank	15.6%	84.4%	100.0%

Overall 84.4% of respondents answered that CC projects are helping local communities around the Parks. There is a slight difference among wealth groups where 93% of the rich answered that local people are benefiting compared to the 83.3% of the very poor to 66.7% of the very rich category who had a lower response rate than other wealth groups but these differences were not significant indicating that there is general consensus that the community conservation programs are having an equitably distributed effect.

Table 7 Score of impacts from tourism employment

Wealth Rank		EMPLOYMENT IN TOURISM ACTIVITIES				Total
		Very Important	Important	Little Important	Not At All Important	
Very Poor	Count	18	5	4	4	31
	% within Wealth Rank	58.1%	16.1%	12.9%	12.9%	100.0%
Poor	Count	97	44	46	33	220
	% within Wealth Rank	44.1%	20.0%	20.9%	15.0%	100.0%
Average	Count	126	63	65	64	318

	% within Wealth Rank	39.6%	19.8%	20.4%	20.1%	100.0%
Rich	Count	30	16	6	7	59
	% within Wealth Rank	50.8%	27.1%	10.2%	11.9%	100.0%
Very Rich	Count	1	1	1	1	4
	% within Wealth Rank	25.0%	25.0%	25.0%	25.0%	100.0%
Total	Count	272	129	122	109	632
	% within Wealth Rank	43.0%	20.4%	19.3%	17.2%	100.0%

In general, 63.4% of respondents answered that employment in tourism activities was very important or important. The very poor and the rich responded that employment in tourism activities is very important than the poor, average and very rich. There was no significant difference between wealth groups: 25% of the very rich category compared to the 50.8% of the rich to the 39.6% of the average to the 44.1% of the poor to the 58.1% of the very poor. This is indicative that tourism employment although having an impact is only being appreciated by approximately half of those interviewed. Contextually given that tourism only occurs in discrete locations around the parks is an important finding. Significantly the impacts are being felt uniformly amongst wealth groups indicating that engagement in employment from tourism is accessible by all wealth groups.

Table 8 Score of Impacts from employment in conservation and development organizations

Wealth Rank	EMPLOYMENT IN CONSERVATION AND DEVELOPMENT ORGANIZATIONS					Total
	Very Important	Important	Little Important	Not At All Important		
Very Poor	Count	14	7	7	3	31
	% within Wealth Rank	45.2%	22.6%	22.6%	9.7%	100.0%
Poor	Count	82	64	39	36	221
	% within Wealth Rank	37.1%	29.0%	17.6%	16.3%	100.0%
Average	Count	83	100	69	66	318
	% within Wealth Rank	26.1%	31.4%	21.7%	20.8%	100.0%
Rich	Count	28	16	9	7	60
	% within Wealth Rank	46.7%	26.7%	15.0%	11.7%	100.0%
Very Rich	Count	1	0	2	1	4
	% within Wealth Rank	25.0%	.0%	50.0%	25.0%	100.0%

Total	Count	208	187	126	113	634
	% within Wealth Rank	32.8%	29.5%	19.9%	17.8%	100.0%

Overall 32.8% responded that the employment in Conservation and Development organizations are very important. The very poor (45.2%) and the rich (46.7%) responded that Conservation and Development Park Activities are very important, higher than other wealth groups – a trend similar to the previous with employment in tourism. However in this case there was a significant difference ( $X^2=21.022$ ,  $df=12$ ,  $p<0.05$ ).

Table 9 Impact of employment in park protection activities

Wealth Rank		EMPLOYMENT IN PARK PROTECTION ACTIVITIES				Total
		Very Important	Important	Little Important	Not At All Important	
Very Poor	Count	12	8	7	4	31
	% within Wealth Rank	38.7%	25.8%	22.6%	12.9%	100.0%
Poor	Count	81	61	52	28	222
	% within Wealth Rank	36.5%	27.5%	23.4%	12.6%	100.0%
Average	Count	78	109	69	62	318
	% within Wealth Rank	24.5%	34.3%	21.7%	19.5%	100.0%
Rich	Count	23	21	9	6	59
	% within Wealth Rank	39.0%	35.6%	15.3%	10.2%	100.0%
Very Rich	Count	1	1	1	1	4
	% within Wealth Rank	25.0%	25.0%	25.0%	25.0%	100.0%
Total	Count	195	200	138	101	634
	% within Wealth Rank	30.8%	31.5%	21.8%	15.9%	100.0%

Overall 30.8% of respondents answered that employment in Park Protection activities was very important. A similar trend, but less distinct is recognized as seen in the previous trends, such as responses rate found in employment in tourism activities and conservation and development activities. The Chi-Square results revealed no significant difference in responses among wealth groups where the very poor (38.7%) and the rich (39%) responded that employment in park protection activities was very important than other wealth groups of the poor (36.5%), average (24.5%) and 25% of the very rich category.

Table 10 Impacts from revenue sharing activities

Wealth Rank		TOURISM REVENUE SHARING SUPPORTED PROJECTS				Total
		Very Important	Important	Little Important	Not At All Important	
Very Poor	Count	18	4	6	3	31
	% within Wealth Rank	58.1%	12.9%	19.4%	9.7%	100.0%
Poor	Count	87	43	51	40	221
	% within Wealth Rank	39.4%	19.5%	23.1%	18.1%	100.0%
Average	Count	95	119	53	51	318
	% within Wealth Rank	29.9%	37.4%	16.7%	16.0%	100.0%
Rich	Count	25	21	6	8	60
	% within Wealth Rank	41.7%	35.0%	10.0%	13.3%	100.0%
Very Rich	Count	1	1	1	1	4
	% within Wealth Rank	25.0%	25.0%	25.0%	25.0%	100.0%
Total	Count	226	188	117	103	634
	% within Wealth Rank	35.6%	29.7%	18.5%	16.2%	100.0%

Overall 35.6% of respondents answered that tourism revenue sharing supported projects was very important. There was a significant difference of responses among wealth groups where 58.1% of the very poor and 41.7% of the rich assumed a higher response rate of tourism revenue sharing supported projects was very important than 39.4% of the poor, 29.9% of the average and 25% of the very rich ( $\chi^2=34.040$ ,  $df=12$ ,  $p<0.01$ ). No clear general pattern emerges about which groups the revenue sharing is most likely to affect, however it could be reasonable to assume a bi modal function where at the lower levels of wealth high dependence on benefits from revenue sharing leads to higher appreciation up to a certain level of wealth, afterwards the marginal benefits decline. For the higher levels of wealth, again the welfare impacts initially increase v=before declining for the wealthiest of households.

Table 11 Impacts of integrated resource use programs

Wealth Rank		INTEGRATED RESOURCE USE				Total
		Very Important	Important	Little Important	Not At All Important	
Very Poor	Count	12	1	12	6	31
	% within Wealth Rank	38.7%	3.2%	38.7%	19.4%	100.0%
Poor	Count	49	37	74	57	217
	% within Wealth Rank	22.6%	17.1%	34.1%	26.3%	100.0%
Average	Count	49	101	83	81	314
	% within Wealth Rank	15.6%	32.2%	26.4%	25.8%	100.0%
Rich	Count	13	19	14	13	59
	% within Wealth Rank	22.0%	32.2%	23.7%	22.0%	100.0%
Very Rich	Count	1	1	0	2	4
	% within Wealth Rank	25.0%	25.0%	.0%	50.0%	100.0%
Total	Count	124	159	183	159	625
	% within Wealth Rank	19.8%	25.4%	29.3%	25.4%	100.0%

There was a significant difference in responses between the wealth groups. Integrated Resource Use was most often scored very important for the very poor (38.7%) than the other categories ( $X^2=35.149$ ,  $df=12$ ,  $p<0.01$ ). However in the poorest wealth categories there was a striking dichotomy in the scores between impacts. In the very poor category for example over 50% of respondents indicated that the impacts were of little or no importance a similar trend across wealth categories. This indicates that there is a design problem with such activities and there are a good proportion of households who do not see any value in them. This warrants further investigation.

Table 12 Impacts of income generating activities

Wealth Rank		INCOME GENERATING ACTIVITIES				Total
		Very Important	Important	Little Important	Not At All Important	
Very Poor	Count	17	4	6	3	30
	% within Wealth Rank	56.7%	13.3%	20.0%	10.0%	100.0%
Poor	Count	74	66	42	39	221
	% within Wealth Rank	33.5%	29.9%	19.0%	17.6%	100.0%
Average	Count	79	121	51	66	317
	% within Wealth Rank	24.9%	38.2%	16.1%	20.8%	100.0%
Rich	Count	31	20	1	9	61
	% within Wealth Rank	50.8%	32.8%	1.6%	14.8%	100.0%
Very Rich	Count	1	1	1	1	4
	% within Wealth Rank	25.0%	25.0%	25.0%	25.0%	100.0%
Total	Count	202	212	101	118	633
	% within Wealth Rank	31.9%	33.5%	16.0%	18.6%	100.0%

Overall 31.9% of locals responded that Income Generating Activities were very important. There was a significant difference in responses among wealth groups where the very poor (56.7%) and the rich (50.8%) response rates were respectively higher than the poor (33.5%), average (24.9%) and 25% of the very rich category ( $X^2=36.703, df=12, p<0.01$ ).

Table 13 Impacts of community conservation in improving relations

			CC IMPROVING RELATIONS		Total
			No	Yes	
Wealth Rank	Very Poor	Count	7	23	30
		% within Wealth Rank	23.3%	76.7%	100.0%
	Poor	Count	31	182	213
		% within Wealth Rank	14.6%	85.4%	100.0%
	Average	Count	47	263	310
		% within Wealth Rank	15.2%	84.8%	100.0%
	Rich	Count	6	53	59
		% within Wealth Rank	10.2%	89.8%	100.0%
	Very Rich	Count	2	2	4
		% within Wealth Rank	50.0%	50.0%	100.0%
Total		Count	93	523	616
		% within Wealth Rank	15.1%	84.9%	100.0%

In general, 84.9% answered that CC is improving relations. There was no significant difference between response rates among wealth groups where the middle categories had higher response rates than the very poor (76.7%) and 50% of the very rich ( $X^2=6.557$ ,  $df=4$ ,  $p<0.05$ ), indicating that access to CC activities is not prejudiced by wealth status.

### 3.3 Park and people interactions and relationships

Table 14 Do park authorities visit regularly?

			PARK AUTHORITIES VISIT REGULARLY				Total
			Much Improved	Improved	Little Improved	Not At All Improved	
Wealth Rank	Very Poor	Count	7	11	9	4	31
		% within Wealth Rank	22.6%	35.5%	29.0%	12.9%	100.0%
	Poor	Count	32	71	78	41	222
		% within Wealth Rank	14.4%	32.0%	35.1%	18.5%	100.0%
	Average	Count	51	112	93	63	319

	% within Wealth Rank	16.0%	35.1%	29.2%	19.7%	100.0%
Rich	Count	11	19	23	8	61
	% within Wealth Rank	18.0%	31.1%	37.7%	13.1%	100.0%
Very Rich	Count	0	2	2	0	4
	% within Wealth Rank	0.0%	50.0%	50.0%	0.0%	100.0%
Total	Count	101	215	205	116	637
	% within Wealth Rank	15.9%	33.8%	32.2%	18.2%	100.0%

In general, 33.8% and 15.9% of respondents answered that Park Authorities regular visitation has improved and much improved respectively. There was no significant difference among income groups, however 32.2% of respondents answered that the Park Authorities regular visitation has little improved. Thus visibility and presence in the community is evenly distributed between wealth groups and it is perceived that a consistent effort is being made by park authorities to make themselves available.

Table 15 Local reporting of problems to park authorities

Wealth Rank	LOCAL PEOPLE REPORT PROBLEMS TO THE PARK AUTHORITIES				Total	
	Much Improved	Improved	Little Improved	Not At All Improved		
Very Poor	Count	9	11	5	6	31
	% within Wealth Rank	29.0%	35.5%	16.1%	19.4%	100.0%
Poor	Count	43	78	52	50	223
	% within Wealth Rank	19.3%	35.0%	23.3%	22.4%	100.0%
Average	Count	74	105	76	64	319
	% within Wealth Rank	23.2%	32.9%	23.8%	20.1%	100.0%
Rich	Count	11	22	13	15	61
	% within Wealth Rank	18.0%	36.1%	21.3%	24.6%	100.0%
Very Rich	Count	0	1	2	1	4
	% within Wealth Rank	.0%	25.0%	50.0%	25.0%	100.0%
Total	Count	137	217	148	136	638
	% within Wealth Rank	21.5%	34.0%	23.2%	21.3%	100.0%

There was no significant difference among income groups responding on problems reports to the Park Authorities. Overall the highest response rate of respondents (34%) among wealth groups answered that the reporting of problems had improved compared to the 23.2% of respondents answering that the reporting of problems was little improved.

Table 16 Local assistance to park authorities

Wealth Rank		LOCAL PEOPLE HELP THE PARK AUTHORITIES TO IDENTIFY POACHERS AND ILLEGAL ACTIVITIES				Total
		Much Improved	Improved	Little Improved	Not At All Improved	
Very Poor	Count	1	4	9	17	31
	% within Wealth Rank	3.2%	12.9%	29.0%	54.8%	100.0%
Poor	Count	28	70	55	70	223
	% within Wealth Rank	12.6%	31.4%	24.7%	31.4%	100.0%
Average	Count	31	113	75	100	319
	% within Wealth Rank	9.7%	35.4%	23.5%	31.3%	100.0%
Rich	Count	9	19	10	23	61
	% within Wealth Rank	14.8%	31.1%	16.4%	37.7%	100.0%
Very Rich	Count	0	1	2	1	4
	% within Wealth Rank	.0%	25.0%	50.0%	25.0%	100.0%
Total	Count	69	207	151	211	638
	% within Wealth Rank	10.8%	32.4%	23.7%	33.1%	100.0%

In general 32.4% responded that the identification of poachers and illegal activities from locals helping the Park Authorities had improved compared to the 23.7% of respondents among wealth groups who answered that it was little improved. There was no significant difference in responses among wealth groups.

### 3.4 Resource access arrangements

Table 17 Multiple use zone local organization

Wealth Rank		MOBILISATION OF LOCAL PEOPLE ORGANIZED TO ACCESS AND HARVEST RESOURCES IN THE PA				Total
		Much Improved	Improved	Little Improved	Not At All Improved	
Very Poor	Count	9	4	10	8	31
	% within Wealth Rank	29.0%	12.9%	32.3%	25.8%	100.0%
Poor	Count	36	39	63	83	221
	% within Wealth Rank	16.3%	17.6%	28.5%	37.6%	100.0%
Average	Count	34	91	75	117	317
	% within Wealth Rank	10.7%	28.7%	23.7%	36.9%	100.0%
Rich	Count	9	13	12	26	60
	% within Wealth Rank	15.0%	21.7%	20.0%	43.3%	100.0%
Very Rich	Count	0	2	1	1	4
	% within Wealth Rank	.0%	50.0%	25.0%	25.0%	100.0%
Total	Count	88	149	161	235	633
	% within Wealth Rank	13.9%	23.5%	25.4%	37.1%	100.0%

In general, 25.4% of respondents answered that the mobilization of locals to access the park and harvest resources had little improvement compared to the 23.5% of respondents who answered that the mobilization had improved. There was a significant difference of responses among income groups where the very poor (32.4%) and the poor (28.5%) had higher response rates than other wealth groups on responding that the mobilization of local people to harvest resources in the PA had little improvement ( $X^2=22.888$ ,  $df=12$ ,  $p<0.05$ ).

Table 18 Local mobilization and access to revenue sharing projects

Wealth Rank		MOBILISATION AND ACCESS TO PRODUCTS FROM REVENUE SHARING				Total
		Much Improved	Improved	Little Improved	Not At All Improved	
Very Poor	Count	8	8	10	5	31
	% within Wealth Rank	25.8%	25.8%	32.3%	16.1%	100.0%
Poor	Count	31	52	55	84	222
	% within Wealth Rank	14.0%	23.4%	24.8%	37.8%	100.0%
Average	Count	24	124	93	78	319
	% within Wealth Rank	7.5%	38.9%	29.2%	24.5%	100.0%
Rich	Count	10	18	23	9	60
	% within Wealth Rank	16.7%	30.0%	38.3%	15.0%	100.0%
Very Rich	Count	0	2	1	1	4
	% within Wealth Rank	.0%	50.0%	25.0%	25.0%	100.0%
Total	Count	73	204	182	177	636
	% within Wealth Rank	11.5%	32.1%	28.6%	27.8%	100.0%

Overall 32.1% of respondents answered that the mobilization and access to products from revenue sharing had improved. However there was a very significant difference among income groups where the very rich were recognized to have a higher response rate (50%) than other wealth income groups in answering that the mobilization and access to products had improved. It was realized that the very poor and poor categories had lower response rates than other income groups in responding that the mobilization and access to products had improved ( $X^2=41.290$ ,  $df=12$ ,  $p<0.01$ )

## 4 Conclusions

Communities around BINP have for almost two decades been a key focus of conservation initiatives around the BINP, notably the CARE Development through conservation program (DTC) and the Mgahinga and Bwindi Impenetrable Forest Conservation Trust (MBIFCT). Both DTC and MBIFCT worked through increasing peoples understanding of the importance of conservation and by supporting community development activities outside of the park. Importantly their approach focused on addressing peoples main park related income and livelihoods needs and finding ways to generate income and fill the gap in livelihoods through alternative, non park related means.

UWA have also actively adopted community conservation approaches in the management of the park, which includes the zoning and development of community multiple use zones (MUZ), where restricted access to defined community user groups is regulated under a community use agreement. In addition there is a tourism revenue sharing program, aimed at providing direct benefits to local communities in the form of local development projects funded by the revenues from tourism.

It is clear from the results that there is an overwhelmingly current favorable attitude to the park, generally with impacts of the community conservation programs being felt widely across different wealth groups in terms of access and impact. In terms of attitudes to the park the number of respondents indicating that the park is generally a good thing has risen from 58.23% (Bush & Mwesigwa, 2007) to 78.3% in this study. Today these responses show no difference between wealth groups unlike in previous studies.

The impacts from park community conservation activities are also more positively scored from 47.23 % indicating positive impacts in 2006 (Bush & Mwesigwa, 2007) to more than 77% scoring a medium or high impact from park relate activities. However the distribution of these impacts between wealth groups is still disproportionately in favor of the wealthiest households with 50% of wealthiest respondents scoring a high impact compared to only 29% of the very poor respondents. It is the poor that are often most dependent on forest resources, where as forest use by wealthier households is often part of a wider selection of livelihood options. Thus more must be done to target CC activities to have more impacts on the poor, especially if poverty alleviation is a motivating objective of the program.

Park people relationships are also shown to be good from current survey data, an essential component of gaining trust to be able to engage with local communities. However issues surrounding the effort and effectiveness of resource access arrangements were mixed. It was clear that MUZ programs were doing well to target the poor, however benefits from the revenue sharing programs were proving to be elusive for the poorest in the community. This might be because in the revenue sharing program there is still a heavy focus on social infrastructure projects or income generating activities that the poorest households find difficult to take part in or benefits from e.g. the poor living farthest from village centers and therefore from schools, clinics and community water points. Improving the poverty focus of the programs is where the largest marginal gains will be found in terms of the overall public benefit to the park adjacent population.

### 4.1 Recommendations for future monitoring

This type of qualitative monitoring of attitudes and opinions is relatively light technically and resource wise so could be cost effectively conducted frequently e.g. every two years. Some pragmatic thought must be applied when planning the frequency of M & E exercises, as it may be unrealistic to expect impacts to be seen before a certain period e.g. one cropping and sale cycle for an agricultural improvement project (6 months in a bimodal rainfall zone) or perhaps much longer if livestock or fisheries improvement activities are being considered. If annually M&E is planned or required then a realistic review of the indicators to be monitored and at what interval should be made.

Another important consideration to assess the scope and nature of impact from project interventions is stratification according to beneficiary and non beneficiary monitoring. Beneficiary BCM is defined as a systematic investigation to monitor beneficiaries' - women's, men's, girls' and boys' - perceptions of an operation. The approach focuses on beneficiary access to, use of and satisfaction with outputs by seeking feedback directly from the women, men and children who are the target group for an operation. These can then be compared with non beneficiaries of a project to compare directly

response patterns. This stratification approach holds and both inter and intra community levels e.g. we can stratify between beneficiary and non beneficiary communities as well as households within a community to compare differences. Further reading on this technique can be found from a variety of sources e.g. the World food Program Monitoring and Evaluation Guidelines Handbook [http://home.wfp.org/stellent/groups/public/documents/ko/mekb\\_module\\_14.pdf](http://home.wfp.org/stellent/groups/public/documents/ko/mekb_module_14.pdf) or the Red Cross M&E Handbook <http://www.ifrc.org/docs/evaluations/handbook.pdf> .

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## 6 APPENDIX I Household Questionnaire Survey

Household Survey around BMCA

Name of Enumerator .....

Parish .....Date ..... Time start: ..... Time end: .....

### Section A: Respondent's household details

1.1	<b>Name of Village</b>		
1.2	<b>Distance of house to the National Park boundary (time to walk hours/minutes)</b>	km	
1.3	<b>Does household participate in a community conservation project</b>	Yes	No

<b>Interviewed?</b> Tick as appropriate		
1.4 Female headed household	1.4.1 Male headed household	1.5 Child headed household

1.6 Respondent profile

Relation to hh head (See codes below)	Age (years)	Sex (M=male F=female)	Formal Education Level (N=None; P= Primary; S= Secondary, Alternative =A)	Family size (# of members in HH)	
				Male	Female

*Relation to hh head codes: 1: Hh Head 2: Spouse; 3: Son/daughter; 4: Son/daughter in law; 5: Grandchild; 6: Mother/father; 7: Mother/father in law; 8: Brother or sister; 9: Brother/sister in law; 10: Uncle/aunt; 11: Nephew/niece; 12: Step/foster child; 13:Other/Not related.*

### House Materials for Main Dwelling (try to make discreet observations on approach)

**W-**

**Rank** .....

#### Walls

1.7) Timber/ poles            2) Brick 3) Mud            4) Iron 5) Plastic Sheeting

#### Door/Window Frame

1.8) Timber/ poles            2) Brick 3) Other-specify

#### Floor

1.9) Timber/ poles            2) Mud            3) Cement            4) Tiles/bricks

#### Roof

1.10) Thatch            2) Tiles            3) Iron Sheets            4) Plastic Sheeting

**Section B Knowledge and attitudes about community conservation initiatives**

**2.1 Are you aware of community conservation activities in communities around the Bwindi Mgahinga Conservation Area (BMCA)?**

(Yes) (No)

**2.1.1 If the Respondent is aware of community conservation activities:  
List the different community conservation activities**


**2.2. There are different community projects around the Bwindi-Mgahinga Conservation Area which are being implemented by the community conservation programme. I am going to read out some of these projects, please say (Yes) to the project you know and (No) to the project you do not know.  
Have you directly benefited in these activities?**

List of community conservation activities	Yes	No	Direct beneficiary 1 = yes 0 = no
Stone wall construction			
Water tank			
Gravity/ Piped Water			
School renovations/ construction			
Health Centre			
Road bridges			
Honey harvesting and processing			
Herbal medicine/ Weaving material harvesting			
Hand crafts			
Agriculture improvement			
Buffer zone plantation			
Conservation education			
Business development (e.g. community tourism activity, campsite and hotel setting)			
Specific skills training/ development (planning, research etc)			

**2.3. Is community conservation increasing development projects in your area?**  
Yes No

**2.3.1. I am going to read out some issues related to contribution of community conservation activities in rural development:**

**Please tell me how important are the following activities in your area using categories of: Very important, important, little important and not at all important.**

	Very important	important	Little important	Not at all important
Income from tourism related activities				
Agriculture improvement practices				
Livestock improvement practices				
Training in income generating activities				
Support to local associations – specify particular support activities				
Support to vulnerable people [specify particular support activities				

**2.3.2. Do you personally benefit from any of these activities?**  
Yes  No

**2.3.3. If there are no development projects in your area, what are the possible reasons for the community conservation programme not to start up any development projects in your area?**

.....  
 .....

**3.0 Environmental Education**

3.1. There are some issues discussed during the environmental education sessions, I am going to read out some issues, please tell me whether you think they are very important, important, little important or not at all important.

	Very important	Important	Little important	Not at all important
Park and everything living within it (Biodiversity)				
Benefits from the park				
The role of local people in tourism promotion				
Conflicts resolution with the park (animals, poachers, rangers)				
Participation of people in community conservation and park activities				

3.2. How often do you attend the education programme about the Bwindi-Mgahinga Conservation Area? Please check the appropriate box.

- Frequently (Every week, every month)
- Less frequently (once in two to four months)
- Rarely (once, twice a year)
- Never

4.1. Could you please tell me what are the purposes of the community conservation projects in your area? Please list in order of importance using the following categories: very important, important, little important, and not at all important.

	Very important	important	little important	Not at all important
Employment for local people				
Improvement of services important for local people				
Improvement of community participation in park management				
Protection of the park against poachers and other illegal users				
Creation of products to sell to tourists/ park visitors				
Protection of people and crops against wild animals				

4.2 Do you think that the community conservation activities contribute to the conservation of the Bwindi-Mgahinga Conservation Area?

- 1 Yes
- 2 - No

Please tell us how (reasons for answer in 4.2)

.....  
 .....

**Park and community relations**

5.1. Do you think that the community conservation is improving relations between the park and local people in your area?

- (1) Yes
- (2) No

5.2. I am going to read out some issues related to relations between the park management and local communities, please tell me how you think the following areas have improved by the community conservation using the categories:

much improved, improved, little improved, Not at all improved.

	much improved	improved	Little improved	Not at all improved
The park authorities visit our area regularly and meet with communities to share information				
Local people in our area report problems to the park authorities				
Local people help the park authorities to identify poachers and illegal activities inside the park				
Mobilisation of local people organized to access and harvest resources in the protected area on agreement with UWA				
Mobilisation and access to products from tourism revenue sharing from UWA				
Appreciation of the importance of the park by people of our area				
Local authorities sensitize local communities on the importance of the park				

5.3 If there is no improvement at all, what are the reasons for the lack of improvement between the park and local people relations in your area?

.....  
 .....

**Park Benefits sharing**

6.1. Do you think that the community conservation is helping local people to benefit from the Bwindi-Mgahinga Conservation Area?

(1) Yes (2) No

6.2. I am going to read out some issues related to the benefit of people from the park revenue, please tell me how you think they are important in your area using these categories: Very important, Important, little important and not at all important.

	Very important	Important	Little important	Not at all important
Employment in tourism activities				
Employment in conservation and development organizations				
Employment in park protection activities				
Tourism revenue sharing supported projects				
Integrated resource use (multiple use activities)				
Income generating activities				

6.3. If the activities in 6.2 are not important at all, please tell me what are the reasons for them not being important at all

.....  
 .....

6.4 Do you benefit directly from the above mentioned activities in 6.2? 1 Yes 0 No

6.5 What are the reasons for your answer in 6.4?

**7.0 General Attitudes towards the protected area**

The NP was created about 20 years ago. In general do you think that this was a good thing to do?

7.1.1 0 (No) 1 (Yes) 2 (Not sure)

7.1.2 Give reasons for your answer .....

7.3. How would you score the overall impact of the NP on your household?

7.3.1	Positive: High (+3),	Medium (+2), or	Low (+1)
7.3.2	Negative: High (-3),	Medium (-2), or	Low (-1)