

ISBN 978-82-575-1069-5  
ISSN 1503-1667



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PHILOSOPHIAE DOCTOR (PHD) THESIS 2012:33

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# PROTECTED AREAS AND PEOPLE IN UGANDA: COSTS, BENEFITS, LIVELIHOODS AND NARRATIVES AROUND BWINDI IMPENETRABLE NATIONAL PARK

VERNEOMRÅDER OG LOKALBEFOLKNING I UGANDA - NYTTE, KOSTNADER, LIVSVILKÅR  
OG NARRATIVER RUNDT BWINDI IMPENETRABLE NATIONAL PARK

DAVID MWESIGYE TUMUSIIME

**Protected areas and people in Uganda: Costs, benefits, livelihoods  
and narratives around Bwindi Impenetrable National Park**

**Verneområder og lokalbefolkning i Uganda - nytte, kostnader, livsvilkår og  
narrativer rundt Bwindi Impenetrable National Park**

Philosophiae Doctor (PhD) Thesis

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Ås 2012



Thesis number 2012:33  
ISSN 1503-1667  
ISBN 978-82-575-1069-5



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## **Acknowledgements**

A PhD study is a journey whose completion often requires substantial cooperation with and support from others. I thank my main supervisor Prof. T.A. Benjaminsen for his kind guidance, instruction, encouragement, and scholarly support throughout the study. My sincere gratitude to co-supervisors Prof. Pål Vedeld, Dr. Hanne Svarstad, and Prof. Espen Sjaastad who have unreservedly shared their knowledge with me. Prof. Frode Gundersen gave me valuable suggestions in the early stages of this work. With thankfulness I acknowledge the financial support received from the Norwegian State Education Loan Fund, Makerere University, Norwegian Institute for Nature Research (NINA) and the Nordic Africa Institute (NAI).

With deep found gratitude, I acknowledge my PAPIA colleagues in Uganda for the meticulous fieldwork support. I particularly thank Prof. J. Kaboggoza, Prof. G. Nabanoga, Prof. M. Buyinza, and Mr. M. Bukenya. Your advice, generous support and encouragement has brought me this far. I thank my dear friends Anne, Lattiff, and Alex for the useful discussions, support and care during fieldwork and in Norway. Mr. G. Muhanguzi, Mr. C. Atuhe, Ms. A. Kyarimpa, Mr. H. Tumushime, Mr. Baryesima and Mr. J. Gessa have patiently put up with my queries over the years and I remain indebted to them.

Prof. M. Tweheyo so kindly provided excellent working space in Uganda. He is profoundly appreciated for his selfless support. Special thanks to R. Babigumira for the introduction to STATA. Dr. G. Eilu and Dr. F. Babweteera introduced me to scientific research and have been a constant source of support and encouragement over the years; I render my appreciation for that. My colleagues in the former FFNC and the new school of Forestry, Environmental and Geographical sciences have been very supportive.

The administrative staff at Noragric (particularly Prof. Shan, Prof. R. Haug, Dr. Synnevåg, Dr. R. Kaarhus, and Joanna Boddens-Hosang), the study coordinators (Frode, Aslaug, Rebecca and Josie), lanekassen coordinators and the department of academic affairs (Jon Kristian Oiestad, Vilma Bischof and Iben N. Andersen), the accounts section

(Peter Bjørn Nielsen, Anne Kiøsterud, Susan Brosstad, Sidsel Ø. Gulbrandsen, and Anna Holm), IT section (Anne-Marthe Leinebø, Anders Dysvik and Evy Jørgensen) and the librarians (Liv Ellingsen, Ingeborg Brandtzæg and Ellen) have done such a great job. I say tussen takk. I have also benefitted from giving tutorials, teaching, examining, and supervising Bachelor and Masters students in the different courses at UMB. A special thank you to Prof. Darley Jose Kjosavik, Prof. T.A Benjaminsen, Prof. P. Vedeld, Prof. A. Vatn, Prof. Stig Jarle Hansen and Lars Kåre for providing these opportunities.

In Norway, the friendship and support of Tone, Trine, Camilla, the Aslaugs, Stian, Maja, Ricarda, Felly, Dr. P. Larpkern, Dr. R. Seidu, Rhoda, Tendai, Samora, Connor, Enquie, Tulu, Amusalu, Héléne, the family of Mr. Kabuye and the amazing Ugandan community at Ås have been exceptional. These created for me a home away from home. My longtime friends Karl and Ellen Magnus Løken are simply the best. My PhD friends at Noragric – Dr. Zeinabu, Dr. Nakakaawa, Dr. Guyo, Dr. Roba, Dr. Boku, Dr. Roba, Dr. Hongslo, Progress, Bridget, Frode, Kishor, Shai, Sunetro, Christin, Nani, Sayuni, Perfect, Hans, Kjersti, Grete, Lydia, Vicky, Marit, Lars-Kåre, Yeshitila, Kashif and Amos are appreciated for the academic and social support.

The Arihos, Ivans, Solos, Byaks, Kitattas, Oscars, Harolds, Franks, Judy, Chipso, Raf, KTV and Capi have been there all the way. Be blessed. A BIG thank you to my wonderful parents and strong army of brothers and sisters for the endless love and prayers. Finally, I thank the almighty God with Psalm 145.

Ås, May 2012

David Mwesigye Tumusiime

## **Abstract**

This thesis contributes to a current debate on how to balance conservation and development goals. Globally, land set aside for the protection of biodiversity has increased exponentially over the last 30 years. Despite contemporary efforts to share protected area (PA) benefits with the local people in proximity to the PAs, in particular tourism revenues, the social impacts of establishing and maintaining these areas remain a contentious issue. It is in this context that this study was conducted at Bwindi Impenetrable National Park in Uganda.

The specific research questions of the study were:

- i. To what extent does tourism revenue-sharing promote conservation and poverty reduction?
- ii. What is the nature of benefits derived and costs incurred by communities adjacent to the PA?
- iii. How are the benefits and costs distributed, and how does this affect people's attitudes towards the PA?
- iv. How do local people describe their situation as neighbours of a PA?

These questions have been addressed in four separate, but interrelated studies. Data were collected using a mixed methods approach. Secondary data in the form of written sources on Bwindi was used in addition to primary data gathered through a combination of participant observations, interviews with key informants, structured interviews, semi-structured interviews, and unstructured interviews.

The findings reveal serious inadequacies in the tourism revenue-sharing arrangement that severely constrain the potential for poverty reduction. This also reduces its potential local support effect for the conservation. Whereas an average household reports an annual total income of US\$1038, the average benefit from revenue sharing is only US\$12 (or 1.2%). Any positive effect from this contribution is further reduced by problems in the allocation-making processes and associated nepotism; this is because the revenues are planned for and distributed by inept local institutions under complex institutional arrangements that lack real local participation and involvement.

In addition to the direct sharing of tourism revenues there are a number of other activities that could fall under a general framework of "Development Through Conservation" (e.g. support to private tree planting). Another activity is park-related employment. Each of these two sources contributes about 2% to an average household's annual income.

Costs include the traditional costs of physical evictions. However, the scope of this thesis is limited to the recurrent costs associated with restrictions on access to resources and



damage caused by wildlife. A household bordering on the park foregoes on average about 6% of its annual income because of these restrictions on access to forest resources and on average loses another 10% of its annual income as a result of damage caused by wildlife. For some households, losses from wildlife damage can approach as much as 26% of the household income. What emerges is a situation where local people largely subsidise conservation through the high local costs. The estimated reported average local income is US\$ 0.5/ per adult equivalent unit/day.

Moreover, because of the problems in decision-making and the associated nepotism, tourism revenues often do not accrue to cost victims. In practice, PA benefits are often subject to local elite capture. This increases local inequality and compromises the ability of the PA to contribute to poverty reduction and improve state local people relations. In spite of this, there seems to be improved attitudes among local people towards the park, with 78 percent of our respondents believing that Bwindi's conversion to a national park was a good thing, and despite the lack of individual benefits. People seem to be concerned about nature and the forest regardless of possible monetary transfers.

Local perceptions furthermore seem to be characterised by an ambivalence that significantly deviates from the win-win narrative frequently presented by external actors. Local actors or households do regard the present situation as unsatisfactory (a perception which is well-grounded and generally supported by the socio-economic studies in this thesis). However there is some prospect of an improved situation in the future, particularly with regard to tourism because there are promises of improvements in the amount of revenues set aside for local people.

Social, political and economic issues relating to PAs are presented and discussed in this thesis. Wider implications and representivity of the findings for other protected area policies in Uganda and elsewhere are several. It is observed that the eventual successes of PAs for the future will depend not only on the overall benefits and costs that eventually reach local communities but also on the distribution of costs and benefits, the implications for damage compensation, and impact on local inequality and the compatibility of present management with local social values, and norms and perceptions of rights and duties. Local narratives form important insights in this context and need to be taken much more seriously in endeavours for rights-based development, local involvement and real participation. The local narratives should thus inform policy and practice, and act as a possible counter to the narratives produced by powerful external actors.

## Sammendrag

Denne avhandlingen bidrar til en pågående debatt om naturvern og utvikling. Verdens verneområder for biologisk mangfold har økt eksponensielt de siste 30 årene. Det har vært mange forsøk på å dele inntekter fra turisme i verneområder med lokalbefolkningen. Likevel er fortsatt de sosiale kostnadene ved verneområder et omstridt spørsmål. Dette er bakgrunnen for studien av Bwindi Impenetrable National Park i Uganda.

Studiens problemstillinger har vært:

- i. I hvilken grad bidrar lokalbefolkningens tilgang til inntekter fra turisme til naturvern og reduksjon av fattigdom?
- ii. Hvilke goder og kostnader av verneområdet får de nærmeste lokalsamfunnene?
- iii. Hvordan er goder og kostnader fordelt, og hvordan påvirker dette folks holdninger til verneområdet?
- iv. Hvordan beskriver folk som er naboer til verneområdet sin egen situasjon og sitt forhold til parken?

Disse spørsmålene har blitt besvart i fire ulike delstudier. Data ble innsamlet ved hjelp av ulike metoder. Sekundærdata som skriftlige kilder om Bwindi ble brukt i tillegg til primærdata innsamlet ved en kombinasjon av deltakende observasjon, intervjuer med nøkkelinformanter og strukturerte og ustrukturerte intervjuer.

Funnene avslører alvorlig begrensninger i fordelingen av inntekter fra turisme, noe som i betydelig grad begrenser potensialet for reduksjon av fattigdom. Dette begrenser også mulighetene for å få lokal støtte for naturvernet. Mens et gjennomsnittlig hushold oppgir en årsinntekt på 1038 USD er gjennomsnittlig inntekt fra den naturbaserte turismen på bare 12 USD i året (eller 1.2% av samlede inntekter). Positive effekter av dette bidraget reduseres ytterligere av problemer med selve fordelingsprosessen knyttet blant annet til nepotisme. Dette skyldes til dels at inntektsfordelingen er planlagt for og distribuert gjennom svake lokale institusjoner med komplekse institusjonelle arrangementer og der lokal deltakelse i stor grad er fraværende.

I tillegg til direkte fordeling av inntekter fra turisme, er det også en rekke andre aktiviteter som kunne falle inn under ”naturvernbasert utvikling” (for eksempel støtte til privat treplanting). En annen aktivitet er arbeidsplasser generert av nasjonalparken. Hver av disse to kildene bidrar gjennomsnittlig med 2% av husholdets årlige inntekt i følge våre undersøkelser.

Avhandlingen konsentrerer seg om kostnader forbundet med begrensninger på tilgang til ressurser og skader forårsaket av vilt. Et hushold i nærheten av nasjonalparken gir i gjennomsnitt fra seg 6 % av dets årlige inntekt på grunn av førstnevnte begrensninger og

10% mistes i form av skader på avling og husdyr forårsaket av parkens ville dyr. For noen hushold vil slike viltskader kunne beløpe seg til 26% av husholdets inntekter. Resultatet er at lokalbefolkningen ender opp med å subsidiere naturvernet gjennom å bli påført høye lokale kostnader. Den estimerte gjennomsnittlige lokale inntekten er 0.5 USD pr voksen pr dag.

På grunn av de nevnte problemene med forvaltningen tilfaller sjelden turistinntekter de som bærer de direkte kostnadene. Det er i praksis lokale eliter som tilriver seg mesteparten av inntektene fra nasjonalparken. Dette øker lokal ulikhet og begrenser mulighetene for naturvernet til å bidra til å redusere fattigdom og å forbedre forholdet mellom staten og lokalbefolkningen. På tross av dette, virker det som holdningene blant lokalbefolkningen til parken i seg selv har bedret seg. Blant våre respondenter var 78 % positive til at Bwindi er en nasjonalpark, til tross for mangelen på individuelle nyttevirksomheter fra parken. Folk virker opptatt av vern av naturen og skogen uavhengig av pengeoverføringer.

Lokale betraktninger er videre karakterisert av en ambivalens som avviker fra et vinn-vinn-narrativ som ofte presenteres av eksterne aktører. Lokalbefolkningen ser ikke på den aktuelle situasjonen som tilfredsstillende. Det kan imidlertid være håp om forbedringer, fordi det er løfter om at en større andel av inntektene fra turisme skal tilfalle lokalbefolkningen.

Sosiale, politiske og økonomiske sider ved vern av nasjonalparker blir presentert og diskutert i denne avhandlingen. Det er flere implikasjoner av disse funnene for andre verneområder i Uganda og andre steder. Mulighetene for at verneområder skal lykkes i fremtiden er ikke bare avhengig av generelle inntekter og kostnader, men også av fordelingen av disse inntektene og kostnadene, kompensasjon for skader forårsaket av vilt, konsekvenser for lokal ulikhet og hvordan forvaltningen forholder seg til lokale sosiale verdier, normer, rettigheter og plikter. Lokale narrativer representerer viktige innsikter i denne sammenheng og de må tas mye mer alvorlig i nye forsøk på en rettighetsbasert utvikling som innebærer reell lokal deltakelse. Politikktutforming og praksis bør derfor basere seg på slike lokale mot-narrativer som ofte står i motsetning til narrativer produsert av mektige eksterne aktører.

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## List of papers

This thesis is made up of four individual but interrelated papers, which are referred to in the text by the Roman numerals (I-IV).

- I. Tumusiime, D. M., & Vedeld, P. (2012). False Promise or False Premise? Using Tourism Revenue-Sharing to Promote Conservation and Poverty Reduction in Uganda. *Conservation and Society*, 10, 15-28.
- II. Tumusiime, D. M., & Vedeld, P. (forthcoming). Rural Livelihoods at the Boundary of a Protected Area in Uganda. *Submitted*.
- III. Tumusiime, D. M., & Sjaastad, E. (forthcoming). The Costs and Benefits of Conservation: Consolation, Inequality, and Attitudes around Bwindi Impenetrable National Park. *Submitted*.
- IV. Tumusiime, D. M., & Svarstad, H. (2011). A Local Counter-Narrative on the Conservation of Mountain Gorillas. *Forum for Development Studies*, 38, 239-265.



# **1. Introduction**

## **1.1 Background to the thesis**

The Land area set aside for protection of biodiversity has increased exponentially over the last 30 years (Brockington et al. 2008; Zimmerer et al. 2004). In 1989, the United Nations' Environment Program proposed that a network of Protected Areas (PAs) should cover approximately 10% of the world's surface. The Convention on Biological Diversity (CBD), signed by 193 countries in 1993, has been pivotal in this process. The Convention targeted 2004: by that date, up to 10% of the world's surface should be covered by PAs, and 17% by 2010. By 2008 up to 16% of the land area of East/Southern African region was already under protection (Newmark 2008). Currently some African countries are protecting over a quarter of their total land areas (Vedeld et al. 2012). Many environmentalists and conservation agencies have been pushing to bring "as much land area as possible" under protection. Many of these protected areas are on land legally or at least customarily owned or used by local people. PAs and local people are thus two intricately connected realities (Murphree 2000).

The original model for PA establishment and management sought to impose restrictions on local ownership or use of the protected area and its resources (Neumann 1998). Trespassing carried a fine, thus use of "fences-and-fines" or other similar but equally pejorative names for this model. Starting from the late 1960s, it was observed that this had the extreme effect of cutting off local people from resources that were vital to their livelihoods; at the same time this policy contributed to continued illegal and often destructive use of protected areas and their resources. New approaches were thus sought, involving local people in the management and/or sharing of the benefits of area protection (e.g. see Adams and Hulme 2001; Agrawal and Redford 2006; Borrini-Feyerabend et al. 2004; Fabricius et al. 2004).

The degree and type of local benefit sharing and participation vary widely. For example, benefits may be in form of direct payments, managed resource use, the provision of employment, or the building of social infrastructure. Local involvement may be as simple



as participation in conservation education awareness programs or as complex as community designed and managed conservation areas. Some argue for this approach from a rights and equity perspective; whereas others see this as a means to secure the objectives of conservation by gaining local support (see Roe and Elliott 2006). However, this is an approach which has attracted enthusiasts, sceptics, sceptical enthusiasts, and outright critics. In fact, some critics have already called for a return to the fences-and-fines approach (Oates 1999; Terborgh 1999). All actors seem to agree on the importance of biodiversity protection and the welfare of the local people, yet they continue to differ (and to taunt each other) on how to go about the pursuit of these two objectives. At issue is the extent to which current conservation efforts deliver both biodiversity and benefits to local people.

Internationally, a *discourse order* (Fairclough 1995) can be identified that relates to protected areas and local people in Africa. Recent years have been dominated by the ‘win-win’ discourse that describes local people adjacent to protected areas as being net beneficiaries of conservation (Sletten 2009). Major conservation NGOs as well as many government officials in the wildlife sector in Africa today have adopted this discourse, as have development donors, and many scientists who research protected areas (e.g. see Benjaminsen and Svarstad 2010b). On the other hand, some actors in solidarity organisations and some social scientists produce a traditionalist (or critical or populist) discourse. They highlight the relatively low level of financial benefits for park neighbours; and the high costs these neighbours incur in terms of wildlife damage and restricted access to natural resources; there is also often a lack of real devolution of authority in arrangements for participation (e.g. see Benjaminsen and Svarstad 2010b; Chapin 2004; Dzingirai 2003; Igoe and Croucher 2007; Laudati 2010; Vedeld et al. 2012).

There is thus uncertainty regarding the nature of the relationship between protected areas and local people. Moreover, the same case may be presented in win-win terms by one set of actors and in traditionalist terms by yet another. For example, the situation at Bwindi Impenetrable National Park (hereafter Bwindi) in Uganda is frequently presented by

external actors in win-win terms. In a report by the World Wide Fund for Nature (WWF) “produced to demonstrate how species conservation contributes to sustainable development” (WWF 2006:2), it is claimed that Bwindi demonstrates “that species conservation and poverty reduction can be delivered together” (p. 9). On the other hand, the same case is also presented by external actors from the perspective of a traditionalist narrative. For instance, Laudati (2010) characterises the situation for local people as one of ‘inequality, exploitation, vulnerability, and insecurity’ (p. 727).

Win-win possibilities are increasingly popular in conservation theory but are difficult to demonstrate in practice (see Benjaminsen and Svarstad 2010a). All the same “win-win” remains a buzzword. This is because it is a desirable outcome. This is why it is important to engage with critical cases in a rigorous scientific way in order to obtain information so that informed choices can be made. This is the context for this study of Bwindi Impenetrable National Park. It is argued that Bwindi is a critical case.

## **1.2 Objective and research questions**

This study aims to contribute to the protected areas/local people debate by elaborating on the political economy of conservation costs and benefits at Bwindi Impenetrable National Park in Uganda. The specific research questions of the study are:

1. To what extent does tourism revenue-sharing promote conservation and poverty reduction?
2. What is the nature of benefits derived and costs incurred by communities adjacent to the PA?
3. How are the benefits and costs distributed, and how does this affect people’s attitudes towards the PA?
4. How do local people describe their situation as neighbours of a PA?

### **1.3 Structure of the thesis**

This thesis is structured in two parts. The first part consists of an introduction that gives a background to the problem, situates PA establishment as a conservation strategy in Africa and describes how this strategy is connected to each of the research questions covered in the thesis. This is followed by the theoretical approach and methodology of the study. A brief summary follows of the main findings of each of the four individual but interrelated studies that are presented in greater detail in part two. The final section of the first part provides a synthesis of the overall findings, arrives at some conclusions and makes some policy recommendations.

The second part of the thesis is made up of four individual but interrelated papers, which are referred to in the text by Roman numerals (I-IV).

## **2. Conservation in Africa: A brief background**

The International Union for Conservation of Nature identifies six protected area categories (IUCN 2012), but in Africa national parks are the most prominent category. In this section I elaborate the key ontological and epistemological motivations for this protected area strategy, the main categories of actor involved in the strategy and provide a brief history of the Bwindi Impenetrable National Park in Uganda.

### **2.1 Origins of the “fortress conservation” strategy**

The key ontological orientation for the idea of conservation, especially through the establishment of PAs (as we know them today), emanates from the mythical western idea of “pristine” or “untouched” nature or natural wilderness areas (Gomez-Pompa and Kaus 1992; Neumann 1998; Robbins 2004). As expressed in the establishment of Yellowstone, the world’s first national park, the idea is that human habitation and use negatively transform nature. This ontological characterisation of nature as threatened by human activities produces isolationist epistemologies that locate the solution in the separation of “humanity” from “nature” (Robbins 2004). Concerns about the anthropogenic threat are

found virtually in all human civilisations. In the west these can be traced back to Plato although conservation as we know it in the modern era can be traced to the late-18th century enlightenment period, when several thinkers identified and described the importance of "preserving nature".

Conservation as a philosophy of nature management began in Europe in the eighteenth century, and was related to the Enlightenment's rational search for order, progress, and material well-being. The climax came on 1 March 1872, when the US established Yellowstone National Park as the world's first national park (National Park Service 2007). From the 1890s there was an ideological shift in most African colonial countries towards the creation of national parks based on the Yellowstone model. This became the accepted mode of managing nature (Robbins 2004).

The 1890s saw a proliferation of national parks the world over. Wherever a national park was created, people were separated from nature; in some instances this involved the eviction of people who had been resident in those areas as hunter-gatherers, thereby preventing consumptive use by these people and their neighbours (Brockington and Igoe 2006; Cernea and Schmidt-Soltau 2006; Geisler 2003; Vangen 2009). In essence a fence was constructed around such a protected area, and those attempting to trespass were fined or even, in the more extreme situations, shot on sight. The approach came to be known as the "fences and fines" approach but it has a host of other pejorative names, such as "fortress conservation". This became the conservation paradigm for much of the twentieth century (Hutton et al. 2005).

However, archaeological evidence now shows that many of the forested areas that may be construed as pristine are actually cultural landscapes with a long history of human habitation and use (e.g. see Gomez-Pompa and Kaus 1992; Woodroffe et al. 2005). For example, cultivation in central African forests started more than 5000 years ago (Clist 1989; Phillipson 1985). The ontological characterisation of "pristine" nature has been challenged by historical and political ecologists who have pointed out its constructed character (e.g. Neumann 1998; Robbins 2004). Gomez-Pompa and Kaus (1992:273) hold

that this conception of “wilderness as the untouched or untamed land [is] mostly an urban perception, the view of people who are far removed from the natural environment they depend on for raw resources”.

Nevertheless, the dominant idea in conservation history has been to reserve space for natural flora and fauna separately from humanity. When conservation started in Africa in the 19<sup>th</sup> century, the leading conservationists were foresters with a philosophy that “the public good was best served through the protection of forests and water resources,” emphasising “even if this meant displacement of local communities” (McCracken 1987:30). These conservationists or scientists tended to look at the forest ecosystems through the lenses of their own training. It is ironic that in some instances the protection and indeed conservation of wildlife in Africa was mainly driven by European hunters (Adams 2004).

## **2.2 Evolution of the conservation strategy**

### **2.2.1 Emergence of community conservation**

The “fortress conservation” approach gradually lost dominance and was increasingly challenged because it excluded local people. Local people who had been evicted increasingly voiced their concerns and were supported by a growing number of human rights activists. However, as Hutton et al. (2005) note, in its own self-interest the conservation constituency behind fortress conservation correctly anticipated that their paradigm could not prevail in view of local resistance, particularly in newly independent countries. This precipitated an ideological shift in conservation policy to take into account the inclusion of local people.

The new paradigm rapidly won over many converts. Hutton et al. (2005) give four reasons for this.

- i. By combining nature management with sustainable development, the paradigm was in consonance with the political and policy commitment to development as

- enshrined in the 1987 Brundtland Report and the 1992 UN conference on Environment and Development;
- ii. “It drew on the rediscovery of idealist and romantic ideas about the community ... as an alternative to the state as a means of achieving positive change”.
  - iii. It was in keeping with and borrowed from a shift in development discourses from “top-down” to “bottom-up” approaches.
  - iv. There was perfect fit with the renewed interest in the position of markets in bringing about development.

### **2.2.2 Back to the barriers**

By the 1990s the alternative “fortress conservation” strategy had begun to regain salience among conservation biologists who challenged the effectiveness of community-based conservation (e.g. see Redford 1991; Redford 1992). The late 1990s saw a number of publications demonizing community conservation approaches and calling for fortress conservation. These include *Requiem for nature* by John Terborgh (1999), *Myth and reality in the rain forest* by John F. Oates (1999), and *Parks in peril: People, politics and protected areas*, edited by Katrina Brandon, Kent Redford and Steven Sanderson (1998).

In 2003, the World Parks Congress established two PA categories (culturally modified landscapes and managed resource areas) to accommodate people within PAs. But advocates of strictly protected “people-free parks” openly condemned this. Rabinowitz (1999) and Terborgh (1999) view such efforts to sustainable use as “little more than wishful thinking”. For Locke and Dearden (2005) the vision of humanised PAs as in the two categories is recipe for a biologically impoverished planet, as in Redford’s (1992) infamous “empty forest syndrome”.

There have been arguments and counter-arguments over the years, but it is increasingly accepted by scientists that conservation requires some sacrifice from – but not of – the human species; the human species does not need welfare benefits that come at the

expense of conservation as the long-term beneficial effect of such cannot be guaranteed. As Brockington and Schmidt-Soltau (2004:140) warn, “failure to strike the right balance between conservation and development is dangerous to conservation, and quite possibly deleterious to human development”.

### **2.3 Conservation and neo-liberalism**

The enterprise of conservation has from its very start, from the founding of the Society for the Protection of the Fauna of the Empire (SPFE), been driven by partnerships between actors with different interests (e.g. see Adams 2004; Brockington et al. 2008). It costs money to protect nature, and this necessitates some connection between conservation practitioners and actors with money. Markets have thus been introduced into conservation and there has been shift to a paradigm “in which economic growth and big business increasingly are presented as essential to successful biodiversity conservation and a sustainable future for our planet” (Igoe et al. 2009:4). This has been referred to in different ways, such as “green neoliberalism” (Goldman 2005) and “neoliberal conservation” (Igoe and Brockington 2007). The main argument here is that the value added to nature through various market mechanisms can be shared with the local people to directly improve their livelihoods; this will in turn provide them with incentives to protect global biodiversity. Additionally, this will help parks pay their own way in current context of the downgrading, downsizing, and degazettment of protected areas (e.g. see Mascia and Pailler 2011). In short, it is envisaged that this will deliver win-win outcomes for both the local people and conservation.

### **2.4 Conservation as “green grabbing”**

Markets have become central in nature management. “Across the world, ecosystems are for sale” (Fairhead et al. 2012:238). The sales are prompted by and made in the name of serving environmental ends. However, this usually has two connected outcomes; the local former users of the ecosystems lose access to ecosystems or resources, whereas capital usually accumulates in the hands of the external actors in the “primitive accumulation”

fashion once described by Marx (1976). Since this appropriation is carried in the name of promoting environmental or “green” ends, it has rather pejoratively been referred to as “green grabbing”. Presentations of conservation as green grabbing can be found in, for example, Kelly (2011) and Benjaminsen and Bryceson (2012). As Kelly (2011) points out, ecotourism is one of the main tools used in conservation practice to drive green grabbing. Restrictions that apply to local people are justified by claims that existing local practices are detrimental to nature; at the same time local people are promised benefits through benefit-sharing arrangements. In practice, however, the benefits of ecotourism leak out of the local economy (Benjaminsen and Bryceson 2012).

## **2.5 Actors in the protected area strategy**

There are five main categories of actors in the protected area strategy. These are (i) the local people living with, on or close to what is protected; (ii) the sovereign states within which the protected resources are located; (iii) international conservation bodies; (iv) international aid donors; and (v) recently, the tourist industry, that seeks to obtain income from the whole enterprise.

### **2.5.1 Local people**

Protected areas are social spaces that are connected to lives of local people living in their proximity in various ways (Murphree 2000). It is these people that the initial “fortress conservation” efforts sought to, and indeed did, separate from the reserved areas (Neumann 1998; Robbins 2004). This is in contrast to the currently dominant win-win discourse that positions local people as key actors in the PA strategy, arguing that communities that become involved in conservation as local participants, and are net beneficiaries or “winners” from conservation initiatives, will help these initiatives to reach their stated aims. However, local people are not a homogeneous unit (Agrawal and Gibson 1999). Usually there are differences in terms of, for example, ethnicity and education background, and interests and power wielded. All of these factors influence the nature and extent of participation by local people in conservation, and also their ability to secure conservation benefits (Ribot and Peluso 2003; Sandbrook and Adams 2012).



### **2.5.2 Sovereign states**

From the first conference on the preservation of wildlife in Africa, held in 1900, active participation and collaboration between sovereign states has been a key means of securing international conservation action (Adams 2004). In particular, this has been through the signing of treaties. A particularly important treaty was the Convention on Biological Diversity (CBD) in which signatories commit themselves to supporting conservation. For example, at the 2004 Conference of the Parties to the CBD, the 188 representatives agreed to establish and maintain “comprehensive, effectively managed, and ecologically representative systems of protected areas” (Dudley et al. 2005:1). Sovereign states usually operate through national bodies, line ministries and local governments. In Uganda, these are the Uganda Wildlife Authority (UWA), the Ministry of Water and Environment, and different levels of decentralised government. These may have supportive or antagonistic relations depending on their strategic positions with regard to using conservation to further their interests. But in general, state actors are key in conservation efforts as they bring power of sovereignty and “legitimacy” (Mbembe 2001).

### **2.5.3 International conservation bodies**

Alongside nation states, international conservation bodies are important players that celebrate, facilitate and in some instances drive the PA strategy. First floated as potential players in 1909 at the Paris International Congress for the Protection of Nature (Adams 2004), international conservation bodies have now become so closely identified with conservation or wildlife that, for example, the mention of a Panda immediately brings to mind the WWF, at least among the conservation conscious. Some of the active international conservation bodies in Africa include the World Wide Fund for Nature (WWF), the African Wildlife Foundation (AWF), the International Union for the Conservation of Nature (IUCN), the Wildlife Conservation Society (WCS), and Fauna and Flora International (FFI) (Brockington et al. 2008).

These bodies wield great persuasive and, it might be argued, coercive power to influence and determine conservation policy at all levels, from the global to the national and the

local. Examples include a joint effort by the United States Agency for International Development (USAID) and the IUCN that saw Uganda elevate the protection status of six forest reserves to national parks between 1991 and 1993 (USAID 1991), and persuasion by the Wildlife Conservation Society and Conservation International that led to the Madagascar government's decision in 2007 to triple the land area under protection in that country (Brockington et al. 2008).

#### **2.5.4 International aid donors**

International aid donors have increasingly become key actors in conservation in developing countries. Their power derives from their ability to provide the financial resources needed by governments in these countries. For example, USAID was instrumental in the elevation of the protection status of six Ugandan forest reserves to national parks in the period between 1991 and 1993. This was effected through an arrangement in which the Ugandan government was provided a US\$ 30 million grant for PA management and rehabilitation (USAID 1991). The World Bank through its Global Environment Facility (GEF) also established a US\$ 4 million Conservation Trust to support park management and local development around the country's two Gorilla National Parks (i.e. Bwindi and Mgahinga) (Dutki 2003). These partnerships continue and recently the World Bank and the GEF extended US\$ 36 million (in grants and loans) to a Protected Areas Management for Sustainable Use (PAMSU) project. Ecotourism, within a neoliberal context, is identified for support as a main contributor to sustainable use (World Bank/GEF 2002).

#### **2.5.5 The tourist industry**

A couple of decades ago PAs were to a large extent an object of interest for ecologists or natural resource managers. They have now become arenas of action or interest to many actors. There is a private sector or tourist industry that constitutes a powerful group as owners of, for example, hotels and other tourism companies located next to or within protected areas. In some instances these have created private community partnerships, and claim that their engagements deliver significant benefits to the local people.

## **2.6 Establishment of Bwindi Impenetrable National Park**

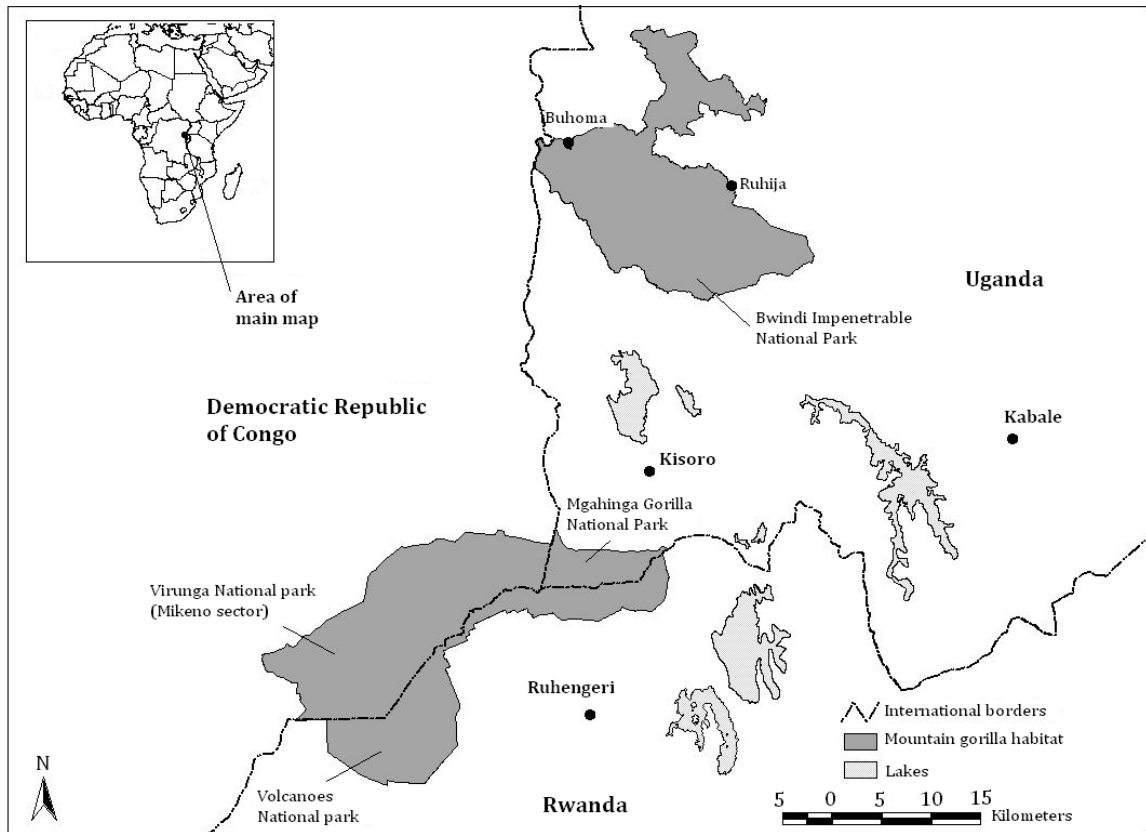
As is the case with most PAs in Africa, the initial reservation of Bwindi is tied to the activities of European hunters, particularly through Edward North Buxton's creation of the Society for the Preservation of the Wild Fauna of the Empire (SPWFE) in 1903. After years of hunting game in Africa, many European hunters became worried that excessive and/or unsporting hunting was leading to the decline and disappearance of game in Africa.

Members of the SPWFE had travelled and shot game in Africa. Henry Seton-Karr stated in 1908: "We who know something of what may be going on in outlying regions wish to lose no chance of advocating, in season and out of season, and at the risk of becoming nuisances, all reasonable and effective game preservation" (quoted in Adams 2004:29). This is exactly what happened in the case of the conservation of the mountain gorillas: Africa's first National Park, the Parc National Albert (later named Virunga National Park) in the (then) Belgian Congo was declared in 1925 by a royal decree in order to preserve the mountain gorillas (figure 1).

There are several accounts of the origin of this idea, but Carl Akeley, who himself shot a gorilla family in 1921, seems to have been a central figure. He advocated for the establishment of the PA, arguing that "no other project of so moderate a size would render such valuable and lasting service to humanity and science as would the Parc National Albert" (quoted in Adams 2004:5). Parc National Albert was extended in 1929 and 1935, and the Belgian administration, having protected their mountain gorillas, urged their British counterparts to extend the same protection to the only other home of the mountain gorilla, which bordered on the volcanoes in Uganda, at that time a British protectorate.

In 1932 this area was designated as the Kasatoro and Kayonza Crown Forests (UWA 2001). In 1942 the two Crown Forests were unified as the Bwindi Impenetrable Central Crown Forest, and, in 1961, just before Uganda attained political independence, this was gazetted as a gorilla sanctuary. The introduction of the 1964 Forest and Game Acts by the

post-independence Uganda government resulted in dual management of the area by the newly formed Forest and Game departments, as both a forest reserve and a game sanctuary. In 1991, the area was gazetted as Bwindi Impenetrable National Park (BINP) and put under the management of Uganda National Parks (UNP). The wildlife statute of 1996 merged UNP and the Game Department to form the Uganda Wildlife Authority (UWA) which was given the mandate to manage all national parks in the country.



**Figure 1:** Map showing the location of BINP and the other mountain gorilla range parks in Uganda, Rwanda and the DRC (IGCP 2005 in Sandbrook 2006).

### 2.7 Conservation at Bwindi: The creation of a critical win-win case

Located in the Albertine Rift Valley, a region with high biodiversity as well as a large number of endemic species (Hamilton 1976; Shaw 2010), BINP is considered one of the

most biologically rich ecosystems on Earth and consequently Uganda's most important forest area in need of protection of biological diversity (Howard 1991). It has been identified by the IUCN as one of the most important forests to be conserved in Africa (IUCN 2011). It is a UNESCO world heritage site (IUCN 1994) because of its ecological qualities (as a home to endemic species), but, most importantly, because of the endangered mountain gorillas.

The species is identified as "critically endangered" (IUCN 2010), with only one other remaining global habitat in a nearby but separate mountain area of about 450 km<sup>2</sup> bordering Rwanda (the Volcanoes National Park), the Democratic Republic Congo (the Virunga National Park) and Uganda (Mgahinga National Park) (International Gorilla Conservation Programme 2010). Area protection at Bwindi is viewed as a success following an estimated increase of about 7% in the total population size of the area's flagship species, the mountain gorilla, between 1997 and 2002, and an increase of 12% between 1997 and 2006 (Guschanskia et al. 2009; McNeilage et al. 2006; Olupot et al. 2009). The gorillas were also found to be gradually ranging over larger areas (Blomley et al. 2010). In comparison, the population in nearly all other African great ape sites has been sharply declining for decades (Caldecott and Miles 2005). The ability of the area to provide ecosystem services has also improved (Kasangaki et al. 2006), despite a general global decline (Millennium Ecosystem Assessment 2005). This then is a success story in terms of biodiversity conservation – but what about the livelihoods of the local people who, prior to the area's protection, depended on the protected area and its resources through farming and other activities, most of which are outlawed by the current park legislation?

In general, the conservation constituency at Bwindi has not been blind to the plight of the local people. To improve the appeal of the protected area to local communities, a number of park outreach programmes have been implemented and steps taken to communicate with the local people (Blomley et al. 2010; UWA 2004). Bwindi is one of the first African protected areas to implement such pro-local-people strategies. Since the establishment of the national park, and continuing to the present, several international and

local NGOs have been and are working in the area to promote conservation and improve local livelihoods. In particular, since the area is a popular tourist destination, sharing tourism benefits with the local people is pursued for its potential for enhance “pro-poor tourism” (Ashley and Roe 2003; Ashley and Mitchell 2005) and “pro-poor conservation” (Roe and Elliott 2004) that can contribute to the twin goals of promoting conservation and poverty reduction.

The UWA adopted a PA revenue-sharing policy in 1994. It states:

The overall goal is to ensure that local communities living adjacent to PAs obtain benefits from existence of these areas, improve their welfare, and ultimately strengthen partnerships between UWA, local communities, and local governments, for sustainable management of resources in and around PAs. (UWA 2000:6)

Prior to the research of this thesis, authoritative presentations by International NGOs, especially by the WWF but also locally by the UWA, suggested that Bwindi might set an example for others of how a protected area could bring about a win-win result by advancing conservation efforts and developing local livelihoods. Thus, in this thesis Bwindi is regarded as constituting a critical case in relation to the win-win outcome scenario. If a case study yields evidence to support the argument that Bwindi is an example of a win-win outcome, then the case study may strengthen claims that win-win outcomes are possible. On the other hand, if the findings do not confirm these claims, it will weaken the argument. Either way, the results of such a critical case are useful.

### **3. Contemporary issues around protected areas and local people**

As elaborated in the above sections, protected areas and local people are two connected realities. This thesis analyses four contemporary issues regarding the relationship between the two, as outlined in the research questions. Below I give a brief introduction to each of these issues, further elaborated in the papers in the second part of the thesis.

### **3.1 Tourism revenue-sharing as a tool to benefit both local people and area protection**

It is recognised that the establishment of protected areas comes at a cost for the local people living in close proximity to these areas. This cost includes restricted access to the protected land area and its resources, damage caused by the protected wildlife to the crops and livestock of local people, as well as direct bodily harm to the local people themselves (e.g. see Brockington 2002; Brockington 2004; Brockington and Schmidt-Soltau 2004; Brockington and Igoe 2006; Emerton 1999; Ferraro 2002; Hill 2000; Igoe 2006; Mackenzie and Ahabyona 2012; Tweheyo et al. 2011). The magnitude of these costs varies from case to case, but if left unattended, this may lead to a deterioration of the livelihoods of the affected households. This is in itself undesirable, but an additional concern is that the affected people may develop negative attitudes towards conservation efforts. This may lead to actions or behaviour that is antagonistic to conservation, resulting in a lose-lose outcome (Adams 2004).

*Ex post facto* compensation schemes have been tried in several instances, especially in North America and Europe, but conservation literature generally shows that these are very problematic (Hoare 1995; Nyhus et al. 2003; Schwerdtner and Gruber 2007). The preference now seems to be for *ex ante facto* compensation schemes that entail advance payments for expected damages. Given the financial constraints within which most wildlife management schemes operate, especially in the developing world, the ability of the biodiversity within protected areas to attract tourists is increasingly viewed as a major rationale for, and as an important instrument for, maintaining protected areas (Balmford et al. 2009). It is envisaged that the sharing of tourism revenues with the local people will limit their costs and demonstrate the economic usefulness of protected areas, so that the local people will in turn support conservation initiatives, delivering win-win outcomes for both conservation and local people.

Tourism revenue-sharing is thus the prevailing policy at many protected areas in Africa. This applies to all the Eastern African countries. For example in Kenya and Tanzania about 15% of the tourism revenues (at least in theory) go to the local people (Honey

1999). In Ranomafana National Park in Madagascar, management shares the revenues from the park equally with the local people (Peters 1998). In Uganda, park management remits 20% of the park entry fees to the local communities (UWA 2001). The amounts involved vary from park to park.

However, evidence regarding the effectiveness of such policies in enhancing rural livelihoods is mixed (Kellert et al. 2000; Mehta and Kellert 1998; Parry and Campbell 1992). Nevertheless, tourism revenue-sharing is still regarded a potent tool in the arsenal of contemporary conservation efforts. With regard to mechanisms that can best deliver conservation, market-based mechanisms (such as tourism and the associated revenue sharing) were given centre stage at the Fourth World Conservation Congress hosted by the IUCN in Barcelona (Brosius and Campbell 2010). In almost all situations the logic behind the win-win outcomes argument seems unassailable. In this thesis we investigate the extent to which tourism revenue-sharing at Bwindi promotes this win-win outcome (conservation and benefitting local people). Bwindi is an interesting case with a lot of potential for delivering on these twin-objectives given the vibrant gorilla-based ecotourism. Each foreign tourist pays US\$500 for about an hour of seeing a mountain gorilla family.

### **3.2 Rural livelihoods at the boundary of protected areas**

The linkage between protected areas and the livelihoods of the local people in their proximity is much debated. On the one hand, some actors are critical of the “fences and fines” approach on the grounds that it impacts negatively on the livelihoods of the communities in proximity to the PA, It does this by restricting access to protected area resources; wildlife also causes damage to both crops and people; and generally a low share of park benefits actually reaches the local people (Cernea and Schmidt-Soltau 2003). For example, around Mikumi National Park in Tanzania, Vedeld et al. (2012) report that the benefits the local people derive from the park are “insignificant in relation to the direct costs accrued by the park” (p.10). This is “operationally unrealistic” and “morally questionable” (Wilshusen et al. 2002). On the other hand is a set of actors that



proposes that the issues of local livelihoods or rural poverty should not be linked to conservation (Terborgh 1999).

However, a currently dominant approach finds many moral and practical arguments in favour of linking protected areas or conservation with rural livelihoods of local people.

(i) Investing in conservation has the potential to benefit livelihoods or reduce poverty; (ii) Addressing livelihood concerns can generate increased support for conservation; (iii) Improving people's livelihoods or reducing poverty is a global imperative that requires the active involvement of all sectors including, if not especially, conservation – particularly since some 1.6 billion people rely on forest resources for part if not all of their livelihoods (Roe and Elliott 2006). It is posted that protected areas should, at the very least, in no way constrain people's livelihoods.

At many PA sites, an array of initiatives have consequently been implemented to benefit local livelihoods (Adams and Hutton 2007; Roe and Elliott 2006). Major conservation NGOs (e.g. the Wildlife Conservation Society, African Wildlife Foundation, World Wide Fund for Nature, and Conservation International), governmental officials in the wildlife sector in Africa, and development donors all claim to involve local people in the management of protected areas and argue that local people are net beneficiaries at many of these sites (Brockington et al. 2008). However, critical scholars argue that in many cases this involvement and beneficiation rarely goes beyond a repackaging of the “fences and fines” approach (see Adams and Hutton 2007). As such, the actual impact of protected areas on local people's livelihoods remains in dispute.

### **3.3 Protected area costs and benefits, and attitudes towards conservation**

As we have now seen, the establishment and continuation of protected areas generates different costs and benefits for local people. These relate to their livelihoods, culture, security, and access to public and environmental services (Dixon and Sherman 1991). Different people will be affected in different ways, and the manner in which these costs

and benefits are allocated will often influence people's attitudes towards the protected area. It is essential that the benefits match the size and nature of costs (Emerton 2001).

Those responsible for the governance of protected areas at many sites now recognise the importance of monitoring and attending to the allocation of park costs and benefits, and they acknowledge the effect on the attitudes of the local people towards conservation (Allendorf et al. 2006; Arjunan et al. 2006; Gillingham and Lee 1999; Weladji et al. 2003). This has not come about by chance, but is a response to evidence of the importance of attending to the responses of local people.

Understanding the allocation of costs and benefits and the importance of local attitudes is vital in managing PA/people relations (Allendorf et al. 2006; Hill 1998; Weladji et al. 2003). After all, "attitude change is often the only tool available to conservationists when approaches such as regulation are ineffective" (Waylen et al. 2009:350). In this respect, attitudinal studies are increasingly used to evaluate local perceptions of PAs so as to develop appropriate management strategies (Parry and Campbell 1992; Røskaft et al. 2007; Songorwa 1999). Although it is now accepted that favourable attitudes may not directly translate into conservation-friendly behaviour (Waylen et al. 2009), psychologists and conservationists agree that attitudes are a useful predictor of behaviour (Ajzen 2005; Waylen et al. 2009).

In this thesis local people's attitudes towards the park are linked to the benefits they enjoy and the costs they suffer. The degree to which the benefits generated by the park are allocated to the same individuals that bear the costs is assessed to see if these benefits act as a form of consolation for damages suffered; the effects of park-related costs and benefits on local economic inequality are investigated by comparing the economic characteristics of the groups to whom costs and benefits are distributed; and it is examined whether conservation and development initiatives around Bwindi – and the benefits and costs they have generated – have had any significant effect on the attitudes that locals possess towards the park.

### **3.4 Narratives and discourses regarding protected areas and local people**

In the conservation discourse, the importance of protected areas cannot be over-emphasised. This has a very long history. Writing about Africa, the British conservationist and founder of the SPWFE, Edward North Buxton, noted in 1902 that “the maintenance of reserves, or sanctuaries, is the first essential for the preservation of various species”. The same line of thinking has led to the establishment of PAs; Adams (2004) calls this the “dominant ‘big idea’ of conservation throughout the 20<sup>th</sup> century”.

A century after Buxton’s policy narrative, the website for the 2003 Fifth World Parks Congress observed that PAs were a “cornerstone of global conservation efforts ... vitally important to our individual and collective futures” ... [and] the world’s most cost effective tool for biodiversity conservation” (IUCN 2003). The narratives by Buxton, by his colleagues in the SPWFE and by other contemporaries all share an understanding of nature as under threat from humans, and this has sustained a preservationist discourse which prioritises the protection of nature. The establishment and maintenance of PAs are an outcome of this discourse and their proliferation testifies to its power.

Humans create, maintain and transmit meaning about their lives and their environments through storytelling. The stories that people tell are a revelation of their social and individual realities. And these stories are an excellent source of insights into issues that are considered relevant by the person telling the story. An example is the above story on wildlife as was presented by Buxton and his contemporaries. It is acknowledged that synthesizing these stories in what has come to be known as narrative analysis has the “power to capture certain truths and experiences in ways that other modes of explanation and analysis such as statistics... via conceptual abstractions cannot” (Scholes et al. 2006: 286).

In this thesis, narrative analysis is important for an understanding of how conservation is experienced by the local people. Given that Bwindi constitutes a critical case, these findings have wider implications for the on-going debate on how to balance conservation

and development goals. This debate is typically about the social impact of conservation, and should ideally start with the situation as seen and felt by the actors involved – the local people themselves; reflected in their narratives. The importance of local people’s narratives in general is well elucidated by Roe (1994; 1999).

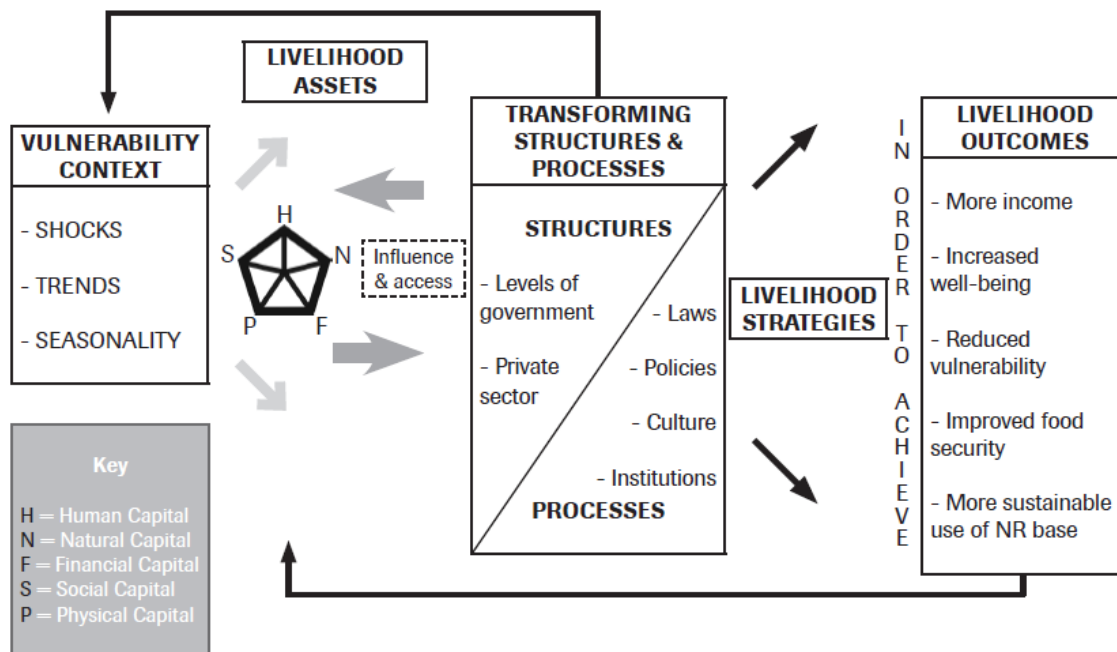
## **4. Understanding the relationship between local people and protected areas**

The local PA-based opportunities and constraints with regard to local access to assets typically influence the kind of strategies that people can resort to; different strategies result in different livelihood outcomes. Investigations into people’s livelihoods almost inevitably focus on how sustainable these livelihoods are. The PA costs, benefits and consequential livelihood outcomes form an important component of the stories or narratives of these people as park neighbours. Therefore in understanding the relationship between local people and protected areas this thesis uses the sustainable livelihoods framework and combines it with a narrative analysis.

### **4.1 Sustainable livelihoods framework**

A sustainable livelihoods framework (figure 2) is a useful framework for understanding rural livelihoods. Initially suggested by Chambers and Conway (1992), was expanded by the Department for International Development (DfID 2000) and has been a popular tool for the analysis of rural livelihoods in development studies, and in development policy and planning (Ellis 2000). A livelihood-based assessment of the impact of an intervention examines the current livelihood strategies of the local people, their achievements and priorities; and how these are influenced by the conservation intervention; it also examines how the responses of different categories of people differ with regard to such impacts. As a result, both positive and negative livelihood impacts, as well as the motives for the participation or reaction of different categories of people, can be identified.

The three main components of a livelihood are internal factors in the form of livelihood assets, livelihood strategies and livelihood outcomes. These are affected by the following external factors: (i) the degree of vulnerability and (ii) the influence of transforming structures and processes.



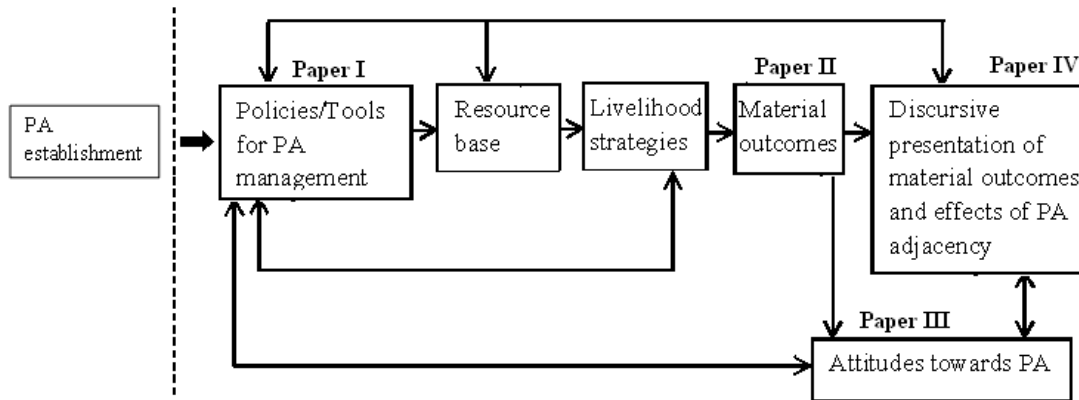
**Figure 2:** Sustainable livelihoods framework

Source: Department for International Development (DfID) (2000).

Livelihood assets are the household's stock or capital that it can utilise to earn a living. Livelihood strategies are the attempts by a household to transform the assets over which it has control or to access or construct a portfolio to survive, and where possible improve its standard of living. Typically households adopt a diversified mix of activities, combining on-farm with non-farm and off-farm activities (Ellis 2000). Additionally, households with access to forested areas often engage in the collection of environmental resources.

When a PA is established, local people lose access to the protected land and their opportunities to extract natural resources from, or farm on, the protected land are limited; this has obvious implications for livelihood outcomes. This is thus a useful model to use

in analysing the critical case of Bwindi in terms of its relationship with the local people and its effect on local livelihoods. However, a simpler articulation (Figure 3) can be made to help anchor the different but interconnected studies of this thesis.



**Figure 3:** A simplified framework for understanding the political economy of conservation costs and benefits

When a protected area is established, as in the case of Bwindi, the ability of the local people to access some of the assets, particularly natural capital (in terms of the protected land and its resources) is modified by, among other factors, government policies and the organisations that are entrusted to manage the park and the associated benefits. This typically includes government policies regarding the distribution of PA costs and benefits as well as the powers and responsibilities of state bodies and local government in this regard.

A principal instrument for the distribution of park benefits at Bwindi is tourism revenue-sharing, since Bwindi is a popular tourist destination. This is guided by the Ugandan Local Government Act which specifies the role of the local government in this process. This is investigated in paper I. Access to these benefits occurs within a local context of shocks and vulnerabilities. As far as the PA is concerned, these relate to problems of

wildlife damage and restricted access to park resources. The incidence and distribution of PA costs and benefits (the subject of paper III) affect any given household's resource base. Given its resource base, a household will consider different activity combinations, resulting in different material (or livelihood) outcomes (paper II). This will be reflected in the discursive presentation of the material outcomes and what it means for local people to be neighbours of the PA (paper IV).

The framework in Figure 2 captures these main points and, importantly, shows the progression and connectivity of the papers that jointly constitute this thesis. Perhaps I should mention that there are more interconnections than are presented. Some are omitted and some though shown are not elaborated in the above scheme for the sake of brevity. For example, through (strategic) presentation of the material outcomes of the PA, particular households or communities may be rewarded with preferential treatment when potential beneficiaries are screened, thus broadening their asset holdings and influencing the material outcomes. Discursive presentation of the material outcomes and the effect of proximity to the park may feed into policy when the government or PA management responds to local concerns. Discursive presentations are examined by drawing on the concepts of *narrative* and *discourse* elaborated below.

## **4.2 Narrative and discourse as concepts**

Narrative is a term with various definitions. For example, in linguistics the term is defined with an emphasis on language, but here we take a social science approach in emphasising the content of narratives. We see narrativity as the phenomenon that people tend to use in order to organise their knowledge and views in the form of stories. Following Svarstad (2009), we define narrative as a story that contains a course of action and involves one or more actors. Moreover, the actors may face different realities partly due to the differences in geographical scales but also differences in the normative and cognitive knowledge held about the phenomena. Thus different actors may have and tell different stories about a phenomenon. But in general, narratives constitute ways of narrating about aspects and concerns regarding the case in question, identifying values

and issues that interest the narrator as well as the preferred course of action. The course of action embodied by a narrative implies that events are connected together with claims of causality (Elliott 2005; Polkinghorne 1995). Related to narrative is the concept of discourse.

Like narrative, discourse is applied to an array of different concepts. On one hand are linguistic and sociological discourse perspectives (Johansson 2005), and on the other, the everyday application of discourse as “talk or discussion” (Svarstad 2002). This thesis takes a sociological perspective and defines discursivity as an aspect of the social organisation of knowledge so that presentations of a topic are often dominated by one, or a few, discourses. Thus, in this thesis discourse is seen as constituting a manner of perceiving and presenting a particular issue that is produced and reproduced by more than one person. Each discourse involves assumptions, claims and arguments. Leading discourses create important frameworks for interpretation and presentation of specific issues, and political decisions and ways of handling the issues are influenced by these discourses (Adger et al. 2001; Dryzek 1997).

Following Benjaminsen and Svarstad (2008), in the context of this thesis “discourse” and “narrative” are both seen as the shared ways in which the conservation of the mountain gorilla and what it means for the local people are understood and presented by the actors involved. But whereas a discourse here is a wider concept referring to the way the ontology of conservation of the mountain gorilla is socially constructed and interpreted, a narrative is (as Benjaminsen and Svarstad paraphrase Roe 1991) a story on conservation of the mountain gorilla, told by actors, “with a beginning, middle and end, or when cast in the form of an argument, with premises and conclusions”. Both “discourse” and “narrative” are creations of the actors but the discourse provides a structure within which a narrative is interpreted. Different actors might have different narratives that fit into different and often competing discourses. Interest in this thesis is in how villagers narrate about their situation as neighbours of a national park in which mountain gorillas are conserved.



## **5. Data and methods**

### **5.1 The case for inter-disciplinary and mixed-methods research in development studies**

“Development” and “development studies” remain elusive concepts (Lund 2010). The latter, as a discipline, can generally be seen as an attempt at understanding the uneven and inequitable outcomes of capitalism (immanent development) and the effectiveness of intentional interventions (imminent development) in amending the culpabilities associated with this kind of “progress” (Cowen and Shenton 1996). Development is thus a dynamic process of fundamental social change and it seems likely that this process can best be understood through inter-disciplinary insights. This includes, but is not limited to, the disparate disciplines of geography, sociology, economics, and political science. Each discipline has its preferred methods, stemming from the particular kind of research questions it concerns itself with. Consequently, an inter-disciplinary study often entails a mixed-methods approach, or “critical methodological pluralism”(Olsen and Morgan 2005), with the choice of methods depending on the subject of interest (Danermark et al. 2002). This is the approach adopted in this thesis.

### **5.2 Research design**

The research methodology of this thesis was guided by case study design. This draws on the design’s salience in (i) underscoring the importance of context (Tsoukas 1989); and (ii) recognising the usefulness of intensive research for generating explanatory knowledge (Sayer 2000).

Case study research is versatile and has an extensive history (e.g. see Yin 2009). This notwithstanding, case studies have also been criticized to an extent. In particular, single case studies have been attacked for lacking representivity and for a consequential inability to be generalized to other scenarios. However, the purpose of all research is not so much to generalize as to explain phenomena. A single case study of the Cuban missile crisis by Allison (1971) demonstrated the explanatory power of case study research.

Similarly Burawoy's famous study of labour processes (1979) is a single case study. Intensive research, as conducted in single case studies, has proved invaluable in explaining similarities and differences in terms of causal mechanisms (Sayer 1984).

### **5.3 Selection of sample villages**

The local government structure in Uganda is a five-tier system, starting at the village level, and rising up through the parish, sub-county and county levels to the district level. Park management defines park neighbours as people resident in a parish that shares a boundary with the park, and further identifies the residents of villages that share a boundary with the park as being most likely to incur park-related costs (such as those that result from crop raiding); they are therefore more deserving of a share of park benefits. These benefits include the direct sharing of tourism revenues, but other benefits (such as participation in Multiple Use Zones or social infrastructure) are also open to nearby villages that do not share such a park boundary. Sample households were selected from the first parish bordering the park, from eight villages directly bordering the park and from three villages within a frontline parish that does not share a park boundary. The actual number of villages selected was a product of resource limitations.

### **5.4 Selection of sample households**

Both qualitative and quantitative methods of assessments were employed in the case study and different selection criteria were used.

#### **5.4.1 Qualitative assessments**

Within each village some interviewees were randomly selected. Thereafter a snowball method was applied with the aim of collecting material about the diversity of types of narratives that people employ when narrating about the park and their living adjacent to it. In each village, interviews were continued until a saturation point (Guest et al. 2006) had been reached regarding each type of narrative. In total, 60 villagers living adjacent to Bwindi were interviewed. The approach was appropriate since the strategy was not

intended to achieve representivity in terms of the percentages of interviewees who presented various narratives in comparison to the total population or various parts of the population. More details are given in Paper IV which is based on these assessments, but the data from these interviews also provided an interpretive understanding of the experiences of the local people reported on in papers I, II, and III and constitute the phase I of data collection in Paper I.

Purposeful selection of key informants was also conducted as elaborated in the section on data collection below.

#### **5.4.2 Quantitative assessments**

To enable statistical inference, a total of 141 households were randomly selected from eight villages that shared a boundary with the park, while 49 households were selected from three nearby villages that did not share a boundary with the park. Within each sample village, we targeted at least 15 households for semi-structured individual household (HH) interviews. This is a representative number, but it also suited our limited resources, given the length of the questionnaire. Papers I, II, and III are based on these assessments.

### **5.5 Data collection**

The thesis used complementary primary and secondary data collection techniques. The former is regarded as more reliable as it is collected by the researcher, but the latter may provide crucial information not otherwise accessible. However, it is usually useful to combine both methods. This may help test the validity of the data gathered and may afford the researcher the opportunity to check the reliability of information gathered in interviews (Bryman 2001).

#### **5.5.1 Secondary data**

Written sources on Bwindi were gathered and systematically analysed. This included policy documents and reports of the different units of the Uganda Wildlife Authority (UWA), its partner organisations such as the WWF, consultancy reports and published

journal articles. These were very useful sources. For example, the identification of the win-win and traditionalist narratives on Bwindi in paper IV is based on the material thus collected.

### **5.5.2 Primary data**

Before conducting the interviews, we clarified with each respondent that the purpose of the study was purely scientific and academic, and had no connection with the UWA or any of the organisations working in the area. Interviewees were also assured of anonymity and confidentiality. I carried out the qualitative assessments myself, and trained three research assistants to conduct part of the quantitative assessments. Detailed descriptions of the methods used are given in the individual studies. Here I only provide a brief overview of these methods.

#### *5.5.2.1 Unstructured interviews*

Unstructured interviews sought to establish how villagers narrated their situation as neighbours of a national park in which mountain gorillas are conserved. Local people were asked open-ended questions such as: *What can you tell me about the park and its relationship with you as a park neighbour?* I avoided interrupting with further questions so as not to disturb the respondents' narrative flow or influence the evidence they provided.

#### *5.5.2.2 Semi-structured interviews*

Semi-structured interviews were conducted to complement the unstructured interviews, with the aim of making sure that the interviewee could comment on the main aspects of externally produced narratives on Bwindi that they might not have already mentioned themselves. In the analysis for paper IV, these two kinds of the interview are separated, as the first provided the most genuine insight into what each interviewee regarded as important.

### *5.5.2.3 Structured interviews*

Structured interviews with individual household were conducted in which every household was asked a standardised set of structured questions regarding park-related costs, the receipt of park-related benefits, and attitudes to the elevation of Bwindi from forest reserve to national park. Based on a recall method for the years August 2008 to August 2009, an estimate was made of the sample households' net income (cash and subsistence). In addition, we mapped household access to land, labour, and capital assets. We collected information on socio-economic characteristics, such as household size, age and gender, and the level of education of the household head. We inquired about the time needed to walk to the park boundary. From a preliminary analysis, crop raiding emerged as a key PA cost. A deeper understanding of this phenomenon was sought through a follow-up study conducted in January and February 2012. This study selected 100 farmers who had incurred damage from crop raiding in the year 2011.

### *5.5.2.4 Key informant interviews*

Key informant interviews were conducted with local political leaders, chairpersons of resource user committees, park staff, with officials of the Uganda Wildlife Authority (UWA) and of the National Environment Management Authority (NEMA), and with representatives of the conservation NGOs (the International Gorilla Conservation Project, Bwindi Mgahinga Conservation Trust, the Rights, Equity and Protected Areas Programme (REPA) of CARE Uganda and CARE Denmark). Here knowledgeable people were sought to provide further insights into different aspects of the relation between local people and protected areas. Most of the informants were identified through snowballing. At the interviewees' discretion, some of the interviews were conducted in Rukiga (the local language) and others in English.

### *5.5.2.5 Participant observation*

Observations were made by participating in local meetings and regional workshops, as well as in some tourism experiences such as gorilla tracking and visiting tourist facilities.

This method allowed the researcher to observe behaviour and actions in both formal and informal settings; it helped to uncover details that might have been missed by survey methods and this proved very useful for data triangulation.

## **5.6 Reliability and validity**

Social science places a high premium on the quality of its research. The usual criteria are reliability and validity. Reliability refers to the stability of the data and whether repeated applications of the research methods yield consistent results under similar conditions. Validity relates to how much faith we can have in the causal relationships examined (Bryman 2001). Particular attention was paid to meeting both criteria.

As far as reliability is concerned, I conducted all the qualitative interviews myself. All these interviews were recorded and later transcribed. People in the investigated villages speak Rukiga, which is my mother tongue. My position as a cultural insider offered me the practical advantage of command of the local language, thus reducing the possibilities of getting “lost in translation”. I also made a conscious effort to be sensitive and reflexive so as not to neglect aspects that would interest a cultural outsider for follow-up in interviews or discussions. With regard to the quantitative investigations, research assistants were thoroughly trained so that we shared a common understanding of the questionnaire. Prior to the interviews, a draft questionnaire was pre-tested. This allowed the assistants to become familiar with the questionnaire, and also provided an opportunity to apply and review the method. The main focus was on the respondents’ understanding of the questions and the problems encountered in answering the questions or recoding the responses. Reliability was also enhanced through the application of a multi-method approach and by triangulating the data.

On the other hand, validity is of two kinds; internal and external. Internal validity relates to whether the data supports the conclusions arrived at, while external validity relates to the extent to which the findings of the study can be generalized beyond the contexts of the research. The key challenge here was how to ensure random selection (for internal

validity) of representative samples (for external validity). Representative units (in the form of households and villages) were randomly selected, as described in the papers that follow. The emphasis here was on whether the sample units were accurate representatives of the total units within the case.

With regard to external validity, the thesis deals with a critical case. The usefulness of a critical case relates to the degree to which the findings corresponded with expectations. If expected outcomes are met this strengthens the claim that this is a critical case of; if this is not the case, then this claim is weakened.

The thesis is based on empirical material collected during field work in Uganda conducted over 13 months between September 2008 and January 2012.

## **6. Summary and synthesis of the main findings**

The debate on protected areas and local people has become increasingly complex. There is a strong body of critical literature that questions various aspects of conservation history, policy, and practice. The question is: “What are the social and ecological gains and losses that result from the changes that parks bring about, who experiences these gains and losses, and in what ways?” (Brockington et al. 2008:x). This thesis deals with this question by taking an alleged win-win case and examining the real social, political and economic gains and losses for the local people.

As this thesis shows, the alleged win-win case of Bwindi encompasses a range of interesting and disparate themes present in current conservation debates. These are elaborated in the findings of the four individual but interrelated studies that follow.

## **6.1 False promise or false premise? Using tourism revenue-sharing to promote conservation and poverty reduction (Paper I)**

Tourism and revenue-sharing with the local people is increasingly used as an instrument for maintaining protected areas while seeking to strengthen relations with local people (Balmford et al. 2009). Tourism revenue-sharing is increasingly being implemented at many protected area sites across Africa (Honey 1999; MacKenzie 2012; Peters 1998). It is often contextualized as “pro-poor conservation” (Roe and Elliott 2004) or “pro-poor tourism” (Ashley and Roe 2003; Ashley and Mitchell 2005). As the Ugandan revenue sharing policy puts it, the goal is to “ensure that local communities living adjacent to protected areas obtain benefits from the existence of these areas, improve their welfare, and ultimately strengthen partnerships between the [Uganda] Wildlife Authority, local communities and local governments for sustainable management of resources in and around protected areas” (UWA 2000:6).

The logic is evident, but such revenue-sharing arrangements, as the Bwindi case demonstrates, face a number of challenges. These limit the capacity of tourism revenue-sharing to deliver win-win outcomes. Paper I elaborates on these challenges, using Bwindi as a case study, and shows that many of these challenges are generic and can be found at other African sites. Some of the generic challenges relate to the scale of the revenues and to fallible distribution mechanisms.

A major problem is that the economic scale of these benefits is often too low to make a difference. The proportion set aside fails to meet local expectations. Whereas an average household reports an annual income of US\$1038, allocation from revenue sharing is US\$12 (or 1.2%) only. PA managers also recognise this problem, but claim that they struggle to meet other management needs which are funded from the same pool. More importantly, they are required to send the bulk of these revenues to UWA headquarters, where it is subject to more powerful competing claims. As Adams and Infield (2003) note in their evaluation of “who is on the gorilla’s payroll”, nearly a decade ago, “the politics of resource access and control extend[ed] well beyond the local level” (p. 185). Similar observations regarding the low level of local allocations have recently been made with regard



to Kibale National Park in Uganda (MacKenzie 2012) and to Mikumi National Park in Tanzania (see Vedeld et al. 2012). The choice between competing claims reflects priorities and conscious decisions by park management. For example, even in the face of these perennial limitations (Archabald and Naughton-Treves 2001), park managements in East Africa continues to prioritise spending on law enforcement rather than on community conservation. For example, only 3% of the entire workforce at Bwindi is in the community conservation unit while law enforcement accounts for 57%. For the financial year 2010/2011, budgetary allocation for community conservation was only 10% of the conservation area's total budget while law enforcement was allocated 28% (Kvalvik and Bitariho 2011).

Apart from the size of the funds made available, there are also challenges with regard to the distribution of these revenues; reflecting unequal power relations between the actors. On the one hand there is the decentralized framework within which natural resources are managed in most African countries. However, the local representatives are not fully accountable to the people they represent, and this gives rise to mismanagement of the revenues. Powerful actors tend to decide who receives what, in a system where local people have minimal influence – despite rhetoric of local involvement.

So, despite tourism revenue-sharing being an appealing concept, it is challenging to plan and apply effectively and proficiently. A more concerted effort geared at overcoming the identified political, economic and institutional shortcomings is needed. The problems have less to do with revenue-sharing arrangements as an ambition, and more to do with power-related political and also practical difficulties. However, this still has implications for conservation policies and practices. A clear message is that if such arrangements are to be relied on to deliver, they must be scaled up, secured by a transparent management and be subject to the control of legitimate local institutions.

## **6.2 Rural livelihoods at the boundary of a protected area (Paper II)**

Claims of win-win outcomes from protected areas for local people are usually made with reference to their livelihoods (Emerton 2001; Naughton-Treves et al. 2005; Salafsky and Wollenberg 2000). Conservation typically generates local costs through loss of access to land which has been set aside for conservation, along with its resources. Costs related to physical eviction are often contested, and the cost estimates of local people are often challenged. As paper IV observes, in agreement with Adams and Hutton (2007:158), “population displacement is a real and in many instances a significant problem associated with PA establishment”. Given that rural people are often dependent on land-based livelihoods, as in the case of Bakiga farmers and also Batwa (former hunter-gatherers) at Bwindi, these evictions disrupt local lives in capital ways.

In addition, the costs associated with park establishment recur. On one hand, these relate to requirements for local people to restrict their activities vis-à-vis the protected natural resources. For example, collection of park resources at Bwindi is permissible in only 20% of the park, and outside the gorilla ranges. Here people may collect, but only up to, 1% of the available biomass of the allowed plant resources. An even greater cost relates to wildlife damage. In this study we find that individual victim households may lose up to 26% of their total annual income as a result of wildlife damage. Fighting wildlife damaging is largely left to the local people supported in some areas by the local HUMAN GOrrilla conflict resolution (HUGO) committees.

A review of the literature reveals that wildlife damage is the most debilitating of PA costs in Africa (e.g. see MacKenzie 2012; Vedeld et al. 2012). However, at almost all the African sites, no strategies exist for direct compensation. The arguments by management reflect those found in the literature: implementation of such a mechanism is said to be

- (i) cumbersome,
- (ii) expensive (Hoare 1995; Schwerdtner and Gruber 2007), and
- (iii) counter-productive as farmers expecting compensation may lose incentives to fight crop raiding (Nyhus et al. 2003).

However the magnitude of the problem and the poverty levels in most local communities adjacent to African PAs warrant a conservation/environmental justice approach.

In the absence of *ex post facto* compensation for damages caused by the park and its wild life, *ex ante facto* conservation and development may help to compensate local people for the damages incurred. However, such measures must be accurately targeted so that they benefit those suffering the costs (this is investigated in paper III). Compensation should to some degree match the actual costs to the affected households and must be increased significantly if a win-win outcome is to be achieved and perceived as such. Although we have not conducted a fully-fledged cost-benefit analysis of the park in relation to the local livelihoods, the analysis conducted suggests that local people at present actually subsidise conservation to a large extent. The direct costs resulting from damage to agricultural crops alone by far outweigh the effect of benefit-sharing arrangements.

To conclude: whereas the role of PAs in contributing towards poverty alleviation is contested, it is at least agreed that conservation should not impoverish the livelihoods of those who live in close proximity to a park. As the case of Bwindi demonstrates, the local costs of conservation are often too high. But it is appropriate that the wider national and global communities that share of the benefits of PAs should take steps to minimise the associated costs. This suggestion is in agreement with Vedeld et al. (2012:11), who state: “There is a need for a debate over compensation as a right versus compensation as consolation”. Similar calls have been made elsewhere, and conservation practitioners need to act with a greater sense of social responsibility (e.g. see Winer et al. 2007) and take the situation of conservation victims seriously (Svarstad et al. 2012).

### **6.3 The costs and benefits of conservation: Consolation, inequality, and attitudes to Bwindi Impenetrable National Park (paper III)**

As has been shown in paper II, park neighbours incur significant costs. At most African PA sites no schemes for direct compensation exist; instead it is hoped that those who bear the cost will be compensated through the receipt of shared park benefits (this is partly discussed in paper I). Paper III assesses the degree to which park benefits are allocated to those individuals that bear the costs; that is, do park benefits act as a form of compensation for damages that parks cause? A significant positive association is observed between realization of “Development-Through-Conservation” (DTC) benefits and wildlife damage costs, suggesting the potential for a significant consolatory effect.

The targeting of DTC benefits, if preceded by an adequate estimation of likely damage and if undertaken on a sufficient scale, may represent a viable alternative to direct compensation for costs resulting from damage caused by wildlife. However, following the decline of the place-based Integrated Conservation and Development Projects that were popular in the 1980s and early 1990s (Wells and Brandon 1992; Wells and Brandon 1993), the flow of DTC benefits at most African sites has declined or stopped. Instead, individual household livelihood projects, such as the distribution of goats at Bwindi, are being implemented. However, in the case of Bwindi this form of distribution seems to lack compensatory potential, as it is not linked to costs incurred as a result wildlife damage. This can be attributed to inherent problems in the decision-making structure and the associated nepotism (discussed in paper I).

Sandbrook (2010) identifies the need for research to examine the distribution of park benefits. Accordingly, in Paper III we investigate the impact of park-related costs and benefits on local economic inequality by comparing the economic characteristics of the groups to whom costs and benefits apply. Crop raiding seems to occur evenly across all wealth categories, whereas fines for trespass are more prevalent among higher-income households, possibly because officials keep a keen eye on those who can afford to pay such fines. A range of benefits is examined, but the overall picture that emerges is that

the benefits tend to be allocated to comparatively better-off households – in terms of wealth, assets, or income.

There are two primary explanations for the differential distribution of benefits. In the case of tourism revenue sharing arrangements, this is because of inherent problems in the decision-making structure and the associated nepotism (discussed in Paper I). In the case of the DTC benefits, the differential distribution occurs for geographical reasons. The benefits are concentrated along radial axes, resulting in clustered allocation, so that a household that realizes one benefit is also more likely to realize other benefits – hence the differential accumulation of wealth. This runs the risk of creating local pockets of winners and losers, and compromises the park’s ability to contribute to poverty alleviation. Scaling up the low-impact benefit categories and targeting cost victims and the poor could bring benefits in terms of both compensation and the reduction of inequality.

The motivation for sharing PA benefits varies, but one factor that influences conservationists is the potential for the creation of favourable attitudes towards conservation among local people. There are improved attitudes towards the park: 78 percent of our respondents believed that Bwindi’s conversion to a national park was a good thing. Taken in isolation, we find that shared benefits are weak predictors of attitudes towards the conservation status of the area. This is possibly because of the low coverage of these benefits or their uneven spread, but this may also illustrate the difficulty of relying on any single initiative to generate favourable attitudes. The improved attitudes towards Bwindi among local people in the surrounding communities seem to have resulted from a set of complex effects. When aggregated into groups, all the benefits derived from the park have a significant effect. From a conservation viewpoint, this illustrates the usefulness of using of a range of incentives to promote conservation.

However, the effect of the benefits or costs on attitudes could be partly masked by the element of hope expressed in a narrative of ambivalence (paper IV). This hope is shared by most local people irrespective of whether they have been beneficiaries or victims of

park costs. Also, people have cultural values and norms which relate to sustainable resource use, and this may lead them (at least to some extent) to identify with the ideals of conservation.

#### **6.4 A local counter-narrative on conservation (Paper IV)**

In paper IV, a social science narrative analysis is used to examine how people who live next to a park describe their situation and how this compares with presentations of the same case by external actors. Presentations by the local park neighbours are dominated by a narrative of ambivalence that substantially deviates from both the win-win and the traditionalist narratives that external actors produce. This narrative of ambivalence encompasses positive attitudes to the existence of the park, but at the same time it includes disappointment at the limited economic benefits which the park has brought to its neighbours; it also expresses dissatisfaction at the lack of local influence in decision making.

In focussing on elements of local dissatisfaction, this ambivalence narrative is in line with the traditionalist narrative. The dissatisfactions are well-grounded and are supported by the socio-economic case studies of this thesis, reported in papers I, II and III. The disappointments reveal a situation in which villagers are dissatisfied with having to pay a high price for conservation: in particular, there are stringent restrictions on access to park resources, and local people derive limited benefits from revenue-sharing; local park-related employment opportunities are limited; there is insufficient compensation for animal damage; and there is little local influence on decision making. However, the ambivalence narrative significantly deviates from the traditionalist narratives by including the possibility of progression from the present situation, in the form of hope for a better future. The win-win narrative, on the other hand, provides a description of the present situation that contrasts with that given in the ambivalence narrative.

Narratives typically have an incontrovertible logic: as studies of environmental and development narratives on Africa have shown (e.g. see Leach and Mearns 1996; Roe

1999), the logic of these narratives is so powerful that they can provide justification for existing policy or for development action. However, a danger arises when these narratives are at variance with local realities. In the Bwindi case, policy decisions or development actions taken on the basis of the traditionalist narratives ignore the local element of progression (through hope for the future), which we see as holding the potential for the situation to be improved. On the other hand, policy decisions or actions based on the win-win narrative ignore sources of dissatisfaction and as such cannot serve local interests. Presentations by the local people need to be taken seriously.

## **7. Conclusion, policy recommendations and further research**

### **7.1 Conclusions**

This thesis has employed a mixed-methods approach to examine the nature and processes of allocation of conservation costs and benefits, and the associated material and discursive outcomes for local people. It studies Bwindi Impenetrable National Park, a case often presented in win-win terms in some circles (often national level or international, external actors) and we show that local narratives can deviate substantially from representations by external actors.

The findings also reveal weaknesses and challenges facing PA benefit-sharing arrangements; they reveal the salience of PAs in the livelihoods of neighbouring households, and they provide information regarding the dynamics of the allocation of conservation costs and benefits.

Benefit-sharing arrangements have often been relied on to justify and promote the establishment of protected areas in Africa by the international conservation community. This even applies to the on-going efforts to reduce emissions from degradation and deforestation (REDD), which are based on the premise of effective benefit-sharing arrangements. However, although the arguments for these arrangements are predicated on what would seem to be sound principles, critics have been sceptical of the ability of these

arrangements to actually deliver win-win outcomes. Moreover, benefits that do accrue may often increase local inequality through local elite capture.

The findings of this thesis provide support for these concerns. The local costs of PA establishment (in terms, for example, of physical evictions and restricted access to park land and resources) and maintenance (crop raiding by park animals) are very high. But there is a lack of appropriate compensation instruments. Instead, victims are thought compensated through the receipt of communal park benefits. In practice, and as a result of the many competing interests, only a limited share of these benefits is allocated to local people. Local people have little influence over the share of benefits that accrues to them. As in the case of tourism revenues at Bwindi, the state defines these resources as a national asset, and decisions regarding their distribution are made at national level. On the other hand, the associated costs, such as crop raiding, are treated as a local matter. Central governments have confirmed that natural resources on protected lands are valuable sources of income and, as examples from the rest of Africa demonstrate, governments are increasingly unwilling to cede powers over these resources to local people (Nelson and Agrawal 2008). If benefit-sharing and real involvement of local people is the true ambition, then carefully designed measures to secure decentralisation and devolution of power to the local people need to be implemented.

A direct cause of the local inability to influence decision-making is the prevalence of corruption in the distribution of the park benefits that accrue at the local level. Well-connected individuals, who are usually better off in terms of wealth and income, are more likely to access these benefits. The PA thus often widens social inequalities among the local people. Moreover, the neoliberal context within which the distribution of PA benefits is implemented is likely to reinforce this inequality. The market system encourages the commodification of nature, as in the case of gorilla tourism at Bwindi. This generates significant revenues, but these are usually only accessible to people with the ability to invest in tourist enterprises, or those with the skills to provide services to tourists. The poorer park neighbours are unlikely to be winners, even when they reside near areas with great potential, as in the case of Bwindi.



Bwindi is a national park of considerable ecological importance and it clearly has the potential to bring significant economic benefits to surrounding communities. Considerable efforts have been made to extend these benefits to the local people. But, a complex of factors has hindered a win-win outcome for the local people. As shown in the papers of this thesis, these conditions and drivers also exist at other sites in Africa. However, many of these other sites lack the potential that Bwindi has to generate tourism revenues (see MacKenzie 2012; Naughton-Treves et al. 2005; Norgrove and Hulme 2006). As this case study depicts, if these efforts are to succeed, there will need to be a focus not only on the overall benefits and costs that eventually reach local communities, but also on the intra-community differences and local level processes (Agrawal and Gibson 1999) that mediate the distribution of costs and benefits and the implications for damage compensation, local inequality and associated impacts on attitudes towards the park. Narratives by the local people provide valuable evidence and need to be taken seriously as counters to the narratives produced by external and more powerful actors.

## **7.2 Policy recommendations**

In light of the findings, the following policy recommendations are made.

- i. Local narratives should be seen as valuable inputs to inform policy and practice. This does not imply a general endorsement of local narratives or romanticising local communities (Agrawal and Gibson 1999), but rather that policy and practice must always be informed by narratives of a situation that is real.
- ii. The economic benefits related to resource use and tourism revenue, and the damage caused by crop-raiding, need to be addressed.
  - (a) Park authorities could facilitate access to enable local people to collect and use park resources in a sustainable way through rights-based resource use

agreements, and resource substitution programmes could be invigorated to provide alternatives to locally desired but scarce park products.

(b) Tourism-related benefits should be increased; for example, substantial increases in the number of tourists would have a significant impact in terms of revenue and the provision of jobs. At the same time, the share of revenue distributed to local communities needs to be increased and a transparent system of revenue distribution needs to be established; this would ensure that benefits go to those individuals whose assets have suffered from wildlife damage.

(c) Members of the Human Gorilla conflict resolution (HUGO) committees (who help chase gorillas and elephants back into the forest) need to be motivated so that they respond in time when called upon. Preventive measures such as the current efforts to plant thorny hedges need to be stepped up and actively supported by park management. Current practice is often to fund such efforts through deductions from the local people's share of tourist revenues.

- iii. Possibilities for direct compensation in events of wildlife damage should be examined.
  
- iv. At an overall governance level; good governance, real decentralisation and devolution of power to the local people, and initiatives to fight corruption and fund mismanagement need to be implemented so that the local people can influence decision making. This is especially so for decision regarding the magnitude and distribution of park benefits. An average park neighbour farmer is resource constrained, concerned about cost/benefit outcomes and should not be seen simply as a cheap and active participant assisting in park management.

### 7.3 Further research

This thesis provides a number of pointers for further research. These are some of the more urgent research needs:

- i. There is need for research on similar cases where protected areas are used in production of discursive narratives by powerful external actors. This could reveal whether a particular narrative has a high standing, not only internationally, but also among park neighbours. Are there other cases where local narratives differ substantially from the narratives of external actors?
- ii. There is a need for more detailed research on how it is possible for external actors to use a case (such as Bwindi) as a supporting narrative for a discourse, even where this narrative has little credibility.
- iii. More research is needed on local resource use inside protected areas; on biomass production, and on mortality and recruitment rates of both the desired (but restricted) and the allowed resources with a view to (a) increase the kind of resources that are allowed, and (b) revise the conservative 1% harvest off-take quota.
- iv. Research assessments are needed to identify appropriate alternatives for compensation mechanisms and their associated challenges.
- v. Research assessments are needed to specify alternatives and challenges in relation to decision-making structures and processes at all governance levels of the current decentralised framework in relation to tourism revenues sharing.

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***Part B***

Compilation of papers



## ***Paper I***

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# False Promise or False Premise? Using Tourism Revenue Sharing to Promote Conservation and Poverty Reduction in Uganda

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## Abstract

Tourism and the sharing of the associated revenues with local people have been increasingly fronted as key instruments for maintaining protected areas (PAs) globally. This paper focuses on a tourism revenue sharing scheme employed in Uganda's Bwindi Impenetrable National Park, involving rural farmers. We find that the scheme faces difficulties in integrating with the existing local historical, socio-economic, and institutional landscapes. Similar experiences from other cases suggest that these challenges are generic, and relate to lack of real local participation; an insignificant scale of economic returns to local people relative to costs; inept institutions in charge of planning, managing and evaluation efforts; and an institutional complexity that constrains most activities. We conclude that although tourism revenue sharing is an appealing concept, and its oft-quoted logic of promoting conservation and rural development is difficult to ignore, it is challenging to plan and implement in competent ways. We do not suggest abandoning tourism revenue sharing, but rather believe that a more concerted effort to overcome the mechanism's economic and institutional shortcomings, as identified in this paper, may be more appropriate. The overall findings indicate that problems are not with tourism revenue sharing as an ambition, but with the difficulties encountered in putting it into practice.

**Keywords:** tourism revenue sharing, benefit sharing, gorilla trekking, ecotourism, park outreach, protected areas, poverty and conservation, Bwindi, Uganda

## INTRODUCTION

Over the last two decades, tourism has increasingly been fronted both as a key rationale and as an instrument for maintaining protected areas (PAs) (Balmford et al. 2009). A long-standing discourse on conservation management envisages that conservation can 'pay its way' through tourism (Eltringham 1994), and that the sharing of revenues with local people will demonstrate the economic usefulness of PAs and

secure local people's allegiance.

This tourism revenue sharing approach increasingly fosters 'hybrid environmental governance' in which the responsibility and the right to manage and conserve the world's biodiversity assets is shared between communities, businesses, NGOs, and states. Such a philosophy identifies well with both neoliberal and market-oriented approaches to economic development and environmental management ('ecological modernisation'), and has been well received by international financial institutions, national governments, and the private sector (Brockington et al. 2008). The principle of tourism revenue sharing is also at the heart of the win-win narrative that combines concerns of environmental conservation with those of local development. In this respect, arguments have been made for 'pro-poor conservation' (Roe and Elliott 2004) and recently 'pro-poor tourism' (Ashley and Roe 2003; Ashley and Mitchell 2005). The approaches of pro-poor conservation and pro-poor tourism

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	DOI: 10.4103/0972-4923.92189

are thought to have the ability to jointly promote conservation and poverty reduction, two most important societal goals as expressed in the millennium development goals (UN 2008). Sharing tourism benefits with the poor people living adjacent to PAs becomes pivotal, as it not only has the potential to contribute to the mentioned twin goals, but also offers a perfect fit with the 1992 Rio Agreement that advocates an integration of the concerns of environmental protection and economic development based on free market principles (Stabler 1997).

Tourism revenue sharing is thus an important element in the current alliance between capitalism and conservation. However, evidence shows that the effectiveness of such policies is mixed (Parry and Campbell 1992; Mehta and Kellert 1998; Kellert et al. 2000). In the light of the waning resistance, within the corridors of mainstream conservation power, to the idea that capitalism (through interventions such as tourism) can and should help conservation to achieve its prime goal of saving the world, examination of the institutional arrangements around tourism revenue sharing becomes necessary (Walker et al. 2009). In this paper we analyse the case of the tourism revenue sharing scheme at Uganda's Bwindi Impenetrable National Park (hereafter referred to as Bwindi; Figure 1), with a view to identifying challenges that such schemes may face. This study is thus also a response to the calls for more research on 'actually existing neoliberalisms' (Brenner and Theodore 2002; Castree 2008).

From a classical perspective, institutions are viewed as the conventions, norms, and formally sanctioned rules of a society.

They regularise life, support values, and produce and protect interests (Vatn 2005). While people can create institutions, institutions also form us, and shape the way we interact with other people and with our environment. The institution of revenue sharing in Bwindi seeks, through the provision of economic incentives, to demonstrate to local people the economic importance of protecting biodiversity. This in turn may influence attitudes, values and norms, and engender support for conservation. However, the success of any intended institution depends on the context of its application (Vatn 2009; Muradian et al. 2010), and on other existing institutional arrangements that may be in place (Young 2002; Young et al. 2008; Corbera et al. 2009). In the language of institutional analysis, the former is referred to as the 'institutional fit' and the latter as 'institutional interplay'.

In general, the fit of an institution or governance framework relates to its appropriateness in achieving its stated goal. This concept has been developed and used by several authors, including Hanna et al. (1997), Berkes and Folke (1998), Young (2002), and Folke et al. (2007), and has included contributions and insights from the fields of political science, ecology, and institutional economics. The extent to which tourism revenue sharing secures local support for conservation may depend on, among other aspects, the sufficiency of revenues given back to the local people (Gibson and Marks 1995). Household level benefits should offset actual and perceived costs (Murphree 2005). Local people usually experience significant costs in the name of conservation, notably strong restrictions on

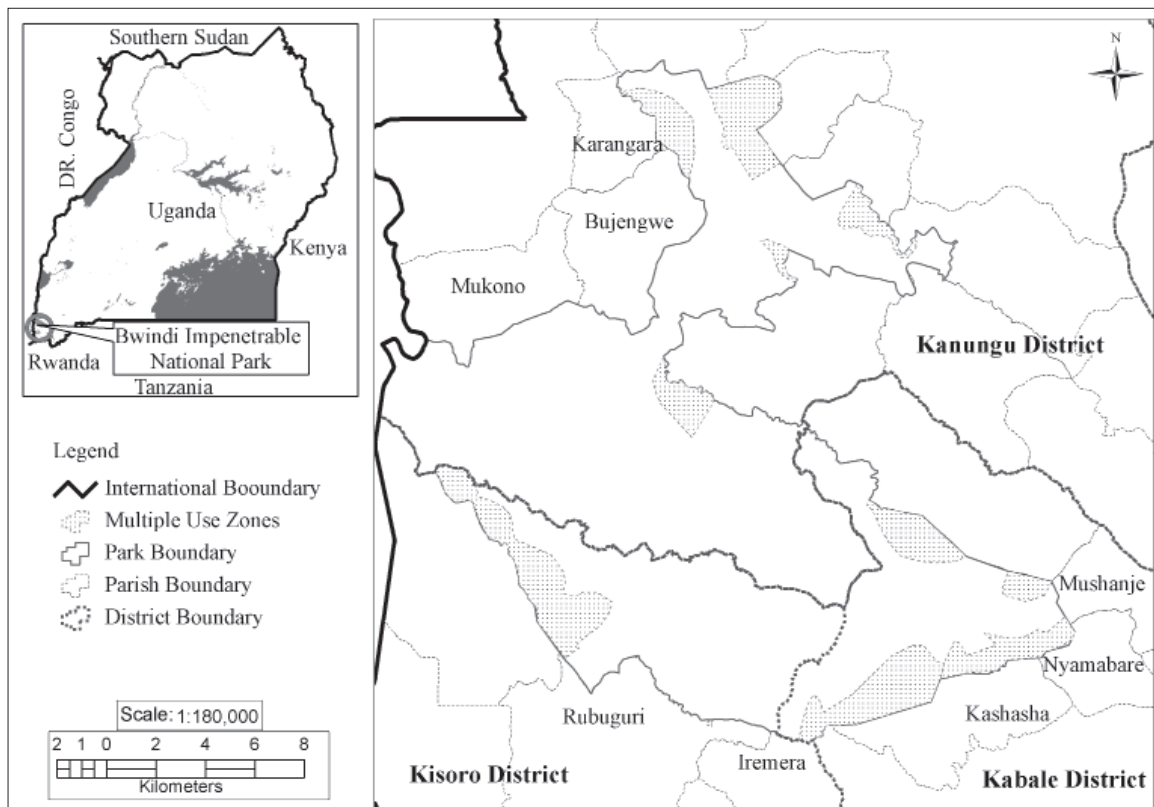


Figure 1  
Map of the study area, the Bwindi Impenetrable National Park

access to park resources, and crop raiding by the protected wildlife (Tumusiime and Svarstad 2011). Such costs increase livelihood insecurity which may sink the already poor PA neighbours deeper into poverty (Tumusiime et al. 2011). Livelihood alternatives may be provided, but it is paramount that appropriate beneficiaries are identified and that these alternatives fit within current livelihood means and lifestyles (Spiteri and Nepal 2006).

Furthermore, the extent of the effectiveness of any specific institution often depends on its interplay or interactions with other institutions (Young 2002), which define the boundaries of the rights, responsibilities, and influences of the institution. Inter-institutional conflicts and unexecuted responsibilities commonly occur along these boundaries, where the interests and jurisdictions of multiple actors overlap (Mitchell 1990). The heterogeneity of the local beneficiaries configures the local context (Agrawal and Gibson 1999; Archabald and Naughton-Treves 2001), where there is often a multitude of actors with varied objectives, mandates, and skills, and where forms and sources of power and legitimacy interact. These factors increase the likelihood of a conflict between stakeholders and the institution of sharing tourism revenues.

Interplay occurs at both vertical and horizontal levels. Vertical interplay concerns the interaction of institutions or actors at different levels of governance, e.g., local, regional, and national levels (Young 2002; Young et al. 2008; Corbera et al. 2009). In countries such as Uganda, where decentralisation reforms have been made, tourism revenues are important to local as well as national governments. This, combined with the international importance of the biodiversity these PAs host, results in a vertical chain of interests, and thus vertical interactions are evident. Horizontal interplay relates to the interactions between actors at the same local, regional or national level. The interplay among these actors may result in mutual interference but where successful may foster meaningful synergies.

In this study, we examine the institutional challenges to tourism revenue sharing, focusing on the complexity of institutional fit and institutional interplay. We use the scheme in Bwindi as a case study. We assess stakeholders' practices, perceptions of, and experiences with the scheme, and we draw on examples from other cases to demonstrate how the challenges identified in Bwindi are generic and apply to many other areas.

Bwindi is an interesting case because it has a vibrant gorilla-tracking programme, and also a tourism revenue sharing scheme that has been operating since it was first piloted in 1994. The park generates more revenues than most other protected areas in Africa. The tourism revenue sharing scheme is meant to share this revenue with the local people. This approach resonates with the national tourism revenue sharing policy and its goal of "ensure[ing] that local communities living adjacent to PAs obtain benefits from the existence of these areas, improve their welfare, and ultimately strengthen partnerships between the Uganda Wildlife Authority (UWA), local communities and local governments for sustainable management of resources in and around PAs" (UWA 2000b:

6). This is a well-intended proposition, but its realisation requires scrutiny.

## METHODOLOGY AND DATA COLLECTION

The empirical data for this study was collected during fieldwork in Uganda between September 2008 and January 2011 (10 months). First, unstructured interviews were conducted to examine the way in which local actors view conservation of the area and the consequences for them. Interviews were audio-taped and later transcribed. Gorilla tourism—in terms of an established revenue sharing scheme managed by a Community Protected Area Institution (CPI)—emerged as a key issue and became a point of focus in its own respect. The unstructured interview data collected at this stage informed Phase I of data collection, which was complemented by two further phases.

In Phase I, we conducted interviews with 60 ordinary people living in 12 villages directly bordering Bwindi. We thought it likely that variations in economic, socio-cultural, and ecological conditions might affect the ways people both experience and talk about life adjacent to the park. Hence, we selected some villages where we assumed tourism benefits from the park were relatively high because of gorilla tracking sites, and some other villages far from these sites. We selected some villages with relatively high costs in terms of crop raiding resulting from being park neighbors, and some villages without such problems. Finally, we included some villages that have access to forest resources in the form of 'multiple use zones' through agreements with the Uganda Wildlife Authority, while other villages in our study did not have such agreements. After identifying villages with the mentioned characteristics, we randomly selected 12.

Within each village we arbitrarily approached some interviewees and then applied the snowball method with the aim of obtaining a comprehensive picture of the variations in the ways in which people experience life adjacent to the national park. In each village, we continued to interview people until we felt that a saturation point had been reached, that is, where new narratives presented to us did not contribute much more new understanding about life adjacent to the park.

In Phase II, we limited interviews to the subject of tourism revenue sharing. In-depth, unstructured interviews were conducted with a total of 12 randomly selected individuals. Similar to Phase I, we tried to elicit narrations that were as 'undisturbed' as possible, but which focused on local people's views about—and experiences with—the tourism revenue sharing scheme. As part of a broader project, we also conducted semi-structured interviews with 190 randomly selected households (Phase III), in which we specifically examined local attitudes towards the PAs and their role in securing local livelihoods. In terms of tourism revenue sharing, the interviewees provided similar information in Phases I and II, as reported in this paper.

In addition to interviews with local people, we also conducted 28 key informant interviews with local political leaders, park staff, governmental bodies, and NGO representatives, locally

and in Kampala. Furthermore, we collected and reviewed written sources about Bwindi, and involved ourselves in participatory observation during local meetings, regional workshops, as well as some tourist experiences such as gorilla tracking. We also visited several tourism facilities.

We applied a standard procedure for the analysis of qualitative data using the elaboration of codes and indices. A core aim was to gain a good understanding of the aspects that the interviewees themselves emphasised when talking about the tourism revenue sharing scheme. Collecting data from different categories of local people and key informants enabled us to gather a comprehensive data set, and contributed to data triangulation.

## CONTEXT AND PRACTICE OF TOURISM REVENUE SHARING IN BWINDI (UGANDA)

### Study context

Tourism (along with agriculture and forestry) is on top of the list of Uganda's key economic growth sectors (MFPED 2010). According to the World Tourism and Travel Council, tourism contributed 9.2 per cent or USD 1.2 billion to the gross domestic product in 2008. Bwindi is a renowned tourist destination for gorilla tracking. Gorilla tourism alone accounted for over 50 per cent of the revenue that was generated for the UWA in 2008 (Walaga and Mashoo 2009). Uganda has a policy designed to share revenues with local people in the areas surrounding parks such as Bwindi.

Tourism revenue sharing in Uganda can be traced back to the 1950s, when the British colonialists used it as a tool to elicit co-operation from native Ugandans settled in areas adjacent to the country's game reserves. At that time, the monetary benefits were delivered to the local districts, while rural households received a direct share of the meat from crop raiding animals that were shot by the Games Department (Naughton-Treves 1999). Although revenue sharing was maintained in independent Uganda, the national administration that followed the attainment of political independence in 1962 was not pro-conservation. And in 1975, during the President Amin era, a 'double production campaign' was introduced encouraging people to increase their use of forest resources in a bid to increase agricultural production and double the gross domestic product (Kigenyi 2006).

Since 1987, the country has been relatively stable in terms of political conditions, and biodiversity conservation policies have been pursued in a consistent and determined manner. Between 1991 and 1993, six forest reserves, including Bwindi, were elevated to national park status, partly due to external pressures, particularly from USAID (Ditiro 2003). The local communities living adjacent to Bwindi constitute some of the most densely populated areas in Uganda, exceeding 300 persons per sq. km in some places (UWA 2002). Historically, these communities have used Bwindi as a source of wild meat, timber, mining (especially for gold), honey, land for cultivation, and non-timber forest products such as medicinal plants and

materials for subsistence crafts. The upgrading of the status of the forest reserve to a national park in 1991 increased the restrictions on access to these resources, leading to substantial losses in total incomes. This has been a long-standing source of dissatisfaction among local communities (Scott 1992; Docherty 1993; Wild and Mutebi 1996; Hamilton et al. 2000; Namara 2000; Blomley and Namara 2003; Blomley et al. 2010).

### Stakeholders in tourism revenue sharing in Bwindi

There are many stakeholders with interests in Bwindi. The UWA is at present entrusted with managing the national park on behalf of the citizens and stakeholders. A local governance system operates for the tourism revenue sharing account, whereby in principle, the UWA remits 20 per cent of park entry fees every month to fund various community projects.

The Local Government Act of 1997 (Republic of Uganda 1999a) obliges the UWA to work with local government when dispensing the people's share of tourism revenues. The local government structure in Uganda is a five-tier system, starting with a local council at the village level, and rising up—through the parish, the sub-county, and the county levels—to the district council. Each local government committee has a member in charge of the environment; the committee member provides an avenue for partnerships with the UWA in natural resource management. However, the Act recognises only the sub-county and district levels as 'local governments' and the rest are seen as administrative units. The UWA must therefore distribute the local share of tourism revenues through either the sub-county council or the district council, which in turn are supposed to distribute it to the lower levels. The revenue has traditionally been disbursed as a conditional grant to the sub-county local governments.

Prior to 2000, a Park Management Advisory Committee (PMAC) administered the funds. In 2000 this committee was phased out, as reported by Archabald and Naughton-Treves (2001), when the UWA formulated a CPI policy. Every parish that is immediately adjacent to the boundaries of a protected area has a secretary for the environment and natural resources, who is designated as a representative on the board that manages tourism revenues. The CPI policy stipulates that the UWA works with parish secretaries for the environment in managing tourism revenue sharing. Using members of local government as representatives of the CPI has the advantage of providing already institutionalised channels for involving and communicating with communities (Blomley et al. 2002). The CPI representatives work with the sub-county and district councils, and a specific local government committee. The production and environment committee is in charge of local natural resources (Figure 2; UWA 2000a).

### Tourism revenue sharing: The Bwindi practice

As early as 1994, a national tourism revenue sharing policy for PAs was drafted and piloted at Bwindi. As Archabald and Naughton-Treves (2001) describe, under this arrangement



the Uganda National Parks (UNP) was required to give 12 per cent of their total revenue to the local communities. In 1995, the UNP formally adopted revenue sharing as a wildlife management policy, and in 1996, passed it as legislation under the Uganda Wildlife Statute. But a political decision was made to change the amount from 12 per cent of total park revenues to 20 per cent of park entry fees. The change sought to increase local shares of the revenues. This worked well in areas with mass tourism and no restriction on visitor numbers, but meant a sharp decline for Bwindi surroundings, where ecotourism dictates that visitor numbers are strictly regulated.

The stipulation on entry fees only, meant that no revenue from gorilla tracking permits is shared, which for Bwindi is the main source of income. For example, if a foreign tourist bought a gorilla-tracking permit in 2010 for USD 500, gate fees accounted for only USD 30. Under the former agreement, USD 60 (12 per cent of USD 500) would have been put into the revenue sharing scheme, but after the 1996 legislation, only USD 6 (20 per cent of USD 30) was put into the scheme. This amounts to only 1.2 per cent of the initial USD 500, against the 12% that would have been shared with the locals prior to the 1996 legislation. In 2000, various proposals were made to revise the revenue sharing policy to the pre-1996 arrangement. However, these proposals were not supported by the UWA top management and Board of Trustees, who argued that they had other substantial costs to meet (Adams and Infield 2003).

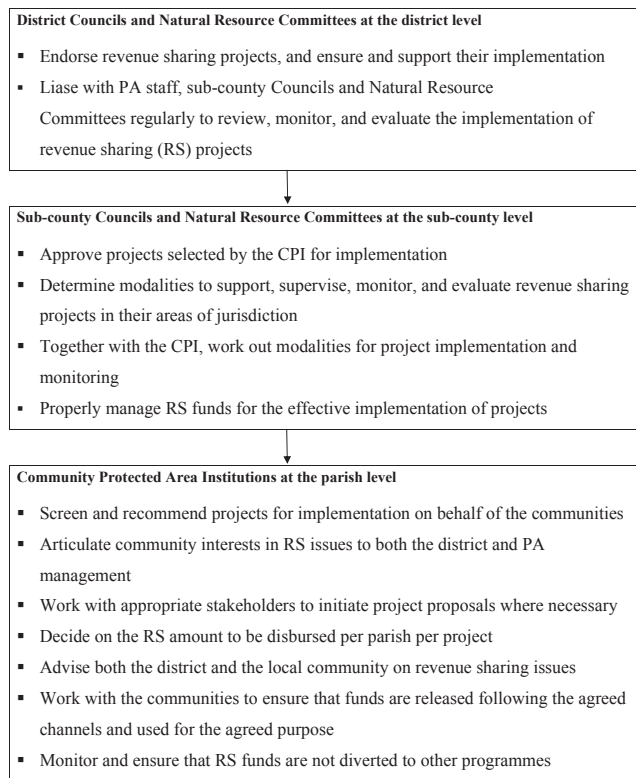
It thus proved difficult to amend the legislation to increase the local people's share, but through the advocacy of the

Cooperative for Assistance and Relief Everywhere, Uganda, a gorilla levy fund was established at Bwindi in 2006, which collects USD 10 from each gorilla permit. Of this, USD 5 is forwarded to the UWA head office in Kampala to be shared amongst people living adjacent to other national parks, particularly those that do not generate sufficient park entry fees. The remaining USD 5 is intended for the villages adjacent to Bwindi, in addition to the current 20 per cent of park entry fees. By September 2008, Bwindi park management reported that it was ready to distribute about USD 157,642 to the adjacent villages. These funds were accumulated by the USD 5 gorilla levy fund between August 2006 and June 2008. However, it is only in July 2010 that UWA started giving out this money and by January 2011 several villages were yet to get this money. This is clearly a rather questionable situation, and is contrary to the story touted to tourists that most of the revenues they bring to Bwindi go to the communities neighbouring the park.

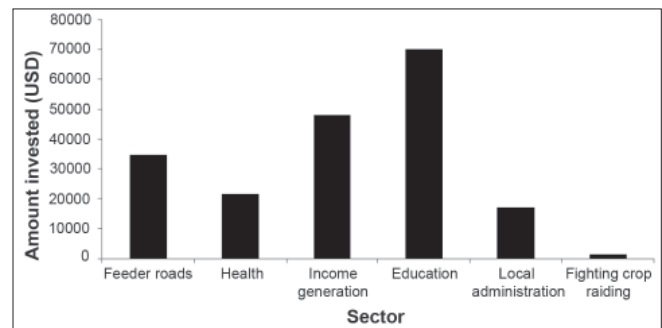
## RESULTS AND DISCUSSION

The premise of the revenue sharing scheme is that the shared revenues will contribute to poverty reduction and act as an incentive for participating households to support conservation. From the start of the revenue sharing scheme in 1996 to the end of 2009 (13 years), an estimated USD 178,902 has been spent among the local communities adjacent to Bwindi. This amounts to an average annual disbursement of USD 13,000.

Most of the revenue (over 80 per cent) was spent on community level projects (Figure 3). The evaluation of these projects varied between the respondents, but most local people expressed little appreciation for expenses on local administration, for example in the form of building council halls. Since 2006, the emphasis has shifted to individual household projects, but by the end of 2009, this accounted for only 20 per cent (~USD 34,000) of the revenues. Support has been given to goat keeping and, to some extent, potato growing, and tree planting. The reason that park management accepted the goat project is that most of the land has lost its productivity and no longer provides good yields. Goats can provide manure to replenish the soils leading to better productivity, and thereby addressing both food uncertainty and poverty in the frontline communities. Goats also offer an alternative to game meat.



**Figure 2**  
*Responsibilities and the institutions involved in disbursing the local share of tourism revenue under the CPI arrangement*



**Figure 3**  
*Revenue sharing projects supported around Bwindi Impenetrable National Park between 1996 and 2007*

Notwithstanding the successes demonstrated in this case study, we have identified several key challenges to the promise tourism revenue sharing offers, relating mainly to problems of institutional fit and institutional interplay (Table 1).

## The problem of fit

### *The fit between benefits and costs*

While tourist destinations may bring in significant revenues, only a fraction of those revenues actually reach the local people. Most of our interviewees were not satisfied with the total shares given to local communities. To substantiate their dissatisfaction, they always pointed to the limited revenues allocated to them in comparison with what the UWA keeps for itself. One interviewee said:

Now you wonder why you are close to the park. A tourist pays USD 500, and the community share is to be only USD 5. This is not enough. They should give people at least USD 100. Let us compare it to the preparation of a meal: If you were a cook, would you prefer to get the smallest or the biggest portion to eat? Now, we the park neighbours are the cooks of that meal, but what do we get? The smallest portion. Is that fair? (Interview No. 46)

Most of the revenue from Bwindi is remitted directly to the UWA's central treasury. Literature shows this to be the norm for many protected areas, with a central authority collecting the revenues and then budgeting for the national PAs from a central pool (e.g., see Campbell et al. 2001). There are thus few incentives for individual parks to increase incomes, since annual allocations tend to be independent of performance. In the case of Bwindi, it would run with a surplus, if given an autonomous economy; however the current policy leads to less money available for local people to share.

In this research project, we investigated payments for gorilla

permits. We estimate that at full capacity, the current eight habituated gorilla groups could generate an annual revenue of over USD 11 million through permit sales, if 90 per cent of the permits were sold to foreign non-resident tourists, 3 per cent to foreign resident tourists and 7 per cent to tourists of East African origin. At the current rate of revenue sharing, the communities surrounding the park would then be entitled to 20 per cent of the park entry fees, which is equivalent to an annual USD 139,776 (or 1.27 per cent of the total revenue collected from permit sales).

In the light of the low amounts of revenue earmarked for the local people at Bwindi, the UWA tries to avoid distributing money every year, and use the gap years to build up sizeable amounts that could meaningfully support community projects. For example, by the end of 2009, the revenue sharing scheme that started in 1996 had disbursed revenues only four times (in 1996, 2002, 2006, and 2007). The disadvantage of this practice is that it reduces the predictability of the flow of benefits and diminishes local trust in the system, which in turn may reduce local support for conservation.

The number of people living near the park boundary is high. As mentioned earlier, Bwindi is located in one of the most densely populated areas in Uganda, exceeding 300 persons per sq. km in some places. A typical village has between 100 and 150 households. In the current goat scheme, which was implemented in most parishes after 2007, an average village adjacent to a PA receives nine goats per year. It may therefore take 11 to 17 years before each household will receive a goat, reflecting the rather insignificant scale of these incomes for most households. The value of one goat is about 20 USD. This turns out to be a very small figure. Even when received, the goat has limited ability to pull the poor farmers up to the premised level, i.e. above the poverty line.

Local people obviously realise the inconsistency and small scale of revenues offered by the scheme. And as many view these incomes as a compensatory measure for substantial costs

**Table 1**

### *Institutional challenges relating to the problems of fit and interplay for tourism revenue sharing at Bwindi Impenetrable National Park*

Institutional analytical domain	Key challenges
The problem of institutional fit	
Fit between costs and benefits	How does the economic incentive compare with the local conservation costs?
Defining beneficiary communities	What is the appropriate spatial fit for tourism revenue sharing?
The problem of institutional interplay	
Horizontal	Do the local shares of the revenues reach those most deserving?
	Villages that suffer from crop raiding
	HUMAN GORILLA conflict resolution (HUGO) committee members working on a voluntary basis
	Villages that cannot have multiple use zones because of habituated gorilla groups living in adjacent park areas
Vertical (governmental levels)	Villages where tourists view gorillas from private land
	Local governance failure (elite capture, and lack of information, accountability, and transparency)
	To what extent do the local people influence the tourism revenue sharing process?
	How can tourism revenue sharing combine with other local PA efforts to benefit the local people?
Vertical (governmental levels)	How does revenue sharing fit within the decentralised framework?
	How do stakeholders at different levels (local, national, and international) impact the process and outcomes?
	How can power be transferred at the different levels?

accrued because of their proximity to the PA, the subjective comprehension of the small scale is reinforced. Local perceptions of their share of tourism revenues can be summarised in the following comment made by one interviewee:

We used to collect basketry materials... but all those were stopped. We cannot get anything from there. Not even medicinal plants... And you see, in our village, at most we have received nine goats only... yet it is long since the park was declared a no-go area. And from that when you look at the park, these crop raiding animals of theirs, their baboons that come from the park and find us in our villages. (Interview No. 15)

Not all the local people we encountered agreed with the nature of benefits given to them in form of goats. They instead had several preferences including cash. As Emerton (2001) warns, failure of such a scheme to match the nature of costs may undermine its compensatory impact. A deliberate effort is needed to channel more revenues to the local people in a form that meets the nature of their costs, if the programme is to genuinely contribute to poverty reduction, and increase local support for conservation, premised on local appreciation of the economic value of conservation.

#### ***Defining beneficiary communities***

It is often assumed that the closer a village is to the PA boundary, the higher the local costs linked to PA establishment and management will be. However, it is often difficult to agree on a reasonable boundary for communities in relation to compensating for costs incurred (Brown 2002). In Bwindi, the UWA defines 'local people' as the inhabitants of villages that share an immediate physical boundary with the PA. It is assumed that these are the most affected by the PA and that they have a higher potential to impact conservation quality in the PA.

Such delimitations do not pass unquestioned, especially by the individuals that are affected. Moreover, in the case of Bwindi, the construction of village boundaries is not related to village proximity to the park. A particular household in a village defined as not park-adjacent may actually be nearer the park boundary than a household in a park-adjacent village. However, the operating definition of 'local' excludes the former household though it may incur substantial costs in being closer to the park.

#### **The problem of interplay**

There are challenges in Bwindi related to both vertical and horizontal interactions between institutions.

#### ***Horizontal interplay***

##### *Channeling benefits to target beneficiaries*

The delimitation of target beneficiaries is difficult to implement in practice. Tourism revenues are often generated under complex circumstances, warranting varied claims. Perceptions of rights, and historical and present use by different stakeholders are obviously crucial. But so are the differential

costs incurred by communities and households. And even if or when these complex circumstances have been addressed, tourism revenue sharing at the local level can still be subject to various types of governance failure.

Costs incurred for park-adjacency typically vary substantially between park-adjacent villages. Interviewees reported crop raiding as the most significant cost. Households closer to the park talked more about crop raiding, particularly the individuals living near habituated gorilla groups. In some extreme cases, we encountered interviewees who reported that gorillas come to raid their banana gardens, and chew on the banana plant stems, much to the amusement of the tourists and their guides. It is the UWA's policy that local people maintain a distance from the gorillas. PA management zealously implements this, in particular when tourists are guided to gorilla groups feeding from community land. As one respondent noted, in such an incident, "One has to wait until the tourists have finished taking photographs [of the gorillas feeding on private banana stems]... this may take an hour... and... imagine how much will be eaten away in an hour." (Interview No. 52)

Such episodes are obviously provocative, and add to feelings of helplessness, apathy, and anger, which strongly influence local attitudes towards park management. The crop raiding cost, as expressed in our study, is confirmed by earlier observations that found the cost to an individual farmer to be particularly high (Tukahirwa and Pomeroy 1993; Kiiza et al. 2004). Baker (2005) estimates that an individual farmer adjacent to Bwindi would lose USD 472 in the 10 years life of a banana plant. Given that most of these farmers live on less than a dollar a day, this is a significant loss (Kidd and Giampaoli 2006). Reports of food shortage have also increased with increasing reports of crop damage (Namara 2000; Olupot et al. 2009). The challenge is how to specifically channel the tourism revenues to the local individuals suffering the most.

Governance failure at Bwindi is observed in this study mainly in the form of elite capture and favouritism, political entrepreneurship, and lack of information on how to access the accumulated revenues.

#### ***Elite capture and favouritism***

In the case of Bwindi, local people cited several incidents of leaders of the committees in charge of distributing revenues using them for their own benefit instead. For example, one interviewee reported that she has great doubts as to whether she would ever benefit from the scheme: "When they have brought the revenues, they have given to others and not me. The parish chairman and the [CPI] representative just choose themselves; they select themselves and do not consider us, the ordinary people." (Interview No. 17)

Such claims that the ordinary people were too frequently left out, were made in all the sample villages. There were also claims that the representatives tend to give the revenue shares to their immediate families and people who have bribed them. Occasionally, claims were made of a single family getting between 4 and 6 goats. One interviewee said this about the process:



The revenue sharing process is not transparent. We have a problem with our local political leaders. For example, I remember an incident where the head of the committee to distribute goats was from a family of six people. That family got six goats, while other families got nothing... I told you that revenue sharing and the park as such would be beneficial to local people if the distribution of benefits was fair... In the mentioned incident, there was somebody in this village who is a close friend to the head of the committee, and in this village he was the only person who received a goat. Yet in the chairperson's village, about ten or more people received a goat or something else. (Interview No. 3)

There were several reports alleging that local people have frequently been supplied with poor quality (cheap) goats, some even carrying infectious diseases which then resulted in the death of the original herd. The supply of goats under the revenue sharing scheme is done through a tendering process, but the integrity of this process is reported to be low. Villagers suggested that the individuals supplying the goats are friends of the leaders.

The problem of local elite capture seems to be widespread among tourism revenue sharing programmes across the world. In and around Kenya's Maasai Mara, nearly all tourism revenues were reported to be appropriated by local elites. Only about 6.5 per cent of the revenues identified for the local people went to them, and the rest was siphoned off through various 'administrative mechanisms' and by direct embezzlement (Thompson and Homewood 2002).

#### **Political entrepreneurship**

In Bwindi, it was claimed that the representatives of the CPI and parish chairpersons tend to spend the revenues on people within their own villages as a way of rewarding their electorate. From the literature, this problem of political entrepreneurship (Byrnes and Dollery 2002) is a common phenomenon of local governance, in which representatives use councils as fertile grounds to capture the attention of prospective voters. Moreover, in the case of Bwindi, placing the CPI at the parish level means that the CPI representative may often not originate from a park-adjacent village. When the scheme is used to reward and capture the attention of electorates, it seems that park adjacent communities can easily be disadvantaged. This was noted by several park adjacent household members, who again pointed to the mismatch between conservation costs and benefits.

Ribot (2008) stresses the benefits of linking conservation projects to local government institutions, thus making them more accountable to local voters, rather than to donors or park authorities. But even if elections (fair and free) can be a means of securing accountability, the Bwindi case demonstrates that a lack of fit can still exist between voters and those suffering conservation costs, when the politicians favor only certain segments of their electorate. In Bwindi this lack of fit is reflected by the following comment:

We are told it is only people living adjacent to the park who should benefit, but you find a person near Butogota [a distant trading centre] who has never guarded crops against the baboon and doesn't even know how a baboon looks like, getting a goat... It (also) often happens and it hurts us so much to realise that it is the people from the village near the sub-county [head quarters] where the leaders are from that are receiving all the goats. (Interview No. 19)

Such political entrepreneurship is not unique to Bwindi. In a similar situation in the Mikumi National Park in Tanzania, nearly 50 per cent of park-based support for community-initiated projects has been spent on projects in villages not directly bordering the park, including one village as far as 60 km from the park border. In the same area, high-ranking politicians influenced the transfer of wildlife revenues to a very distant district that even received wildlife revenues from other conservation areas and the national wildlife protection fund (Nyeme and Nilsen 2010).

#### **Lack of access to information**

In Bwindi, local people reported a lack of face-to-face contact, both with high ranking leaders and their own representatives at the local council committee that controls revenue sharing. In particular, households living adjacent to the park reported the lowest access to representatives and information regarding revenue sharing. One respondent noted:

... The revenue ends up in the hands of those who get the information first... they grab the first chance... Communication needs to be improved. Let people know in advance what is going to happen... We learn of some opportunities when it is already too late. (Interview No. 8)

The formal core function of the CPI is to represent the local community and its interests with regard to protected area issues, and to act as the official spokesperson for the communities. This suggests that the involvement of local people should be a central feature, but as we have seen, this involvement has been consistently low.

Representation, as sought under the CPI, usually necessitates the convention of meetings where the community and their representatives deliberate on important issues. However, as suggested by the accounts of the CPI representatives, and also the local people themselves, attendance at meetings is usually low. The reasons include the high costs of attending meetings and the perception that the gain from doing so is minimal. As stated by one respondent:

... One wonders why we should spend our time attending such meetings... We ask ourselves what good is it for us to attend a meeting where we are not going to benefit anything? I myself would rather stay behind and guard my crops against the (other) baboons. (Interview No. 28)

The CPI representatives felt that villagers could be more involved in the activities of the institution, but made the point that CPI members cannot move within and between villages or convene meetings to discuss park-related issues due to inadequate resources for facilitation. No specific arrangements are made to address the sharing of the benefits. Instead, opportunities are used as they arise. As a CPI key informant put it:

Truthfully, we have no avenues to meet the local people. I have nothing to give the people... They want money [sitting allowances] when called for a meeting. So I try to use the available avenues, like church services, or I ask the chairman, when he meets his people... to create time for me to talk to them. (Key informant No. 15)

#### *Lack of local involvement and influence*

While rhetoric regarding the involvement of local people continues to receive substantial attention in PA planning documents, the reality remains elusive. Local people are seldom consulted to discuss decisions. For example, when the Ugandan Parliament decided that 20 per cent of gate fees should go to local people, no dialogue was held with them. From the inception of revenue sharing in 1996, local people have been asking why only 20 per cent and not a higher percentage?

Some local people believe that park decisions are the prerogative of their representatives; others are of the opinion that attendance at the meetings provides no meaningful influence on decisions that are of local importance. One elderly village member commented:

We lose trust because we realise that our pleas are not considered, and that we have no say... When we mention our suggestions to UWA officials, they... assure us that they will communicate with other top officials and give us feedback. Unfortunately, they usually tell us that our suggestions are not possible because there is no legal provision for it in terms of a policy for compensation. Or they say that UWA cannot accept this and that. (Interview No. 28)

It appears that local people are not fully aware of their rights and/or duties. They don't know which aspects of management they can influence, and tend to view involvement in revenue sharing as a privilege. But, given the history of park management in Uganda, it may not be surprising that a participatory culture is yet to develop. In general, the literature shows that the experience of exclusionary events following the establishment of PAs in Africa did not go well with the local people (e.g., see Peluso 1993). In Bwindi, strong restrictions on access to park resources and the initial militaristic approach to managing the area are reported to have polarised the stakeholders into two opposing camps—park management and local people—that are hostile to each other. Some of the people have been very violent and have caused UWA employees to live in perpetual fear for their lives (Namara 2000; Sandbrook 2006), and vice versa.

Local people are presently not yet fully prepared to participate in park politics in order to influence outcomes. There has also been an extremely ambitious shift from park management working alone, having replaced the civil foresters with both paramilitary and uniformed protected area officers, to a more inclusive process in which local people are invited to express their opinions in terms of the management of PAs in their proximity.

However, power asymmetries currently exist both within communities, and between communities and the park management, and from the literature, these asymmetries are observed even in areas revered as the 'best cases' of community-based natural resource management, such as the Annapurna Conservation Area Project in Nepal (Timsina 2003). These findings are consistent with Ribot (1999), Agrawal (2001), and Platteau and Abraham (2002), who provide numerous cases of special interest groups (such as local elites and NGOs) dominating local decision-making processes, often to the detriment of the poorest among the local people. The reluctance to involve the local people in park management can also be traced to the tradition in conservation that is rooted in fortress conservation ideology. Park managers need to change their mindset and practices, and to view local people as equal partners.

The involvement of local people in revenue sharing has tended to hinge primarily on the effectiveness of their representation. However, in Bwindi we find that the lowest level of representation in charge of tourism revenue sharing (the CPI) is at the parish level, which is quite far from the local people. As several park neighbours noted, the CPI representatives are from areas that are far from the park boundary and from the adjacent local communities. Hence, their legitimacy is being questioned. Invariably, the individuals serving on the local councils are among the local elites, and are not necessarily those most affected by PA issues. A deliberate effort to have resource users from relevant villages serve as representatives would be more legitimate and ultimately more effective.

Successful representation is enhanced when the represented are able to organise, influence, or even call back their representatives (Blair 2000). In general, however, local people tend to have little opportunities to voice their concerns. For example, one interviewee noted:

Corruption can never disappear in the distribution of resources that park management sends us... There is no way we can fight it. These resources come from high levels and at every level about 50 per cent is deducted... There is nothing a local person can do. It is those in park management who should change the way things are done. (Interview No. 12)

Others remain silent about the irregularities in distribution for fear of losing their revenue share. Furthermore, many perceive the irregularities to be so entrenched in the social system that they will never be corrected. They thus tend to settle for the little that they can get. For example, in one

revenue sharing meeting we attended, a local opinion leader encouraged people not to openly demand accountability, as this may put at risk the possibility of receiving any future benefits. Acknowledging that the revenue sharing process has been beleaguered by corruption, he stated:

... There are villages that we know and in fact their chairpersons are here. They gave (goats to) people they were not supposed to give but we just kept quiet about this... But we shouldn't continue talking about those before people, because one time we will say such before a different audience and we will miss out on even the little that we are currently receiving. (Meeting 3)

### ***Vertical interplay***

#### *Institutional confusion*

Starting with the rise of the conditions imposed by international development agencies in the 1980s, state contraction, increased decentralisation, and local governance have been pursued as policy in many developing countries; this tendency is partly linked to an increasing demand for democratisation as local people increasingly seek to influence decisions (Ouedraogo 2003). Increasing decentralisation creates both opportunities and challenges. For one, it implies a form of compartmentalisation in legislation, but it also confers agency responsibility. In Bwindi, the management of the national park is included under the mandate of the UWA, a parastatal under the Ministry of Tourism, Trade and Industry. However, park management operations are also influenced by the Ministry of Local Government. The Local Government Act of 1997 mandates local governments to oversee the management of natural resources within their jurisdiction, including PAs. The Act also requires the UWA to work with the local government in disbursing the local people's share of tourism revenues. But in the view of the UWA, the facilitation of the local sharing of tourism revenues is part of the activities of the local government. Thus the UWA has taken no steps to remunerate or support local government councilors since, in principle, such actions should be supported by their mother institution, i.e., the local government.

The Wildlife Policy (Republic of Uganda 1999b) encourages local governments to establish committees to advise the UWA on the management of wildlife within their jurisdiction. The CPI could have served as such a committee, but the problem was that the local government continued to regard CPI as a UWA structure, and on the other hand, the UWA viewed it as a local government structure. As a result, the CPI ended up having no 'institutional home', neither belonging to the UWA nor to the local government; consequently it was not adequately funded, and it ultimately failed its mission.

By ensuring that the CPI was composed of members of the local government in charge of natural resources, including national parks, the UWA was of the opinion that no new responsibilities were created for them through the establishment of the CPI. Yet, from our discussions with the local government officials, more responsibilities were implied.

In view of this mismatch of expectations, there was a need for some form of bargaining to encourage the local government to take on what, in its view, were 'new' responsibilities.

The bargaining process becomes particularly relevant given the history of the management of PAs in Uganda. Before the elevation of the forest reserve to national park status, it was managed by the local government's Forest Department, which, among other things, sold concessions for resource extraction. When the UWA was formed in 1996, park management was transferred to this parastatal, which constituted a financial and resource loss, as well as loss of control of assets for the local government. The transfer of new responsibilities to the local government thus depended upon an elaborate bargaining process with mutually agreeable conclusions. Two particular spiral effects of this institutional confusion were the lack of facilitation for the CPI, and the lack of monitoring and evaluation of CPI activities.

#### **Lack of facilitation**

As several local government leaders noted, there was no possibility for them to draw on their already limited resources to support an institution that was doing what they saw as the job of the UWA. This finding confirms that "when many rural parishes have an annual investment budget of less than USD 200, the choice between sending a parish representative to a distant location for a CPI meeting and building a new classroom in the village primary school is not a hard one to make" (Blomley and Namara 2003: 287). The reduced ability to conduct and attend meetings CPI (Figure 2). Members only met when the UWA and/or a UWA partner institution sponsored the meeting.

The local government's reluctance to support the CPI can be further understood from the events that led to some of the CPI representatives ceasing to be members of the local government. When the UWA formulated the CPI in 2000, the reigning secretaries for production, who automatically became CPI representatives, underwent training. These individuals, like other members of the local council, are voted for and serve for four years. When local council elections were held in 2002 and some of the members lost their seats, they should automatically have ceased being CPI representatives. However, the UWA reports that it did not have funds to train the new members and thus retained the old members as representatives of the CPI, regardless of whether or not they were members of the local council. The next local government elections were supposed to be held in 2004, and the UWA planned to train the newly elected secretaries for production. However, the central government did not conduct further elections. This means that the current representatives have been serving beyond their term of office and they thus have weaker and less legitimate ties with the local government structure. This strengthens the views presented that the institution belonged to the UWA and not to the local government. Even the CPI representatives themselves, according to their revelations, regarded themselves as UWA revenue sharing employees, and were identified as such by

the local people. The impression also exists that they operate only when the UWA says there is some revenue to be shared.

#### **Lack of monitoring and evaluation**

Because of these unclear institutional arrangements, even if the institution had continued to be used for channeling revenues to the local people, there was no monitoring or evaluation of its activities. As a result, the local people were unable to hold their representatives accountable which created room for irregularities in the distribution of resources (as described above). When the CPI was created, it was entrusted with the main mechanism through which park management sought to demonstrate to the local people the economic importance of protecting biodiversity, which was intended to improve people-park relations. However, neither the park management nor the local government did any monitoring or evaluation of CPI activities. As one key informant from one of the UWA's partner institutions noted:

In effecting the revenue sharing scheme, the UWA more or less undertook its activities as routine to meet its statutory requirements of disbursing 20 per cent of the park entry fees to the communities living adjacent. And this cannot have positive results if they [UWA] do not monitor to ensure that the money disbursed is used properly. (Key informant No. 18)

The planned bi-annual updates from the UWA to the sub-county were irregularly reported. Even where made, the sub-counties did not follow up on how the revenue had been used within the villages. During our interviews with the local leaders at the sub-county level, they maintained:

... It is not possible for the sub-county to monitor the use of the park revenue shares because when that revenue comes, the sub-county is supposed to remit it to the parishes and nothing [meaning no share of the revenue] is left behind to facilitate the monitoring. (Key informant No. 26)

But the park management position, as reported by a key informant, is that the local government should have considered monitoring in the same way it does with other projects or programmes of the Government of Uganda, such as the Poverty Alleviation Fund (PAF). The reluctance of the local government may again point towards its refusal to accept the activities of the CPI as falling within its jurisdiction.

Furthermore, the obfuscating effect of institutional bureaucracies may be a problem, as in the case of the gorilla levy fund mentioned above, where a decision made in 2008 to distribute revenues from 2006 to 2008 is yet to be effected in some target villages. Such institutionalisation and slow progress has also been observed in other benefit sharing schemes, e.g., in Cameroon (Mayaka 2002).

#### *Multiple stakeholders and power distribution*

As we have seen, the sharing of tourism revenues involves different stakeholders, with different forms and strengths of

power. This creates challenges as Foucault notes, in that some of the stakeholders may not deliver if, as a result of differential powers, they find their "margin of liberty" limited (Foucault 1988: 12). This was confirmed by our study in Bwindi, where several stakeholders reported extremely constrained margins of liberty in dealing with tourism revenues. Neither local people nor their leaders have any liberty to make (final) decisions on how local tourism revenues should be shared. Such decisions have to be sanctioned by the UWA following the requirement that funded projects should be environmentally friendly and consistent with PA conservation objectives (UWA 2000b).

Although CPI representatives are supposed to be the communities' watchdog, they often found park management resisting their involvement. This is not a new phenomenon, e.g., Namara (2006) reports an incident in Bwindi that occurred during the late 1990s. A park warden complained about a CPI representative who, according to him, wanted to 'play the role of a warden' by asking for records of revenue-sharing funds and by trying to intervene in an incident where a local person had been imprisoned for illegal resource extraction. Yet, these are roles that park management itself defined for the CPI (UWA 2000a, b). Besides, as noted by Namara (2006), it is rather curious that the institution to be watched (the UWA) took the lead in defining the roles of the watching institution (CPI). While this may raise questions regarding the roles that were identified, it is certainly a cause for concern that the CPI representatives are side-lined and their actions viewed negatively by some in park management, even when these are the core activities listed in the CPI policy. Although these limitations were reported during the establishment of the institution, they have, nevertheless, continued with implementation and management, casting further doubt on the possibility for the CPI to really take care of local people's interests.

## **CONCLUSIONS AND THE WAY FORWARD**

Tourism revenue sharing is an appealing concept and its oft-quoted logic of promoting conservation and rural development is difficult to ignore. However, despite its implementation around several PAs in developing countries, the mechanism has yet to deliver adequately. The main problems relate to the challenge of forming an effective organisational and institutional architecture. This includes the need for participatory planning, proficient implementation, legitimate monitoring methods, and control and adjustment of policies and practices.

In particular, it has proved challenging to ensure that the local people's share meets their expectations, and that it reaches the most deserving communities, and/or individuals within a community. It is necessary to set aside sufficient revenues for the local people, and craft legitimate and competent institutions that adequately involve local people in the decision-making process on both the structure and the process of distribution and utilisation of the tourism sharing revenues.

Furthermore, even if they are not adamantly against it, bureaucrats, local government officials, and wildlife



management authorities remain sceptical about involving local people in park management. This reluctance reflects particular management cultures, specifically, attitudes, values, norms, and practices, as well as present power relations. Local people, for their part—based on past experiences—are not convinced that their involvement will produce meaningful outcomes.

The decentralised framework within which natural resources are governed offers both opportunities and challenges. We do not suggest abandonment of tourism revenue sharing, but we rather suggest that a more concerted effort to overcome the mechanism's shortcomings, such as identified here, may be the more rewarding constructive path to follow. The problem is not with tourism revenue sharing as an idea and as a concept, but with the difficulties in putting it into real-world practice.

### ACKNOWLEDGEMENTS

The first author humbly acknowledges a travel scholarship for research in Africa provided by the Nordic African Institute (NAI). Makerere University Postgraduate School and the project Protected Areas and Poverty in Africa (PAPIA) are acknowledged for fieldwork support. Credit is due to the PAPIA Uganda team for meticulous support with field logistics. A scholarship from Makerere University and the PAPIA project provided financial support in the writing phase. The PhD stipend was covered by the quota programme of the Norwegian State Educational Loan Fund. The Office of the Dean of the former Faculty of Forestry and Nature Conservation, Makerere University, was very supportive of the first author. Prof. T.A. Benjaminsen and Mr. Geoffrey Muhanguzi read the draft and gave valuable comments. The final article benefited significantly from Dr. J. Fresen's editing, and from the comments provided by three anonymous reviewers.

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**Rural livelihoods at the boundary of a protected area in Uganda**

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## **Abstract**

This paper examines the livelihoods and experiences of local people after two decades of conservation at Bwindi Impenetrable National park (Bwindi) in Uganda. Semi-structured and open-ended interviews were conducted. Findings reveal limited access to assets, especially for poor households and people settled near the park boundary. All of these people are subsistence farmers, averaging \$0.5/per adult equivalent unit/day. More than half of this income is derived from agriculture. Income is negatively impacted by park proximity. This restricts the expansion crop fields; in addition wildlife damage causes losses of about 10% of household income. Environmental income is particularly important for poorer households: it contributes 24% of their total income, compared to 16% and 12% among the medium-income and less poor households respectively. Most of this income derives from private land outside the park, since access to park resources is restricted. An individual household has an annual income of US\$1038 per year and only 0.4% (US\$4) is from collection of in-park forest products. Park benefits for local people jointly account for about 5.7% of the average household's annual income. This is higher than the contribution of other protected areas in Uganda and Africa, but still well below the costs incurred locally. This highlights the need for policy revisions to minimise the cost of protected areas to local people and increase of benefits.

Keywords: Bwindi, protected areas, livelihoods, environmental income dependence, costs of protected areas

## **1. Protected areas (PAs) and rural livelihoods**

Biodiversity conservation and poverty alleviation are two far-reaching millennium priorities, and have given rise to the conservation-poverty debate (Roe 2008). Potential synergies between the two have been a cause for optimism, even if so far there have been mixed results. In fact, there are claims that conservation often impoverishes local people living in close proximity to protected areas, especially where an original ‘fences and fines’ approach has been retained (Brockington 2002).

Since the 1980s, community-based conservation approaches have been discussed and implemented. The main target is to improve rural livelihoods in and around protected areas, and in turn secure the support of local people for conservation (Adams and Hulme 2001; Barrow and Fabricius 2002). A vast array of initiatives exist (Adams and Hutton 2007). In the case of Bwindi Impenetrable National Park (hereafter Bwindi), where this study was conducted, park management has developed a two-pronged approach: a coupling strategy that allows access to limited resources within certain areas of the park, and a decoupling strategy that creates livelihood opportunities in the form of off-farm employment or by facilitating access to forest products outside the park (Blomley et al. 2010; Namara 2006).

Such people and park project approaches have been implemented in many places. But it is also argued that they rarely go beyond a repackaging of the ‘fences and fines’ approach (Adams and Hutton 2007). The situation in Bwindi is often presented as a win-win case; it is claimed that local livelihoods are benefitting from the coupling and decoupling strategies, and particularly from the controlled access to in-park resources and the sharing of receipts from the popular gorilla-tracking programme (WWF 2006). However, few systematic studies have been conducted on the effect of the park on local livelihoods. This paper looks at how the park impacts on the livelihoods of local people, with an emphasis on income from environmental resources. We specifically ask:

- i. What access do people have to assets, and how do different groups of people generate different patterns of outcomes?

- ii. How important are environmental resources for the livelihood generation of adjacent populations?
- iii. How does the existence and proximity to park impact on people's abilities to generate outcomes? What are costs and benefits of living close to the park?

## **2. The context**

Bwindi is located in the south-western corner of Uganda; a small section of its boundary follows the national border between Uganda and the Democratic Republic of Congo (Figure 1). In 1932 the area was designated as a Crown Forest, primarily to protect and preserve the mountain gorillas (UWA 2001); it was gazetted as a gorilla sanctuary in 1961. The enactment of a Forest Act and a Game Act in 1964 put Bwindi under dual management of the newly formed Forest and Game Departments, as it was both a forest reserve and a game sanctuary. Both departments prohibited people from residing and farming inside the forest area. The Game Department banned hunting, while the Forest Department allowed local licensed timber concessions and the collection of forest products for subsistence purposes (Wild and Mutebi 1996).

The 1970s were plagued by civil wars which hampered conservation efforts across Uganda (Kigenyi 2006; Wild and Mutebi 1996). In 1975, President Amin declared a 'double production campaign' that encouraged increased use of forest resources in a bid to double the gross domestic product (Kigenyi 2006). A survey carried out in the late 1980s revealed that only 10% of the reserve was still intact. About 61% had been heavily harvested for timber, in a further 29% the best hardwoods had been felled and the habitat of the endangered mountain gorilla was deteriorating rapidly (Howard 1991). Because of this, and also for political reasons, including the influence of donors such as the United States Agency for International Development (USAID) (see Ditiro 2008; USAID 1991), Bwindi was converted into a National Park in 1991 and put under the management of Uganda National Parks (UNP). The Wildlife Statute of 1996 enabled the merging of UNP and the Game Department to form the Uganda Wildlife Authority (UWA), which was given the mandate to manage all national parks in the country.

In the same period (1991-1993), five other major forest reserves were also converted to national parks. This led to the eviction of local people from the park and a ban on accessing park resources. Given the substantial economic and socio-cultural value of these forest resources and land, local people were antagonised (Namara 2000). They reacted in various ways. In the first dry season following the promulgation, sixteen fires were set or left to burn, some deliberately. This destroyed an estimated 5% of the park (Hamilton et al. 2000). Local people sometimes resorted to violence, and UWA employees lived in fear of their lives (Sandbrook 2006).

Partly to minimize these conflicts, but also because of increasing global calls for locals to be involved as significant beneficiaries of conservation efforts, attempts were gradually made to include people at Bwindi by employing a mix of strategies. These included the provision of material goods: for example, allowing controlled access to park products; the sharing of revenues from gorilla tourism; providing park-based employment; funding household or community-level projects; and reducing the need for local people to use the parks (for example, by encouraging and supporting private tree growing) (Blomley et al. 2010). The outcomes from these initiatives have been presented as success stories of how a protected area can bring about a win-win situation advancing both conservation and livelihood objectives (WWF 2006).

From a conservation viewpoint, there was an increase of about 7% in the total size of the mountain gorilla population between 1997 and 2002, and of 12% between 1997 and 2006, and the gorillas gradually ranged over larger areas (Guschanskia et al. 2009; McNeilage et al. 2006). By comparison, nearly all other great ape sites in Africa have experienced sharp declines for decades (Caldecott and Miles 2005). The park was declared a UNESCO world heritage site in 1994. It was identified by the International Union for the Conservation of Nature (IUCN) as the site of one of the most important remaining forests in Africa (IUCN 2010). As such, a lot of ecological work has been done on the area. Most research on local people focussed on their participation and attitudes (e.g. see Namara 2000; Namara and

Nsabagasani 2003; WWF 2006), and there is a lack of rigorous assessment of the impact of the park on people's livelihoods.

### **3. Protected Areas and rural livelihoods: A brief literature review**

Rural dwellers often rely on income from their immediate environment. The level of dependence on any particular source of income will depend on peoples' access to assets. In particular, dependence on environmental resources varies between groups of households and between communities; this variation can be attributed to ecological, socio-economic, political and cultural factors (Vedeld et al. 2007).

#### **3.1 Access to assets**

Ellis (2000) offers a useful study of how households (HHs) make economic decisions. A HH bases decisions on its asset holdings and considers different activity combinations and outcomes. Assets can be categorised into five groups: natural assets, human assets, physical assets, financial assets and social capital. Additionally, some geographic determinants such as location may determine a household's livelihood outcome (Mackenzie in press). Distance to the park boundary determines both the susceptibility to crop raiding (by animals) and the entitlement of households to park-related benefits. The geographic determinants together with the household asset holdings will determine the degree to which a particular household's livelihood will be affected by the establishment of Bwindi as a national park.

#### **3.2 Livelihood strategies and outcomes adjacent to protected areas**

The diversification of income-generating activities is a key feature of the economy of rural households, especially those under stress (Ellis 2000; Reardon et al. 2000). The choices of strategy are partly determined by household characteristics, in particular access to assets, but also partly by external constraining and enabling factors. For households in the vicinity of forest resources, a considerable share of non-farming activity is related to forest resource utilisation (Vedeld *et al.*, 2007).

### **3.3 Environmental income as a livelihood strategy and its impact on inequality**

Environmental income is often a key livelihood strategy for rural households, especially for the poorest, which typically derive a higher proportion of their income in this way. EI also reduces inequality. For example, in the World Bank meta-analysis of 54 case studies by Vedeld et al. (2007), the inclusion of EI reduced the Gini coefficient (a measure of inequality) by ten percentage points.

### **3.4 PAs: Constraints and opportunities**

Most parks generate substantial economic benefits. On the other hand, establishing a park with access boundaries also implies constraints or costs. Many PAs have been established on land legally (or at least customarily) owned or used by local people and their boundaries are thus often disputed. Furthermore, there is a negative social, cultural and economic impact on local livelihoods (Adams and Hulme 2001; Igoe 2006). Examples include evictions (Brockington and Igoe 2006; Cernea and Schmidt-Soltau 2006); loss of access to land and its resources (Igoe 2006); and damage caused by wild animals to crops, livestock, and human lives (Mackenzie and Ahabyona 2012; Tweheyo et al. 2011).

To ease tensions resulting from the constraints, starting in the 1980s, the conservation constituency has increasingly taken account of concerns regarding local livelihoods (Adams and Hutton 2007). Even if a ‘back to the barriers’ movement is re-emerging (e.g. see Brechin et al. 2002; Hutton et al. 2005; Wilshusen et al. 2002), it is generally argued that PAs can and should contribute to improving the livelihoods of people living in close proximity (Brockington and Schmidt-Soltau 2004). One challenge is how to ensure that local people obtain a proper share of benefits and that they are reasonably compensated for increased costs.

## **4. Research methodology**

### **4.1 Data collection**

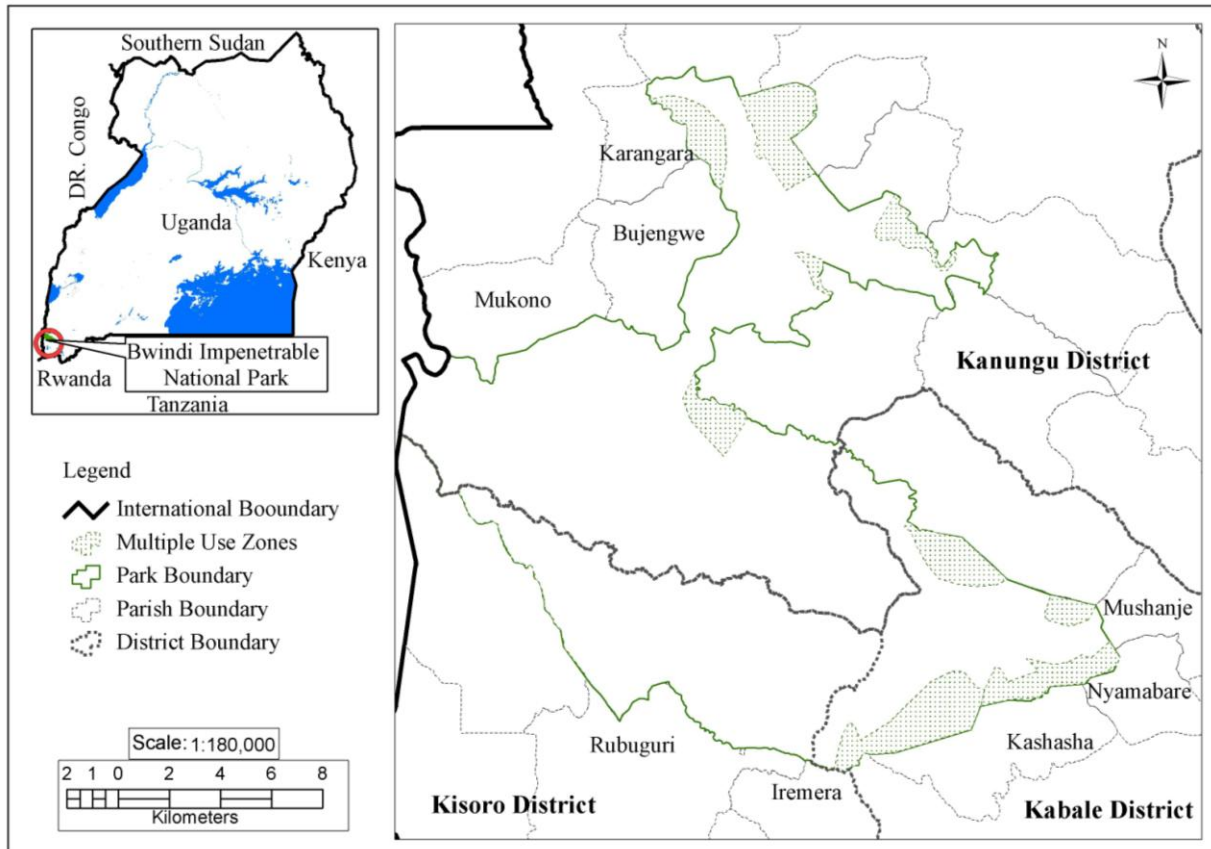
Park management restricts participation in most activities. For example tourism revenue sharing is restricted to villages that share an immediate boundary with the park. On the other hand some activities (e.g. participation in Multiple Use Zones (MUZs)) are open even to



nearby villages not directly bordering on the park. HHs closer to the park are regarded as more likely to incur park-related costs, (e.g. crop raiding) and are specially targeted as beneficiaries of most park initiatives. Within the 21 frontline parishes, people-park interactions and impacts are more frequent, and most intense in the villages sharing a boundary with the park. To understand the nature of these relationships we randomly selected as our sample eight villages that touch the park and another three nearby villages that did not share a boundary with the park.

Within each sample village, we targeted at least 15 households for semi-structured individual HH interviews. In total 190 households were interviewed. Based on a recall method for the year August 2008 to August 2009, households were asked to estimate their net income (cash and subsistence). Information was gathered relating to access to land, labour, and capital assets, the time needed to walk to the park boundary, as well as to socio-economic characteristics – i.e. household size and the age, gender, and the educational level of household head. From a preliminary analysis, crop raiding emerged as a key cost. A deeper understanding of this phenomenon was sought through a follow-up study conducted in January and February 2012. This study selected 100 farmers who had incurred damage from crop raiding in the year 2011.

The paper also draws on a rich body of data obtained from 28 qualitative interviews with local political leaders, park staff, governmental bodies and NGO representatives. We took part in local meetings and regional workshops as well as some tourism experiences, and visited tourist facilities. This paper is part of a wider research study where Bwindi is selected as a critical case in order to understand the circumstances in which PAs can contribute to local livelihoods.



**Figure 1:** Location of Bwindi Impenetrable National Park, study sites and Multiple Use Zones.

## 4.2 Data analysis

Data management was done in Stata and the R software (R Development Core Team, 2011) was used for computing statistics. Following a livelihood framework, HHs' access to assets, income sources, contributions to total income, and the variations of these with income status and proximity to the park were analysed using univariate statistics. Statistical significance was examined using the non-parametric K-Wallis for continuous variables and Chi-Square tests for categorical variables. Post estimations were done using non-parametric multiple comparisons through R's npmc library, in the case of K-Wallis tests, while individual cell contributions to residuals were examined for Chi-Square post-hoc tests. Non-parametric statistics were used because the normality assumption was not fulfilled (Logan 2010).

The valuation and methods used to calculate HH incomes draw on research by Vedeld et al. (2007). The households were divided into three income quantiles based on household income per adult equivalent unit. These were labelled 'poor', 'medium', and 'less poor'. Multiple regression models were estimated for the determinants of HH total income and dependence on the environment using linear regressions. To meet linear regression assumptions, we used robust regressions and checked the model diagnostics. Dependence on environmental income was defined by the proportion of total income from environmental sources. To fulfil normality assumptions, we logit-transformed the dependent variable (Logan 2010). The income equalizing potential of EI was investigated using the Gini index (see Vedeld et al. 2007).

## **5. Results and discussion**

In line with the livelihood framework's emphasis on HH's access to assets, activities and outcomes, we begin this section by identifying access to assets. We further look at the variation between income groups and proximity to the park. Next we identify how the national park, as an externality, both constrains and provides opportunities for people's livelihoods. We then identify and analyse livelihood activities and outcomes. This is followed by an identification of the factors that influence HHs' final total income. We emphasise the environmental income, given that its access is usually heavily impacted by the establishment and continuation of an adjacent PA.

### **5.1 Access to assets**

Key informants, focus groups and individual HHs all report that land is the main livelihood asset and as such is a good indicator of wealth among HHs adjacent to Bwindi. This focus on land also reflects a long history of land shortages in south-western Uganda (Bamwerinde et al. 2006; Turyahikayo-Rugyema 1974). There are extremely high population densities, ranging from 800 to 1000 people/km<sup>2</sup>, and these have doubled over the last 20 years. Access to land is a major constraint for income generation in many areas in Africa. HHs report heavy reliance on human capital in the form of family labour. Physical and financial capital is mentioned as

important, but these resources are very scarce. We examine how access to these and other assets varies with income categories (Table 1).

Households access land either privately or through social arrangements where clan members access jointly held land. The average household is reported to have use of about 2 hectares of land, which is less than the general average of 4 Ha for the Kigezi highlands as a region (Bamwerinde et al. 2006). Access increases with HH income (Table 1), and the less poor group owns about three times as much land as the poor group.

Poor HHs have lower education levels, and a significantly higher proportion of female headed households. Livestock is usually regarded as a near-liquid asset in rural areas, but the local people around Bwindi are traditional crop farmers with low livestock holdings.

There are no formal banking institutions, but there are various arrangements for micro-financing, ranging from small groups of households that pool money to village or community institutions based on existing social networks. Borrowing typically involves small amounts; these loans are usually to supplement consumption and not for investment purposes and the ability of these institutions to lend money is limited.

**Table 1:** Socio-demographics by income categories around Bwindi Impenetrable National Park, Uganda (2009)

Household (HH)		Household income level			Sample mean (n=190)
socio-economic factors	Unit	Poor (n=64)	Medium (n=63)	Less poor (n=63)	
<i>Natural capital</i>					
Total land area accessed***	Ha	1.24(0.25) <sup>a</sup>	1.85(0.27) <sup>bc</sup>	3.26(0.69) <sup>bc</sup>	2.11(0.26)
Own land***	Ha	1.00(0.19) <sup>a</sup>	1.41(0.20) <sup>bc</sup>	2.81(0.66) <sup>bc</sup>	1.74(0.24)
Land borrowed	Ha	0.13(0.07)	0.18(0.07)	0.21(0.08)	0.17(0.04)
Land rented	Ha	0.11(0.05)	0.23(0.06)	0.19(0.06)	0.18(0.03)
Own no land	%	4.69(2.66)	1.69(1.59)	4.76(2.70)	3.68(1.37)
<i>Human capital</i>					
HH size**	AEU	6.41(0.31) <sup>a</sup>	5.42(0.31) <sup>bc</sup>	5.23(0.30) <sup>bc</sup>	5.69(0.18)
HH head education***	Years	5.41(0.47) <sup>a</sup>	6.94(0.48) <sup>bc</sup>	7.76(0.48) <sup>bc</sup>	6.69(0.28)
Number of males	#	3.59(0.13)	3.18(0.11)	3.30(0.13)	3.36(0.07)
Number of females	#	3.73(0.20)	3.53(0.21)	3.19(0.18)	3.43(0.12)
Female headed HH*	%	15.63(4.57) <sup>a</sup>	7.94(3.43) <sup>bc</sup>	4.76(2.70) <sup>bc</sup>	9.47(2.13)
Age of household head	Years	46.69(1.76)	45.95(1.72)	45.57(1.68)	45.08(1.00)
HH is an immigrant	%	20.31(5.07)	9.52(3.73)	12.70(4.23)	14.21(2.54)
<i>Physical capital</i>					
Livestock	TLU	0.64(0.12)	0.96(0.23)	1.72(0.30)	1.10(0.13)
HH physical assets***	USD	76.97(19.20) <sup>a</sup>	118.25(26.34) <sup>bc</sup>	208.97(34.82) <sup>bc</sup>	134.43(16.27)
<i>Financial capital</i>					
Borrowed money	%	67.19(5.91)	68.25(5.91)	65.08(6.05)	66.84(3.42)
HHs with savings***	%	7.81(3.38)	17.46(4.82)	38.10(6.17)	21.05(2.97)
<i>Social capital</i>					
Membership of social organisations	%	42.19(6.22)	36.51(6.11)	46.03(6.33)	41.58(3.59)
<i>Location factors</i>					
Time to walk to park boundary	Minutes	33.59(2.65)	35.60(2.57)	35.60(2.45)	34.84(1.47)
Access to MUZ	%	4.69(2.66)	11.11(3.99)	9.52(3.72)	8.42(2.02)

USD1= U Shs. 2200. Mean values are given for continuous variables; percentages of respondents in each category are given for categorical variables. Figures in the parentheses represent standard errors.

\* indicates significant differences across income group using K-Wallis test: \*\*\* at  $p < 0.01$ ; \*\* at  $p < 0.05$ ; \* at  $p < 0.1$ . Non-parametric multiple Steel-Test analyses differences between income groups with different letter subscripts at  $p < 0.05$

## **5.2 Household activities, livelihood outcomes and wealth groups**

### *5.2.1 Household activities*

Households adjacent to Bwindi diversify their livelihood portfolios. The average diversification index is 0.4 but there is a wide range, from less than 0.1 to 0.7. All households we interviewed were subsistence crop farmers. Off-farm and non-farm activities were generally scarce in the area, but HHs report collecting environmental resources from MUZs inside the park and from areas outside the park.

The pursuit of casual agricultural employment for wages (the sale of labour to guard against crop raiding or direct involvement in crop husbandry on other farms) is the main off-farm activity and the main outside source of employment. Nearly 21% of the HHs rely on such income, but the likelihood of deriving income from these sources decreases significantly with increasing per capita income ( $p < 0.05$ ). HHs with higher per capita income are significantly more likely to engage in non-farming activities. These include teaching, working in shops or bars, trading agricultural produce, and park-related activities (e.g. working as a tourist guide or porter). Only 5% of our sample HHs report park-related employment. Many of our interviewees stated that most of these opportunities go to people from outside the Bwindi area. Some authors have attributed this to a lack of education and relevant skills among the local people (Sandbrook 2006).

While all HHs collect environmental resources, especially firewood, only 9% of HHs collect resources from MUZs. The likelihood of participating in MUZs increases in accordance with HH income. Despite the implicit statement in UWA documents that households resident in villages sharing a park boundary are target beneficiaries, we could find no evidence that residing close to a park increased the probability of receiving park-related benefits.

### 5.2.2 Household incomes by sources

The average HH's annual income is US\$1038 and the annual per capita income is US\$197 (or US\$0.54 per day). Agriculture is the main source of income for the average HH, contributing up to 51% of its income, but this is supplemented by non-farming activities (31%), by collecting environmental resources (14%), and by off-farm (4%) activities (Table 2). However, there is a marked variation between income groups, both in the absolute amounts generated from each source and in the share of total income. The less poor have the highest income from all sources, are least dependent on agriculture and derive a much higher proportion of income from non-farming sources. The poorest group has the lowest income from all sources and is most dependent on income from agriculture and environmental sources.

**Table 2:** Per capita income by source and by income status for HHs adjacent to Bwindi Impenetrable National Park, Uganda, 2009

HH income sources	All Households (n=190)	By income categories		
		Poor (n=64)	Medium (n=63)	Less poor (n=63)
<b>On-farm***</b>	100.8 (51.2)	37.6 <sup>a</sup> (65.0) <sup>a</sup>	83.6 <sup>b</sup> (66.0) <sup>a</sup>	182.3 <sup>c</sup> (44.6) <sup>b</sup>
<b>Off-farm</b>	8.7 (4.4)	5.4 (9.3)	8.4 (6.6)	12.5 (3.1)
<b>Non-farm***</b>	60.7 (30.8)	1.0 <sup>a</sup> (1.7) <sup>a</sup>	14.7 <sup>b</sup> (11.6) <sup>b</sup>	167.4 <sup>c</sup> (41.0) <sup>c</sup>
<b>Environmental***</b>	26.8 (13.6)	13.9 <sup>a</sup> (24.1) <sup>a</sup>	20.0 <sup>b</sup> (15.8) <sup>b</sup>	46.7 <sup>c</sup> (11.4) <sup>c</sup>
<b>Total</b>	<b>197.0</b>	<b>57.8</b>	<b>126.6</b>	<b>408.7</b>

USD1= U Shs. 2200. Figures are for absolute incomes in USD. In parentheses represent percentage contributions to the average per capita income. \* indicates significant differences across income group using K-Wallis test: \*\*\* at  $p < 0.01$ . Non-parametric multiple Steel-Test shows differences between income groups with different letter subscripts at  $p < 0.05$

The less poor have better access to assets, which probably facilitates entry across barriers, such as capital investments for non-farming activities. Poor HHs, with less access to assets, usually engage in activities with lower entry requirements, particularly the sale of labour on other

people's gardens. Almost all HHs involved in selling labour complain that the remuneration is marginal compared to the labour input.

Poor HHs have significantly lower access to incomes from outside the family farm (Carney 1998), but Bwindi presents a special case, given its particular history and present context. Since 1991 a large number of project-based interventions have been implemented with the expressed aim of increasing opportunities for the generation of off-farm and non-farm income, especially for the poorest groups (Blomley et al. 2010). However, as we see here, incomes have remained low and the contribution of these interventions to HH income is generally meagre.

Income from environmental resources is significantly higher among the less poor because most of these resources are found on private land to which the poorest HHs have little access (Table 1). However, even if total income from environmental resources is low among poor HHs, their dependence on these incomes is high (26%) – compared to 16% and 13% among the medium and less poor HHs respectively. Similar observations have been made in a number of other studies (Tumusiime et al. 2011; Vedeld et al. 2007), which supports the assertion that EI is more important for poorer HHs.

A major objective of a rural household is to secure a sustainable livelihood. In economic terms this is measured as the ability to generate cash and subsistence incomes sufficient for survival and for reasonable livelihoods. We find that poor HHs and those bordering the park are more likely to have to generate income from family farming; they are also the group that is most dependent on environmental income. Restricting access to environmental resources through stricter enforcement of protection is therefore likely to have a disproportionate effect on these HHs, most of which already live on less than a dollar a day.



### 5.3 Determinants of total income

To explain factors that may determine HH total income we regressed HH per capita income against HH characteristics in the form of access to land, labour, other capital assets, but also park related variables (Table 3). The F-statistics and corresponding probability show that the explanatory variables are jointly significant in explaining total income. The model explains 35% of the total variation in HH total income.

**Table 3:** Determinants of household income around Bwindi Impenetrable National Park, Uganda, 2009

Household (HH) characteristics	Unit	Estimate	Std. Error	t-value	Pr(> t )	
<i>Natural capital</i>						
Total land area accessed	Ha	28.21	10.10	2.79	0.006	***
Own no land	Ha	176.02	199.31	0.88	0.378	
<i>Human capital</i>						
HH size	AEU	13.35	21.14	0.63	0.529	
HH head education	Years	8.94	9.89	0.90	0.367	
Number of males	#	58.01	50.29	1.15	0.250	
Female headed HH	%	-199.75	115.40	-1.73	0.085	*
Age household head	Years	1.25	2.70	0.46	0.644	
HH is immigrant	%	15.87	95.47	0.17	0.868	
<i>Physical capital</i>						
Livestock	TLU	59.09	20.04	2.95	0.004	***
HH physical assets	USD	0.13	0.15	0.83	0.408	
<i>Financial capital</i>						
Borrowed money	Yes	-104.06	72.63	-1.43	0.154	
HH has savings	Yes	86.89	85.33	1.02	0.310	
<i>Social capital</i>						
Membership to social organisations	Yes	1.44	67.36	0.02	0.983	
<i>Location factors</i>						
Time to walk to park boundary	Minutes	0.85	1.61	0.53	0.595	
Access to MUZ	Yes	214.16	116.41	1.84	0.068	*
Intercept		-6.40	267.07	-0.02	0.981	
F-statistic (15, 172 df)		4.68				
Prob > F		0.000	***			
R <sup>2</sup>		0.35				

\*\*\* is significant at  $p < 0.01$ ; \*\* is significant at  $p < 0.05$ ; \* is significant at  $p < 0.1$

We find that HH income increases with the amount of land accessed, and Tropical Livestock Units owned. The existence of the park thus seems to negatively affect local people's incomes because it diminishes HH access to all of these. There are land use restrictions which reduce local access to farming land as people are physically evicted from park land and they cannot open new land for cultivation inside the park. They are further not allowed to graze livestock in the park. Households with access to the park Multiple Use Zones have significantly higher incomes. This is probably because participation in bee keeping, the most lucrative activity within the zones, is selectively available to better-off households. The activity has entry barriers such as membership fees, purchase of bee hives, and generally requires connections with group leaders.

Total incomes are significantly lower among female headed households, possibly because of a lack of means to seek employment away from family (Shackleton and Shackleton 2004; Vedeld et al. 2007). Such HHs usually have poorer access to assets, particularly to labour (Shackleton and Shackleton 2006) which limits their ability to pursue particular income generating activities.

#### **5.4 Environmental income resources and dependencies**

We have seen that poor HHs obtain a higher proportion of their income from the environment through combining the collection of park and non-park environmental goods. However, three key observations emerge.

(i) The less poor collect environmental resources and sell these for cash, whereas the poor focus on subsistence collection. Timber, poles and carpentry, and wild food, especially honey, are the main sources of cash income and these account for about 78% of the EI of the less poor households, compared to 34% among the poor HHs. Firewood, the main resource used for subsistence, contributes about 60% of the EI of poor HHs as compared to 21% among less poor HHs.

(ii) In absolute terms the less poor households collect more from nearly all sources, and especially timber and wild food.

(iii) The park contributes only marginally (1.5%) to HHs' total environmental income. This is because of the strong restrictions in the kind and amount of environmental resources permitted in the Multiple Use Zones. The park is thus currently an insignificant source of environmental income.

### 5.5 Income inequality and the equalizing potential of environmental income

Does access to EI, even if there are constraints, reduce income disparity in Bwindi? Income inequality measured on the basis of total per capita income is 47.5% and rises to nearly 51% in the absence of EI (Table 4), suggesting that EI has an alleviating effect. A similar trend is observed within categories when data is disaggregated according to income level and park proximity. The change is greatest among the poor households (6.2%) and is least among less poor households (3%). This suggests that EI is more important to the most poor within each group, especially the poorest of the poor.

**Table 4:** Effect of environmental income on income inequality by income group, Bwindi Impenetrable National Park, Uganda 2009

	All households	Within wealth categories		
		Poor	Medium	Less poor
<i>All income</i>	47.5	16.7	10.9	29.1
<i>In absence of EI</i>	50.9	22.9	14.9	32.1
<i>% changes less EI</i>	3.4	6.2	4.0	3.0

## 5.6 The park and surrounding people

Bwindi affects livelihoods of communities on its borders in both positive and negative ways.

### 5.6.1 People and park costs

The park costs for these communities are related to the direct consequences of physical eviction, such as the loss of agricultural land and properties when the park was established in 1991. This also resulted in restricted access to in-park resources. The protection afforded to wild animals also resulted in long-term damage to crops, livestock and human life.

**Physical evictions:** Human settlement in the Bwindi area probably dates back to between 32000 and 47000 years (Cunningham 1996). These early settlers were hunters and gatherers. Clearing of forested areas for cultivation started about 2200 years ago (Taylor and Merchant 1995) when Bantu (Bakiga) people arrived in the area and brought with them iron-smelting technology (Wild and Mutebi 1996). An interdependent barter system developed, involving the Batwa hunter-gatherers who lived in the forest and the Bakiga cultivators, with the exchange of forest products for food (Namara 2000). Over centuries forests were gradually converted to agricultural land, resulting in a mixed agricultural and forest landscape. When the area became a national park in 1991, both the Batwa hunter gatherers and their Bakiga neighbours were evicted and exposed to various impoverishment risks, leading to the need to reconstruct their livelihoods.

Local people mentioned effects such as *landlessness*, *homelessness* and *joblessness* resulting from loss of access to substantial crop fields on forest land. This contributed to *food insecurity*, and has recently been exacerbated by crop raiding. Records of affected people are scanty, but generally Bakiga HHs also had land or relatives outside the park boundaries and were less affected than the Batwa, who were more directly reliant on the forest (Kidd 2008). Between 50 and 100 Batwa families were evicted (IUCN 1994). The Bwindi (and neighbouring Mgahinga gorilla park) region is now home to some 3500 Batwa (Neza 2006). Settled in 39 communities, these have either limited access or no access to land. About 9.4% live on government land,

10% on land belonging to the Church of Uganda while over 80% depend on private arrangements through which they are grossly exploited by local landlords (African Commission on Human Peoples' Rights 2009).

Several households mentioned that landlessness or joblessness led some family members or relatives to take seasonal work away from home, while others were forced to migrate. This is also confirmed by official records: by 1991 about 320,000 people born in the area had migrated to other parts of Uganda. This was more than half of the area's population in 1991 (MFPED 1994). However, population growth throughout the south-western corner of Uganda has generally led to high migration (particularly among the Bakiga) to other areas of Uganda and park creation is only a partial explanation. But in general, such migrations often cause *social disarticulation* as they break up families. An estimate of the costs related to these evictions is beyond the scope of this paper, but it suffices to note that local people still mention these costs more than two decades after the evictions.

**Restricted access to park resources:** Local people also *lost access to common property* following the park declaration. However, in 1993, the park management piloted Multiple Use Zones (MUZs) to allow people to collect selected resources in about 20% of the park area, outside the gorilla ranges (see Figure 1). Only 9% of our sample households reported that they collected in-park forest resources. This low figure is explained by the following factors: (i) the location of zones does not match local human needs; (ii) where access is allowed, these areas often lack valuable resources; (iii) with conservation as the primary goal, annual harvest quotas are set at only 1% of the available plant biomass for allowed species; (iv) the 20% provided for in the management plan has already been utilised (Bitariho and Barigyira 2009).

The restrictions in defining MUZs, and kind of resources that can be accessed, highlight the difficulty of reconciling the multiple interests at play when it comes to conservation. For example: how does one make sensible trade-offs? The interests of non-local actors often dominate because of asymmetrical power relations; the trades-offs often constrain rural livelihoods and reduce local support for conservation efforts. This needs to be carefully

thought through as the pressure to introduce protective measures is increasing in many developing countries (as a result of commitments to the Convention on Biological Diversity and of recent, agreements to reduce emissions from deforestation and degradation (REDD)).

Households reported difficulty in accessing forest products privately. This applied especially to the poor households which have less access to land (Table 1). When looking at the number of households accessing MUZs there is little evidence that poor households obtain much benefit from MUZs. Similarly, in terms of proximity, households bordering the park do not access MUZs more than more distant households. As has been pointed out, the findings of this study indicate that only 0.4% of HH total income comes from the park environmental resources through access to the MUZs. In other rural areas, an average park neighbour obtains up to 7% of HH income from common forests. By extension, the restrictions at Bwindi mean that the average neighbouring HH foregoes about 6% of its annual income.

**Crop raiding:** About 25% of the sample households mention marauding park animals as a major constraint on their livelihoods. Major culprits are gorillas (in Kanungu and Kabale areas), elephants (in Kisoro) and monkeys and baboons (throughout the whole region). There is a wide variation in the reported extent of direct annual losses. Estimates range from US\$27 to US\$2700, with an average victim reporting a loss of US\$384 per year or 37% of the HH's annual income. We acknowledge a tendency for people to overestimate their losses. For example Tchamba (1996) found a 30% difference between farmers' estimates and actual losses in Cameroon, while Mackenzie and Ahabyona (2012) report a 20% difference around Kibale National Park in Uganda. If we allow for a 30% disparity, an average victim household still loses about US\$269 per year or 26% of its annual income.

Crop raiding cases are reported to be on the increase because (i) gorillas are losing their fear of people and increasingly spend more time outside the park; and (ii) the general animal population has increased as a result of protection. Crop raiding has serious consequences for food security. Households which do not border on the park also report frequent visits by park

animals, but the probability of these is significantly higher for HHs on the park border ( $p = 0.061$ ).

The need to guard against crop raiding imposes an additional cost. About half the victim households employs paid guards, the other half uses family labour. Among those hiring labour, the average annual cost is reported to be US\$190 or 18% of a HH's annual income. Households using family labour can be expected to spend about half this amount since the guarding is usually done by children. However, this disrupts their formal education: already many youths attribute dropping out of school to guarding against crop raiding (Tumusiime and Svarstad 2011). The marauding animals also threaten human life through direct attacks and inter-species transfer of disease. Interviewees also reported abandoning land immediately bordering the park. Villagers reported inordinate levels of stress as a result of livelihood losses from crop raiding and the lack of compensation. UWA itself accepts that there are problems, but is reluctant to consider compensation schemes because of their 'complexities' – but also, as these figures reveal, because of the sums involved.

There are thus substantial costs for people living around the park. As much as 30% to 40% of the annual income of victim households is lost due to crop raiding. Since these households constitute about a quarter of the sample, this amounts to about 10% of the annual income of an average park neighbour. Limited access to park resources reduces the total income of an average park neighbour by about 7%. This brings the annual loss for an average park neighbour to 17% of the total HH income. In addition one should take into account the historical costs related to the loss of agricultural land and property inside the park.

### *5.6.2 Benefits of living close to Bwindi*

The Bwindi Impenetrable National park also delivers benefits to local people through the livelihood opportunities associated with gorilla tourism and support from park-related NGOs.

#### 5.6.2.1 Livelihood opportunities from the gorilla tourism

*Tourism revenue sharing:* The mountain gorillas make Bwindi a very popular and highly valued tourist destination. The UWA organises ‘tracking’ tours for the tourists to see the eight groups of gorillas that are habituated to people. Each tour group accommodates up to eight tourists per viewing day.

A Uganda wildlife statute requires that park management ploughs back US\$6 in payment from every park visitor into adjacent local communities. From the start of the revenue-sharing scheme in 1996 to the end of 2009 (a period of 13 years), an estimated US\$178,902 has been spent among the local communities adjacent to Bwindi. This amounts to an average annual disbursement of US\$13,000 or US\$0.08 per person per year if we include the entire population of the 21 parishes adjacent to the park. This amount has gradually increased as more gorilla groups have become habituated to human contact. The amount available per individual has also increased as since 2006 the focus has shifted to direct support of the livelihoods of people in the villages which border on the park. For example, whereas Nyamabare (one of the 21 parishes surrounding the park) has eleven villages, only four share a boundary with the park. In 1996 the parish received US\$1818 which was invested in constructing a primary school for the benefit of the whole parish. In 2009 the parish received US\$1976 or US\$5 per HH in direct support of projects aimed at improving HH livelihoods in the four villages sharing an immediate boundary with the park.

Through the advocacy of civil society organisations, efforts have been made to increase the proportion of tourism revenue allocated to local people. In 2006, a Gorilla Levy Fund was established, requiring that from each permit bought, US\$5 should be allocated to local governments as a conditional grant to support livelihoods in villages adjacent to Bwindi. The funds are disbursed after every two years so that a bigger allocation can be made each time. They were disbursed in August 2009 during UNEP’s celebration of ‘the year of the gorilla’ (for the July 2006 – June 2008 collection) and in July 2010 (for the July 2008 – June 2010 collection) (see Table 5). Under this arrangement, Nyamabare parish, with a population of 2015 people (or 381 households) in the four villages sharing a park boundary, has received about US\$7per HH per year.



Through tourism revenue sharing and the Gorilla levy fund, the park contributes US\$12 per HH per year or 1.16 % of an average household’s annual income. In comparison, at a nearby Kibale National Park, a sharing scheme from Chimpanzee- (*Pan troglodytes*) based tourism has disbursed an equivalent of US\$1 per HH per year in community projects (MacKenzie 2012). Therefore Bwindi contributes substantially to the local people. This partly because of higher revenues accrued since gorilla trekking costs US\$500 whereas chimp trekking costs \$80.

**Table 5:** Distribution of the Gorilla levy funds at Bwindi Impenetrable National Park, Uganda

<b>District</b>	<b>2006 – 2008</b>	<b>2008 - 2010</b>
Kanungu	79,321	78,132
Kabale	33,995	33,324
Kisoro	18,302	19,262
<b>Total</b>	<b>131,618</b>	<b>130,717</b>

Unit = USD(\$) (\$1 = 2200 UGX Shillings)

*Employment opportunities:* Although some access constraints exist (Sandbrook and Adams 2012), a limited number of local people are employed in some positions related especially to gorilla tourism. This is mainly in service provision (e.g. tourist guides and porters, waiters) but also the sale of produce to lodges and camps where tourists are accommodated. An average individual household member earns 5 US\$/year or US\$22/HH/year (or 2.1% of the average HH’s annual income) from park-related employment.

#### 5.6.2.2 Support from park-related NGOs

Ever since the establishment of the park, and up till today, several NGOs work in the area to promote conservation and improve local livelihoods. The oldest is CARE’s (Cooperative for Assistance and Relief Everywhere) Development Through Conservation (DTC) programme that started in 1988. The main goal of this programme was to improve local perceptions of the park. In its first phase, which ended in 1991, the programme targeted increased awareness of environmental conservation and trained local communities in tree planting and soil conservation. Once the park was established, DTC started its second phase, collaborating with the UWA to pilot and establish MUZs. The third and final phase of the programme ran from

1997 to the end of the programme in 2002. Here the focus was on sustainable improvements in the ecological status of the park's biodiversity, on livelihood security and on ensuring that HHs receive an equal share of the economic and social benefits of conservation (Malpas et al. 2002). CARE-DTC spent US\$340,457 per year between 1996 and 2006 (Bush and Mwesigwa 2007).

Another important player has been the Bwindi Mgahinga Conservation Trust (BMCT) created in 1995 by the World Bank's Global Environment Facility (GEF) to support park management and local development. BMCT spent US\$319,049 per year between 1996 and 2006 ((Bush and Mwesigwa 2007) in the 54 parishes surrounding both Bwindi and Mgahinga Gorilla parks. Of this, 60% (or \$191,429) was invested in community development projects, 20% supported ecological and socio-economic research and monitoring activities, while 20% supported park management. These institutions work in both the first and second parish from the park boundary.

The Trust and CARE jointly spent US\$531,886 per year or US\$9850 per parish per year in the period between 1996 and 2006. Taking Nyamabare parish as an example, this translates into US\$26 per HH per year, or about 2.5% of the average HH income. The Trust continues to work in the area. Whereas CARE now mainly supports management, other players have come in, notably the International Gorilla Conservation Project (IGCP). The IGCP is a coalition established in 1991 comprising the World Wide Fund for Nature (WWF), the African Wildlife Foundation (AWF) and Fauna and Flora International (FFI). The IGCP works to improve the socio-economic conditions of people living adjacent to the gorilla ranges, and seeks to influence local attitudes to favour conservation (WWF 2006). It is thus reasonable to assume that the average household continues to get at least 2% of its annual income from the support offered by park-related NGOs.

In sum an average HH gets at least 5.7% of its annual income from park-related sources. The figure may however get higher among communities that have entered into arrangements with commercial enterprises, such as the eco-lodge at Nkuringo, where the community is a co-owner of a five-star tourist lodge.

### **5.6.3 Comparing costs and benefits**

The percentage contribution of Bwindi to the annual income of an average park neighbour is significant. Few studies of this nature have been carried out in Uganda, but a recent study in Tanzania reveals a 2.5% contribution (Vedeld et al. 2012).

The challenge is to compare benefits and costs. Balanced studies of the benefits and losses that communities incur from proximity to PAs are still hard to find, but they are useful guides to the study of conservation approaches that minimise local conservation costs (Brockington et al. 2008; Igoe 2006). An average household loses 10% of its annual income through damage caused by wildlife alone. This figure is twice the benefit the household gets from the park. An additional concern derives from Tumusiime and Sjaastad's (forthcoming) observation that while the consolatory benefits associated with the now-closed DTC programme tended to accrue to cost victims, the distribution of goats (which is currently the main mode of sharing tourism benefits) does not significantly benefit cost bearers. The reasons for this relate to the institutional failures highlighted by Tumusiime and Vedeld (2012).

In terms of the indirect costs, particularly those arising from restrictions to access of park resources, Multiple Use Zones at present make only a marginal contribution to HH incomes. Given the well-established importance of environmental income to the livelihoods of the rural poor (Vedeld et al. 2007), (also demonstrated by the relatively higher percentage contribution of EI to the incomes of the poor households, and its income-equalizing potential) restricted access to park resources impacts most severely on poor households.

## **6. Conclusion**

Households in the Bwindi area have limited access to assets, and entry barriers constrain their ability to provide reasonable livelihood options for themselves. An overwhelming majority of local people are subsistence farmers living on about half a dollar a day. Their main income derives from agriculture (51%), non-farming activity (61%), off-farming activity (9%) and environmental sources (14%). These limitations are most severe among poor households. Opportunities for income generation away from the family farm are significantly weighted in

favour of less poor HHs, generally because of their greater access to assets. A poor household gets less than 2% of its income from non-farming sources, and relies substantially on environmental resources to fill the gap.

Environmental resources contribute nearly a quarter of the total income of poor households, as compared to 16% and 12% for medium and less poor households respectively. Most of this is derived from private sources. The park resources contribute only 0.4% of an average household's income. Even then, these resources contribute more to the environmental income needs of poor HHs (2.7%), compared to 1.7% and 0.9% for medium and less poor households respectively. The poor are thus more dependent on environmental resources (Vedeld et al. 2007).

The park is an important player in the lives of the surrounding communities, partly through the cost implications relating to the use of agricultural and environmental resources, but also through the benefits generated by the park's initiatives to combine conservation with development. With regard to income from agriculture, the existence of the park restricts the livelihoods obtained from the traditional expansion of agricultural into forest land. Many people also report abandoning land on the park boundary as a result of increased wildlife crop raiding. These costs are not examined here, but evidence from other Ugandan national parks reveal these to be substantial (e.g. see Ditiro 2008). Costs related to crop raiding show that an average park neighbour loses 10% of the total HH income from wildlife damage, while an extra 7% is lost because of restrictions on accessing wild resources from the park. In comparison, an average household receives only about 5% of its income from park-based initiatives. These figures are rough estimates and we recommend a more intensive study of the park benefits and costs. However these figures are indicative of the scale and trend of the costs involved. The average park neighbour household loses more than it gains from its proximity to the park.

When compared to other national parks in Uganda, or in the region, Bwindi seems to generate more benefits for local people, and the flow of benefits has gradually improved with developments in gorilla tourism, and with a more specific focus on households in villages bordering the park. But overall, park costs still outweigh benefits for the locals, and more concerted efforts are needed to increase benefits to the local people while at the same time reducing the costs, particularly costs related to crop raiding. The inability of the relatively extensive interventions at Bwindi to provide satisfactory livelihood outcomes for the local people suggests a general need to revise policies on costs and the sharing of benefits and a deeper involvement of local people in park management. This applies even more forcefully to other parks in Uganda, where much less is done to benefit local populations. Such steps are necessary preconditions if we are to move beyond the rhetoric in our efforts to ensure that conservation does not have a detrimental effect on local livelihoods.

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# **The Costs and Benefits of Conservation: Consolation, Inequality, and Attitudes around Bwindi Impenetrable National Park**

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## **Abstract**

We investigate the allocation of costs and benefits around a national park and its effects on the attitudes of local communities. We find (i) a significant positive association between perceived realization of benefits and incurrence of wildlife damage costs, (ii) significant interdependence between benefit categories in terms of their realization by individual households, and (iii) that four of ten benefit categories contributed to increased local inequality while only one category exhibited the opposite effect. Improved attitudes towards the park seem to have resulted from a complex of effects rather than any single benefit or cost category.

Keywords: Uganda, protected area, benefit-sharing, crop raiding, attitude

## 1. Introduction

Over the last decade or so, a dramatic increase in the global expanse of protected areas has been attended by a renewed vigour in debates about the compatibility of conservation and development goals (Chape et al. 2005; Minter and Miller 2011). A central issue in this debate has been the social effects that establishment and consolidation of protected areas have for people living in and around them (Adams and Hulme 2001; Brockington and Igoe 2006; Roe 2008; Upton et al. 2008; Wilkie et al. 2006; Wittemyer et al. 2008).

Since the 1980s, a popular idea has it that protected areas, in order to stand a chance at long-term survival, must win the support of locals (IUCN et al. 1980; Strong 1977).<sup>1</sup> Widespread disappointment with the so-called integrated conservation and development initiatives that sprung from this idea, however, has served to re-polarize the recent debate (Barrett and Arcese 1998; Brandon and Wells 1992; McShane and Newby 2004; Robinson and Redford 2004). This paper aims to contribute to this debate by examining the effect of locally targeted conservation and development initiatives in and around a national park in Uganda.

People living around protected areas – and specifically national parks – are affected across a number of dimensions, related to their livelihoods, their culture, their security, and their access to public and environmental services (Balmford et al. 2002; Dixon and Sherman 1991). Different people will be affected in different ways and the manner in which costs and benefits are allocated will presumably influence people's attitude towards the protected area.

In this paper, we investigate the allocation of costs and benefits around Bwindi Impenetrable National Park (Bwindi hereafter) and its effects on the attitudes of local communities surrounding the park. Bwindi was converted to a National Park in 1991, amid removals of the Batwa forest people, prohibition of traditional uses of the forest, and widespread local acrimony. Since then, a number of different programmes and initiatives have been put into effect with the aim of assisting local livelihoods and altering attitudes towards the park. Our objective is, through statistical analysis, to link people's attitudes towards the park to the benefits they enjoy and the costs they

suffer. We wish, first, to assess the degree to which the benefits generated by the park are allocated to the same individuals that bear the costs; that is, do these benefits act as a form of consolation for damages suffered? Second, we investigate how park-related costs and benefits affect local economic inequality by comparing the economic characteristics of the groups to whom costs and benefits are distributed. Lastly, we examine whether conservation and development initiatives around Bwindi – and the benefits and costs they have generated – have had any significant effect on the attitudes that locals possess towards the park.

We believe studies such as this are important. In the absence of direct compensation for damages caused by the park – in particular crop and livestock raiding by wild animals – conservation and development initiatives may play a crucial role in terms of assuaging local discontent and mitigating conflict; but to be effective, the targeting of such measures must be accurate. More generally, if the costs and benefits generated by the park lead to greater economic differentiation, the formation of local winners and losers may increase the number of very poor households and contribute to a divisive social environment. Finally, identifying, from an array of initiatives, those that have had a positive effect on local attitudes towards the park may allow future efforts to focus on effective measures and discard ineffective ones.

We proceed in the following section to discuss the literature on the costs and benefits of national parks and their effects on local livelihoods and attitudes. In Section 3, we describe the natural and social features of Bwindi Impenetrable National Park and its surrounds. Section 4 reviews our methods. Section 5 reports on the allocation of costs and benefits and its implications for “consolation” on the one hand, and inequality on the other. Section 6 analyses the link between benefits, costs, and stated attitudes towards the park. Section 7 concludes.

## **2. Costs and benefits, allocation and attitudes**

### **2.1 Costs and benefits**

Increasing reconciliation of conservation and development objectives through the 1980s led to the emergence of broad ideas such as community conservation,

community-based natural resource management, joint forest management, and proliferation of what would become known as integrated conservation and development projects (ICDPs). Disappointment with the performance of these models, however, led to a backlash towards the turn of the millennium, first because conservationists perceived ICDPs as incapable of meeting conservation goals (Brandon et al. 1998; Kramer et al. 1997; Oates 1999; Terborgh 1999) and then because development activists and scholars feared, or perceived, a return to “fortress conservation” and human rights abuses in international conservation efforts (Adams and McShane 1992; Chapin 2004).

The “win-win” discourse, based on the notion that protected areas can be largely beneficial to locals as well as instrumental in achieving conservation goals, has nevertheless been a dominant one since the late 1980s (Benjaminsen and Svarstad 2010). While ICDPs focusing on sustainable resource use became the emblematic expression for this discourse, the implications for national parks were not entirely clear. Tourism notwithstanding, national parks are generally restrictive with respect to opportunities for within-park resource use, so conservation and development initiatives must largely emphasise “compensatory” or “consolatory” projects outside the protected area.

The costs to local people of establishing a national park are many and varied. Most dramatically, the creation of a national park may involve eviction of people – sometimes large numbers of people – living or farming inside the area to be protected (Brockington and Igoe 2006; Geisler and De Sousa 2001). Even when evictions are few or absent, the creation of a park will normally cause a drastic reduction in local people’s access to wild resources, with an associated reduction in environmental incomes (Tumusiime et al. 2011).

Beyond loss of dwellings and farmland and access to wild resources, damages to crops, livestock, people, and infrastructure caused by wild animal are often the most important costs associated with protected areas (Mackenzie and Ahabyona 2012; Tweheyo et al. 2011). These include not only crop and livestock raiding by an assortment of wildlife but also spreading of diseases from wild animals to livestock and trampling of fields and destruction of dwellings, fences, and soil conservation

structures by large mammals. Moreover, the direct value of the damages may in some cases be only the tip of the iceberg, as farmers engage in costly preventive adaptations and measures such as keeping guard, erecting barriers of various kinds, switching to less damage-prone crops, or even migrating (Vedeld et al. in press). More generally, all these costs may contribute to an uncooperative social environment wherein local dwellers resort to illegal and conflictual activities (Infield 1988). The burning of park land, the killing of wildlife, and the proliferation of fines and arrests for illegal extraction are symptoms of such an environment.

A national park, however, also provides economic opportunities for the local population. Most obviously, a park that becomes popular with tourists may provide jobs and business opportunities. Development of a tourist economy may also provide benefits such as improved roads and communications infrastructure, better transportation, and enhanced security. Furthermore, conservation of forests may lead to improved environmental services – in particular soil conservation and stabilisation of water flows – for the local population.

While the above benefits may be termed “indirect” in the sense that they normally appear as unintended but positive spillover effects of conservation efforts, there is usually also a set of “direct” benefits which emerges from initiatives designed specifically for the local population. Such initiatives may include limited permits to use or extract park resources, redistribution of tourist or tax revenues through community development initiatives (for example the erection of schools and clinics), or direct investment assistance for local businesses and farms. Such initiatives merit, in our view, special attention, as they represent one of the key dimensions in which park authorities and conservation groups can influence local attitudes and local development, and we will later discuss in some detail the nature of such initiatives in and around Bwindi.

## **2.2 Allocation**

The distribution of costs and benefits from protected areas has received considerable attention in recent years. Much of this literature has, however, focused on the problem



of leakage – the escape of tourism revenues abroad or to centrally-based businesses and institutions (e.g. Mowforth and Munt 2003; Sandbrook 2010; Wells 1992).

Our focus in this paper is different, in that we wish to examine the allocation of conservation benefits and costs among a local population largely homogenous in terms of ethnic origins and traditional livelihoods. The notion that the benefits of conservation and tourism fall unevenly upon local populations is certainly not new. Vedeld et al. (in press) found that the costs of conservation – in particular crop raiding by wild animals – around Mikumi National Park in Tanzania were largely incurred by the poorest segment of the community. Ribot and Peluso (2003) explain these relationships more generally by the access constraints facing poorer households. Gender and education may serve to accentuate differences (Simpson and Wall 1999; Sinclair 1997), while ethnically-rooted livelihoods may lead to a very uneven allocation of costs (Brockington 2004).

Allocation of costs also raises the problem of compensation. Initially, it boils down to a simple Coasean problem of allocating a property right to cause damage or avoid damage (or liability rights to cause damage contingent on adequate compensation). As Nyhus et al. (2005) note, American courts have historically treated wildlife as *res nullius* (nonproperty), limiting federal liability. In both North America and Western Europe, however, damages caused by endangered species commonly entail a right to compensation. Compensation has obvious benefits in terms of promoting more positive attitudes towards conservation and avoiding conflicts (Nyhus et al. 2005).

Theoretical and empirical studies of compensation schemes largely focus on damages to livestock and fish in North America and Europe, where wildlife populations very rarely pose any problem for crop production (e.g. Bulte and Rondeau 2005; Nyhus et al. 2003; Rollins and Briggs 1996; Schwerdtner and Gruber 2007). Nevertheless, this literature also raises the problem of cost-effective compensation schemes, given the high transaction costs of ascertaining the origins and extent of damages, and the adverse incentives – in terms of self-insurance, preventive measures, agricultural expansion, and proliferation and exaggeration of claims – that compensation schemes may generate.<sup>2</sup>

In particular, Nyhus et al. (2005) and Schwerdtner and Gruber (2007) discuss the possibilities for ex-ante rather than ex-post compensation for wildlife damages. Such schemes, which entail advance payments for expected damages, may lead to substantial transaction cost savings but require some measure of predictability in terms of the spatial and temporal distribution of damages. For the present inquiry, a relevant issue is the extent to which ICDPs can act as an adequate alternative to direct compensation.

### **2.3 Attitudes**

The allocation of costs and benefits to locals will, we can assume, influence their attitudes towards the protected area. Evidence on the links between allocation and attitudes is, however, quite mixed, and we take this as an expression of the great variety that exists in terms of nature itself, how nature is protected, how nature and its protection influence the livelihoods of local communities, and the underlying cultural and economic parameters that obtain within these communities (e.g. see Dasgupta et al. 2005). Nonetheless, some broad conclusions from the literature are available.

A majority of studies find that local attitudes towards protected area conservation are mainly based on utilitarian considerations; that is, the capacity of protected areas to provide tangible benefits not only in the form of jobs or improved infrastructure but also environmental services (Gadd 2005; Infield 1988; Mordi 1991; Newmark and Hough 2000; Parry and Campbell 1992). Local attitudes towards conservation of wildlife, for example, may to a large extent depend on whether a species is seen as a threat to agricultural livelihoods or as a legitimate target for hunting (Baral and Heinen 2007; Mehta and Kellert 1998). Non-utilitarian justifications for conservation are, however, occasionally also voiced by locals (Harcourt et al. 1986; Hill 1998).

Furthermore, the attitudes of local communities towards the protected area itself are generally more favourable than often assumed, and also generally more favourable towards the managers and staff of protected areas (Infield 1988; Ite 1996; Newmark et al. 1993; Parry and Campbell 1992). This latter lesson points up the more general problem of how community conservation initiatives are implemented and perceived by local beneficiaries:

“In the effort to win the support of local communities for conservation, ICDPs frequently share park revenues, provide employment, or permit access to plant and animal resources. However, most provide only nominal opportunities for community-wide participation and often fail to link development benefits directly to community conservation obligations. The result is that many ICDPs may unintentionally promote dependency rather than reciprocity and have often treated local communities as recipients of aid rather than partners in development.” (Newmark and Hough 2000:589).

This problem may be particularly relevant in national parks such as Bwindi, where severe restrictions on use of park resources limit the range and depth of potential community conservation initiatives. Of significance is also the degree of awareness about the link between forest and wildlife conservation on the one hand and realisation of benefits from tourism on the other; where such awareness is lacking or thin, locals may possess positive attitudes towards tourism but negative attitudes towards conservation (Mehta and Kellert 1998; Walpole and Goodwin 2000).

Where wildlife damages to crops or animals are a significant concern for more than a small minority, such concerns may dwarf the benefits associated with proactive development and conservation initiatives, and local attitudes towards conservation may remain unaffected by these initiatives (Arjunan et al. 2006).

There is, finally, also a potential paradox associated with protected areas where development initiatives are successful and economic opportunities are abundant. Local economic growth may encourage increased investment in unsustainable practices such as poaching (Ferraro and Kramer 1997) and may also more generally attract in-migration to areas surrounding the protected area to a point where conservation is threatened (Wittemyer et al. 2008). Thus, initiatives designed to alter local attitudes towards conservation may, when successful in developmental terms, serve to undermine conservation objectives.

The attitudes of local people towards protected areas are justifiably seen as important. Favourable attitudes towards conservation may serve to limit activities – such as the

burning of land or the killing of animals – that threaten conservation and may help to avoid conflict and engender a cooperative relationship between park management and local communities. As the literature reveals, however, the manner in which the allocation of costs and benefits influences attitudes towards protected areas may be complex. And the consequences of community conservation initiatives designed to affect local attitudes, whether successful or not, may be unpredictable and in some cases counterintuitive.

## **2.4 Evidence from Bwindi**

The elevation of the protection status of Bwindi from forest reserve to national park in 1991 impacted the local people in various ways. The most immediate was the eviction of Batwa forest dwellers and their Bakiga neighbours. As traditional farmers, the latter had frequently opened up new farming land in the reserve. Protection as a forest reserve permitted collection of forest resources for domestic use, but this was banned in the national park (Wild and Mutebi 1996). In addition, increased protection resulted in growing wildlife populations. Local control methods such as poisoning and hunting were outlawed, and gorilla groups habituated for tourism spend significant amounts of time on private land outside the park (Goldsmith 2005). An average farmer loses USD 47 per year from raiding of bananas alone (Baker 2005). Other crops raided include sorghum, millet and maize (Tukahirwa and Pomeroy 1993).

Up to 60 percent of the Batwa have now been settled through a combination of church based efforts and ICDPs. On the other hand, the over 200,000 Bakiga park neighbours have received no direct compensation. The relationship between the park and local people has been couched in terms of a win-win narrative (WWF 2006), a traditionalist narrative of “endemic and unchanging poverty” (Laudati 2010:729), and, most recently, a local narrative of ambivalence where significant local costs are tempered by hopes for future economic benefits from tourism (Tumusiime and Svarstad 2011).

The allocation of costs and benefits varies considerably. In particular, crop raiding costs tend to be higher and more frequent among households at the park boundary, whereas the pinch from lost access to forest resources depends on the extent of

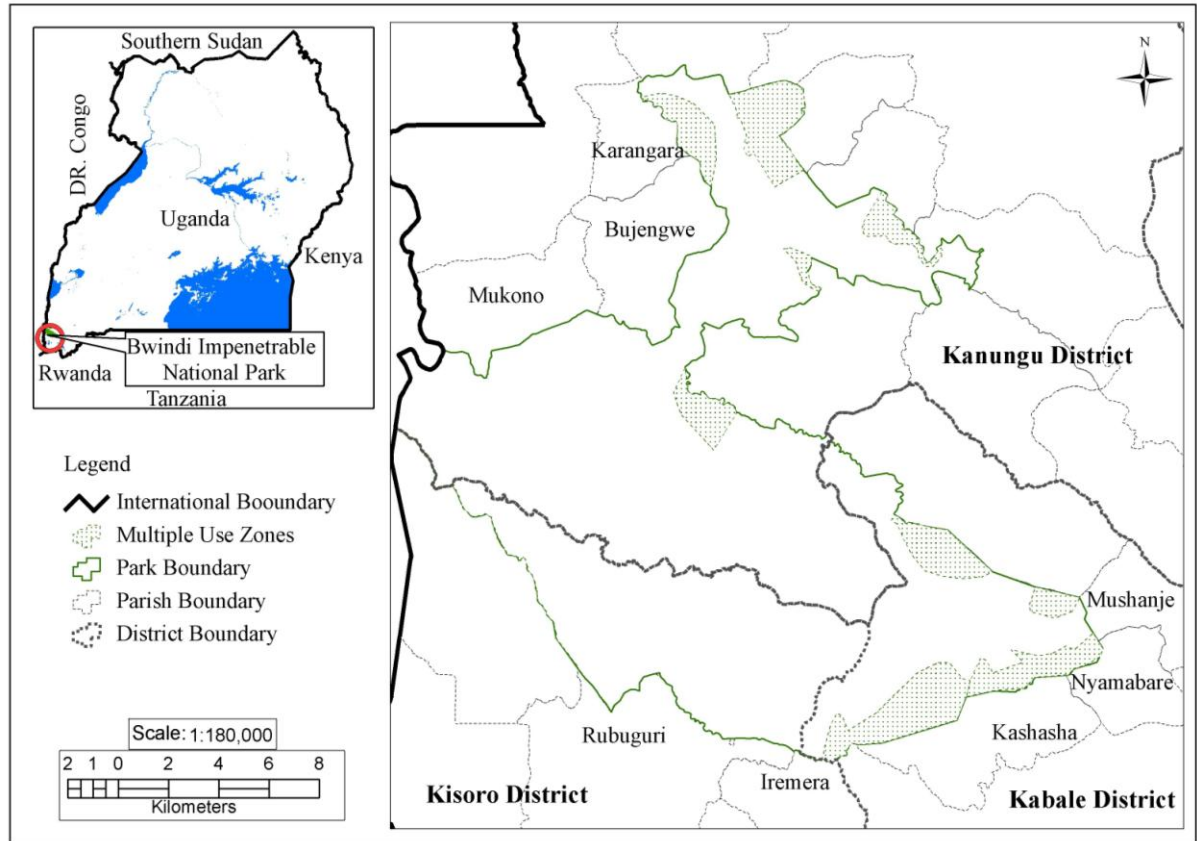
dependency on environmental resources. A range of park outreach programmes have been implemented with a focus on generating benefits to local people (Blomley et al. 2010; UWA 2004) but local concerns regarding both size and allocation of benefits persist (Tumusiime and Svarstad 2011; Tumusiime and Vedeld 2012). In a 2002 review of the ICDPs around Bwindi, Blomley et al. (2010) claimed that conservation initiatives generally struggled to reach the poor, while Sandbrook (2010) notes how the allocation of park-related jobs is biased in favour of households with comparatively high education levels.

Nevertheless, there appears to have been a gradual but significant improvement local attitudes towards the park since its creation (Baker et al. 2011; Blomley et al. 2010). In the first dry season after the park was gazetted in 1991, an estimated 5 percent of the forest was destroyed by fires, some of which were deliberately set or left to burn (Hamilton et al. 2000). The same people were reported to have walked five hours without any remuneration to put out an accidental fire in 1998 (WWF 2006).

### **3. Study area**

Bwindi Impenetrable National Park covers 330 km<sup>2</sup> of afro-montane forest located in South-Western Uganda (Figure 1). The area was managed as a commons until 1932 when it was designated a crown forest to protect and preserve the mountain gorilla, and gazetted as a gorilla sanctuary in 1961 (UWA 2001). Introduction of the 1964 Forest and Game Acts resulted in dual management of the area by the Forest and Game departments as a forest reserve and game sanctuary. In 1991, the area was gazetted as a national park and put under the management of the Uganda Wildlife Authority (UWA). The flagship species at Bwindi is the mountain gorilla (*Gorilla beringei ssp. beringei*), listed by the IUCN as critically endangered (IUCN 2012). The species has only two remaining habitats. From a 2006 census, 302 individuals live in Bwindi. The remaining 480 individuals live in a nearby area of about 450 km<sup>2</sup> on the border of Rwanda (Volcanoes NP), the Democratic Republic of Congo (Virunga NP), and Uganda (Mgahinga NP). Because of its ecological qualities, Bwindi is a UNESCO world heritage site (IUCN 1994) and was identified by the IUCN as one of the most important forests to be conserved in Africa (IUCN 2012). Bwindi contains

one of the most biologically rich ecosystems in the world and is Uganda's most important forest area for conservation of biodiversity (Howard 1991).



**Figure 1:** Location of Bwindi Impenetrable National Park, study sites and Multiple Use Zones.

Local land holdings are small and fragmented (Ellis and Bahigwa 2003), but subsistence agriculture remains the main occupation of almost all the inhabitants. Households at the park boundary previously depended on park land for wild resources and for opening new gardens and prohibition of these activities has naturally had an impact on local livelihoods.

## 4. Methods

### 4.1 Data collection

There are 21 frontline parishes surrounding Bwindi. Because both the incidence of wildlife damages and the realization of some of the park-related benefits were expected

to depend on proximity to the park, villages were stratified into those that share a boundary with the park and those that do not. We randomly selected eight villages sharing a boundary with the park and a further three villages not bordering the park. A total of 141 households were randomly selected from the border villages; 49 households were randomly selected from the three non-border villages. In order to avoid ethnic variation, and associated livelihood and attitudinal variation, Batwa settlements were excluded from the sample<sup>3</sup>.

We conducted structured interviews where households were queried about incidence of park-related costs, receipt of park-related benefits, and attitudes towards the elevation of Bwindi from forest reserve to national park status. Based on a recall method for the year August 2008 to August 2009, an estimate was made of the sample households' net income (cash and subsistence). In addition, we mapped household access to land, labour, and capital assets. We collected information on socio-economic characteristics such as household size and age, gender, and education level of the household head. We inquired about the time needed to walk to the park boundary.

## **4.2 Benefit and cost variables**

We broadly distinguish between two groups of benefits. Direct benefits are those benefits that arise from targeted initiatives to improve the well-being and attitudes of the local population. Indirect benefits, in contrast, arise as positive spillovers from projects or developments whose primary goals are unrelated to local well-being and attitudes. This is not to say that the goal of improving local livelihood opportunities is completely absent in these latter projects and developments. When, for example, permission is given to build a tourist lodge inside the park, a consideration of local job creation may well enter into the decision. But we assume it is not the primary goal.

The benefit and cost data appear as simple binomial distributions. For the various benefit categories, each of the 190 households in the sample was asked whether it had experienced an improvement subsequent to the establishment of the park. The source, nature, and relevant time period vary between the different categories, as described below.

*(i) Multiple use zones*

Soon after the gazetting of the park, the World Wide Fund for Nature (WWF) commissioned CARE Uganda to undertake initiatives to secure local support for conservation. This resulted in a Development through Conservation (DTC) programme, which included a multiple use programme whereby locals, within zones considered outside the range of the gorillas, were allowed park access for purposes of bee keeping and gathering of medicinal herbs and basket-making materials. The programme started in 1993 and is still on-going. Originally, three parishes were involved but now 13 of 21 parishes surrounding the park have formally signed agreements to use forest resources in 20 percent of the park area. Different activities are allowed at different locations and only registered members of the respective resource user groups have legal access. Agreements are supposed to be revised every two years. The most recent revision was in 2011, but revisions prior to 2011 were infrequent. Households that enter our data set as beneficiaries are those who perceive themselves to have benefited from these multiple use zones at any given time in the past.

*(ii) Tree planting*

Also arising from the DTC programme was an initiative to promote tree planting in communities surrounding the park, as a means to provide substitutes for materials traditionally harvested from the park area. The initiative included establishment of local nurseries and woodlots containing both indigenous and exotic tree species. Tree planting initiatives started in 1993 and ended in 2002. Again, households that enter our data set as beneficiaries are those who perceive themselves to have benefited from this initiative at any given time in the past.

*(iii) Agricultural support*

A third component of the DTC programme involved agricultural support. This support – designed to enhance agricultural production and make local communities less dependent on wild resources within the park area – included soil conservation measures, establishment of vegetable gardens, provision of improved varieties of beans and potatoes, and training in crop husbandry. Agricultural support started in 1993 and ended in 2002. As for other DTC initiatives, households that enter our data



set as beneficiaries of agricultural support are those who perceive themselves to have benefited from this initiative at any given time in the past.

*(iv) Goats*

According to Ugandan legislation, each national park must redistribute 20 percent of its gate receipts to local communities. Since 2006, in Bwindi, this revenue sharing scheme has involved the award of a goat (or, in exceptional cases, more than one goat) to specific households. Households that enter our data as beneficiaries are recipients of goats through this initiative.

*(v) Health care*

Improvements in health care arise from two sources. The formal requirement to redistribute 20 percent of gate receipts was established in 1996. Between 1996 and 2006, this revenue sharing involved, among other things, the building of local clinics. In addition, based on the interest earnings from an initial grant of USD 4 million from the World Bank's Global Environmental Facility, the Bwindi Mgahinga Conservation Trust (BMCT) has funded the building of local health facilities since 1995. Households that enter our data set as beneficiaries of improved health care are those who perceive themselves to have benefited from these initiatives.<sup>4</sup>

*(vi) Education*

Improvements in educational opportunities spring, in large part, from the same two sources as those associated with health care; revenue sharing funds (1996-2006) and BMCT funds (1995 to date) have been used also to build schools in the local communities surrounding Bwindi. A third source of improvements in educational opportunities arises from sponsorship deals from tourists who offer to fund education of local children. Households that enter our data set as beneficiaries of improved educational opportunities are those who identified the protected area as having had a positive effect on the school attendance of the household's children.<sup>5</sup>

The above six variables constitute direct benefits. Our analysis includes a further four indirect benefits:

*(vii) Employment*

The park may entail enhanced employment opportunities for the local population, particularly through tourism. Beneficiaries in our data were households that stated that they currently received income by working for the park itself or by providing goods or services to tourists, either directly or through employment in tourism-based enterprises.

*(viii) Roads*

The building, rehabilitation, and maintenance of roads represent a component of facilitating tourism in Bwindi.<sup>6</sup> Beneficiaries in our data were households that stated that the protected area has had a positive effect on road development and maintenance.

*(ix) Transportation*

Besides the building, rehabilitation, and maintenance of roads, the development of tourism and the increase in public servants in Bwindi have led to an increase in the traffic into and away from the park, enhancing opportunities for paid or unpaid lifts. Beneficiaries in our data were households that identified improved availability of transportation as an effect of the protected area.

*(x) Security*

The creation of a national park normally entails an influx of guards and other security personnel. As a tourist destination, Bwindi was disrupted in 1999 when rebels from DRC crossed the national border that adjoins the park, killing tourists and park personnel. This led to an increased presence of the military in the area.

As far as the local population is concerned, this may have undesirable consequences in terms of (illegal) access to park resources. The presence of armed guards may, however, also lead to improved security. Beneficiaries in our data were those households that identified increased security as an effect of the protected area.

Note that the final three benefits are communal in the sense that reported effects obtain with respect to the community as a whole rather than the individual household.

Besides these 10 benefits, we consider two types of cost – wildlife damages and fines.<sup>7</sup>

*(xi) Wildlife damages*

Cost bearers in our data were those households that claimed to have suffered from wildlife-related damage to crops or to livestock within the last 12 months. We did also inquire about injuries to people, but no household claimed to have suffered from such injuries.

*(xii) Fines*

Cost bearers in our data were those households that claimed to have been fined by park officials, at any time in the past, for illegal resource extraction.

Different benefits are associated with different sources, and these sources vary in terms of specific time periods. We should expect the coverage – the number of beneficiaries – to vary with both the duration of the relevant sources and their age. This does not compromise the validity of the use of the associated categorical variables in the statistical tests in Sections 5(a) and 6(b), but needs to be taken into consideration when interpreting results.<sup>8</sup>

The relevant time period for costs associated with crop and livestock damages caused by wild animals is the last 12 months, and this differs from the time periods associated with the different benefits. In consequence, our analysis of clumping of benefits and costs in Section 5(b) rests on the additional assumption that there is some temporal stability in terms of whether a household suffers from these costs.

The analysis in the ensuing sections also makes use of an alternative grouping of benefits. Beyond direct and indirect benefits, we believe it may also be useful to examine whether material and non-material benefits differ in their relationship to costs and in their impacts on attitudes. In consequence, for a sub-set of analyses, we identify multiple use zones, tree planting, goats, agricultural support, and employment as providing material benefits; the other benefit categories then represent non-material benefits.

In addition to the above benefit and cost variables, our analysis incorporates household economic and basic household variables. These include gender of head-of-household, age of head-of-household, the head-of-household's number of years in school, the size of the household, the walking distance (in minutes) from dwelling to park boundary, the household's net income over the last 12 months, the share of this income attributable to collection of environmental resources (relative environmental income or REI), the household's collective wealth (land, dwellings, animals, and cash holdings), and a livelihood diversification index computed as

$$1 - \sum_{i=1}^m \left( \frac{a_i}{A} \right)^2$$

where  $a_i$  is net income from source  $i$  among  $m$  income sources and  $A$  is total net income.

## **5. Consolation and inequality**

### **5.1 Coverage**

A given benefit may fail to influence attitudes towards a protected area because the benefit is regarded as trivial by those who receive it or because recipients fail to link its realization to conservation. But in the context of statistical analysis, a given benefit may also fail significantly to influence attitudes simply because it is realized by so few households. So before examining the allocation of benefits to different households within the local communities, it is necessary briefly to consider their overall coverage; that is, how the number of households affected varies between different types of benefits.

This variation is considerable. At the top of the list, 84.2 percent of sampled households claimed to have benefited from health-care initiatives. This was followed by education (69.5 percent), improved security (60.5 percent), improved transportation (54.2 percent), and improved roads and infrastructure (47.9 percent). At the lower half of the list are agricultural support (14.7 percent), multiple use zones

(8.4 percent), tree planting (7.9 percent), revenue sharing (5.8 percent), and – finally – employment (4.7 percent).

The coverage that obtains with respect to each separate benefit is, however, just one consideration. Of interest is also the degree to which the whole range of benefits is spread across the sample or whether benefits are interdependent such that a recipient of one particular benefit is also more likely to be a recipient of other benefits.

We chose to examine this question through a simple analysis of interdependence among the five most frequently realized benefits. That is, we examined separately whether the sample exhibited clumping among the two most frequently realized benefits, and then among the three most, four most, and five most frequently realized benefits.<sup>9</sup> Assuming allocations of benefits are independent of one another, the expected multiple beneficiary frequency for a given set of benefits is equal to the product of their observed individual frequencies. This can then be compared to the corresponding, observed multiple beneficiary frequency.<sup>10</sup>

The result are presented in Table 1, which displays expected frequency, standard deviation, observed frequency, the difference between expected and observed frequency, this difference expressed in terms of the standardized deviate, and significance level. We see a general tendency towards clumping of benefits, with significance improving as more benefits are added.

**Table 1:** Benefit combinations and clumping

Benefit combination	Expected	SD	Obsvd	Diff.	Deviante	Signif.
Two most frequent benefits	0.5850	0.0555	0.6842	0.0992	1.7871	*
Three most frequent benefits	0.3541	0.0432	0.4632	0.1091	2.5261	**
Four most frequent benefits	0.1920	0.0318	0.3263	0.1344	4.2269	***
Five most frequent benefits	0.0919	0.0220	0.2579	0.1660	7.5443	***

N = 190

\*, \*\*, and \*\*\* indicate clumping at significance levels of 0.10, 0.05, and 0.01 respectively

Thus, although the percentage of households that claimed to have received no benefits at all was as low as 6.8, there is still solid evidence of considerable dependence between realization of the more frequent benefits. This is as one would expect. The five most frequently realized benefits – related to health care, education, security, transportation, and roads and infrastructure – are all inherently locational and tend to benefit households that live in proximity to clinics, schools, guard posts, and major roads and park entrances. The clumping of benefits observed here matches the geographical clustering of the institutions and structures that provide these benefits, so a lack of clumping would have been a major surprise.

This nevertheless serves to remind us that the allocation of important direct benefits such as health care and education may tend to favour those who already are in a position to realize important indirect benefits rather than those who are not. It also means that the total coverage that the set of benefits achieved in the local community surrounding Bwindi is lower than if benefits were independently allocated, or – even more unlikely – if allocation of the different benefits revealed “repulsive” relationships, such that realization of one benefit by a given household would reduce its chances of realizing other benefits.

## **5.2 Consolation<sup>11</sup>**

The question of whether conservation benefits tend to accrue to those who have suffered conservation costs is different from the question of whether conservation benefits accrue to the poor or the non-poor. Both questions are of interest; one concerns justice, the other equality. We deal with the first one in this sub-section and the second one in the ensuing sub-section.

The benefits we consider here are the same as those in the previous section. The cost variable with which we are concerned is the claim by the responding household to have suffered from damages to crops or livestock caused by wildlife over the last 12 months, with 23.6 percent of households making such a claim.

Should we expect benefits to accrue to households that have suffered from costs? Insofar as park management and the NGOs responsible for community conservation

initiatives around Bwindi claim to target households adversely affected by park wildlife, and insofar as there is some stability in terms of which households suffer from wildlife damages, then we should expect significant clumping of costs and the direct benefits that are assumed to emerge from these initiatives. With respect to indirect benefits, the situation is more complicated (Table 2). As with some of the benefits, there are locational aspects associated with wildlife damages. These are, however, more logically linked with proximity to park boundary than with proximity to infrastructure and public services.

The analysis is similar to that in the previous section, but in Table 2 we include both cost and benefit criteria in 2×2 tables and report on clumping in terms of the chi-square statistic for expected and observed frequencies in these tables. In addition to examining clumping between our cost variable and the separate benefit variables, we also examine clumping between the cost variable and merged binary variables related to direct, indirect, material, and non-material benefits as defined in Section 4.

Among the benefit categories that we have termed direct (or targeted), multiple use zones, agricultural support, and education exhibit significant clumping with costs. That is, households that had suffered from wildlife damages within the last 12 months were significantly more likely also to have been beneficiaries within these categories than households that had not suffered such costs. The other direct benefit categories – tree planting, goats, and health care – exhibited no significant dependent relationship with costs.

The benefit-cost clumping exhibited by the multiple use zone and agricultural support categories seems to indicate at least some measure of success in the targeting of Development Through Conservation (DTC) initiatives. It should be emphasized that each of the three initiatives associated with this programme – use zones, tree planting, and agricultural support – are of such a limited nature in terms of coverage as to make statistical analysis dubious. If we merge these three initiatives into a single variable, however, so that we have a binomial distribution in which beneficiaries are those households that have realized at least one of these benefits, then the resulting positive dependence between costs and benefits is highly significant (at the 0.01 level).<sup>12</sup>

**Table 2:** Observed and expected (in brackets) frequencies for paired incidences of wildlife damage costs and realization of assorted benefits

Benefit realised		Wildlife damage last 12 months		Clumping	Signif.
		Yes	No		
Multiple use zones	Yes	8 (3.8)	8 (12.2)	Yes	***
	No	37 (41.2)	137 (132.8)		
Tree planting	Yes	4 (3.6)	11 (11.4)	No	
	No	41 (41.4)	134 (133.6)		
Agricultural support	Yes	13 (6.6)	15 (21.4)	Yes	***
	No	32 (38.4)	130 (123.6)		
Goats	Yes	3 (2.6)	8 (8.4)	No	
	No	42 (42.4)	137 (136.6)		
Health care	Yes	39 (37.9)	121 (122.1)	No	
	No	6 (7.1)	24 (22.9)		
Education	Yes	36 (31.3)	96 (100.7)	Yes	*
	No	9 (13.7)	49 (44.3)		
Employment	Yes	5 (2.1)	4 (6.9)	Yes	**
	No	40 (42.9)	141 (138.1)		
Roads	Yes	23 (21.6)	68 (69.4)	No	
	No	22 (23.4)	77 (75.6)		
Transportation	Yes	25 (24.4)	78 (78.6)	No	
	No	20 (20.6)	67 (66.4)		
Security	Yes	32 (27.2)	83 (87.8)	Yes	*
	No	13 (17.8)	62 (57.2)		
Direct benefits	Yes	42 (39.8)	126 (128.2)	No	
	No	3 (5.2)	19 (16.8)		
Indirect benefits	Yes	38 (35.5)	112 (114.5)	No	
	No	7 (9.5)	33 (30.5)		
Material benefits	Yes	23 (14.0)	36 (45.0)	Yes	***
	No	22 (31.0)	109 (100.0)		
Non-material benefits	Yes	43 (41.2)	131 (132.8)	No	
	No	2 (3.8)	14 (12.2)		

N = 190

\*, \*\*, and \*\*\* indicate clumping at significance levels of 0.10, 0.05, and 0.01 respectively



Education and health care initiatives share two sources and, presumably, therefore also similar targeting strategies. The fact that a weakly significant (at the 0.10 level) positive dependence between education and cost bearing was observed, while no such dependence was observed for health and cost bearing, may be due to additional initiatives in terms of student grants in the realm of education. Our data do not allow us to investigate this further, however.

The distribution of goats showed no significant clumping with costs, but the coverage associated with this revenue-sharing initiative is anyway so low (11 beneficiaries, or less than six percent of the sample) as to render isolated chi-square analysis meaningless.

Among the four indirect benefits, improved security exhibited a weakly significant (at the 0.10 level) positive dependence with cost bearing. Again, locational aspects may play a role here. Guards and security personnel tend to be located not only close to park entrances but also to some extent around the entire periphery of the park, close to where wildlife damages are felt most keenly. Clumping was also exhibited between employment and costs, but the low employment coverage (nine beneficiaries, or less than five percent of our sample) invalidates this result. Neither roads nor transportation benefits exhibited any significant dependence with costs.

Among broader categories of benefits – direct, indirect, material, non-material – only material benefits exhibited significant clumping with costs. The five benefit categories that we term material are also the five benefit categories with lowest coverage. The result perhaps indicates that material benefits lend themselves to targeted allocation to a much greater extent than non-material benefits. But the failure of direct (or “targeted”) benefits, as a group, to exhibit any significant, positive dependence with costs is notable.

### **5.3 Inequality**

How does the allocation of costs and benefits affect inequality among the local population? As noted, this is a different question than whether benefits are allocated to cost bearers. If, for example, costs were largely incurred by the comparatively

wealthy then a consolatory allocation of benefits would serve to consolidate rather than reduce wealth and income differences within local communities.

In order to answer this question, we cross-tabulated benefit and cost categories with economic and basic household variables. That is, we compare beneficiaries and non-beneficiaries in the various benefit categories in terms of these numerical variables and examine whether differences are statistically significant (through a simple comparison of means). We then repeat the exercise for cost bearers and non-cost bearers in the two cost categories. The results are summarized in Table 3.

The table reveals that multiple use zone beneficiaries are significantly better off in terms of both wealth and income than non-beneficiaries. Recipients of goats are significantly better off in terms of wealth. Health care and education beneficiaries earn significantly higher net incomes than non-beneficiaries. Only in the case of tree planting beneficiaries is the result the opposite: beneficiaries are significantly poorer and earn less than non-beneficiaries.

Here, a question of causality arises: are beneficiaries, by and large, better off because they have received these benefits or are discrepancies the result of beneficiary selection or targeting? As far as the distribution of goats is concerned, Tumusiime and Vedeld (2012) point to inherent problems in the decision-making structure and associated nepotism. The programme has lasted only since 2006, so allocation of goats is unlikely to explain differences in wealth. With respect to multiple use zones, entry by the poor is somewhat restricted by membership fees. As far as health care and education are concerned, the differences in net income are almost certainly in part attributable to underlying cultural variations in the local population. Health care and education beneficiaries are not only higher earners – their household heads already have a significant advantage in terms of years of education and associated employment opportunities.

**Table 3:** Cross-tabulation of benefits and costs with economic and basic household variables

Benefit(s) or Cost	% of HHs		Wealth		Income		REI		DI		Time		Age		Education		HH size	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
MUZ	8.4	91.6	3618	3034 **	1039	828 *	22.4	17.8	0.40	0.38	30.0	35.0	48.2	44.8	8.0	6.6	3.6	3.4
Tree planting	7.9	92.1	1486	3222 **	380	886 ***	23.4	17.7 **	0.44	0.37	35.3	34.7	44.2	45.2	6.2	6.7	3.1	3.4
Agric. support	14.7	85.3	2805	3132	955	827	21.1	17.6 *	0.43	0.37 *	34.5	34.5	44.6	44.6	6.6	6.6	3.4	3.7 *
Goats	5.8	94.2	4465	2998 **	1208	824	16.7	18.2	0.38	0.38	24.4	35.4	48.5	44.9	6.8	6.7	3.8	3.4 *
Health care	84.2	15.8	3202	2430	908	514 ***	18.1	18.3	0.38	0.34	35.1	32.6	45.4	43.6	7.2	4.2 ***	3.4	3.4
Education.	69.5	30.5	2989	3304	924	669 *	18.3	17.7	0.39	0.35	35.7	32.5	45.6	43.9	7.0	6.0 *	3.4	3.4
Employment	4.7	95.3	2698	3103	1066	835	28.4	17.6 *	0.41	0.38	15.0	35.7 ***	47.1	45.0	8.6	6.6	3.5	3.4
Roads	47.9	52.1	2846	3305	894	802	21.1	15.4	0.41	0.35	32.3	36.9	46.1	44.2	6.9	6.5	3.5	3.3
Transportation	54.2	45.8	3162	2990	936	740	17.1	19.7 **	0.38	0.37	36.0	33.2 *	45.9	44.1	7.1	6.2	3.4	3.4
Security	60.5	39.5	3058	3124	887	784	20.5	14.5 **	0.41	0.33 ***	30.5	41.1 ***	46.5	42.9 *	6.8	6.5	3.5	3.3
Direct	88.4	11.6	3813	3542	1078	738 *	18,2	17,5	0,39	0,32 *	35,0	34,0	45,0	45,5	7,0	4,3 ***	5,6	6,1
Indirect	78.9	21.1	3507	4810	1066	936	19,2	14,2 *	0,39	0,31 ***	34,3	36,8	45,4	44,0	7,0	5,6 ***	5,8	5,2
Material	31.1	68.9	3556	3883	1074	1022	22,4	16,3 ***	0,42	0,36 **	32,5	35,9	47,0	44,2	6,9	6,6	6,0	5,5 *
Non-material	91.6	8.4	3800	3576	1058	822	18,0	19,3	0,39	0,30 **	35,2	31,4	45,0	45,9	7,0	3,6 ***	5,7	5,5
WL damages	23.7	76.3	2580	3241	993	800	19.2	17.8	0.40	0.37	28.8	36.6 **	45.5	44.9	7.2	6.5	3.4	3.4
Fines	6.8	93.2	3607	3045	1391	806 *	11.5	18.6	0.32	0.38 *	33.5	34.8	45.6	45.0	6.2	6.7	3.9	3.4 *

N = 190

REI is relative environmental income; the percentage contribution of net environmental income to total net income

DI is a diversification index, computed along the lines of the Simpson Index (see text)

Time is the estimated number of minutes it takes to walk from dwelling to park boundary

Age indicates the age of the head of household

Education indicates the head of household's years of schooling

HH size indicates household size

MUZ is multiple use zone beneficiary

WL damages indicates whether the household considers itself to have suffered from wildlife damages to crops

\*, \*\*, and \*\*\* indicate that difference in mean between "yes" and "no" respondents is significant at 0.10, 0.05, and 0.01 levels respectively

Why is the tree planting initiative the only category to significantly favour the poor? This initiative targeted households with a high dependence on wild, within-park resources – the relative environmental income of beneficiaries remains significantly higher than that of non-beneficiaries. Even in terms of wild resources, although the poor households get less in absolute terms, (on average a poor household gets annual income of \$2 as compared to \$3.3 and \$2.6 medium and less poor households respectively), this contributes more to the environmental income needs of the poor - 2.7% among the poor as compared to 1.7%, and 0.9% among the medium and less poor households respectively (Tumusiime and Vedeld forthcoming). Dependence generally goes hand in hand with poverty (Vedeld et al. 2007).

There are other regularities that can be gleaned from the table with respect to benefits. Those who benefit from security live closer to the park boundary, depend more on environmental income, and diversify less than those who do not. Employment beneficiaries live, on average, closer to the park than non-beneficiaries. Those who benefit from transportation depend less on environmental income and live further from the park. These results are generally as expected. Gender is not included in the table – there was no significant difference in the distribution of male- and female-headed household with respect to beneficiaries and non-beneficiaries, and the subsample of female-headed households was very small (9.5%).

In terms of benefits, the overall picture that emerges is that their allocation will tend to increase local inequality rather than the opposite. In particular, looking ahead, we note that while the one source of benefits in which beneficiaries were poorer than non-beneficiaries no longer exists, the four sources of benefits that favour the comparatively wealthy are still operational.

What about costs? The picture here is more muddled. Two results stand out: as expected, the households that suffer from wildlife damages live significantly closer to the park than those that do not; and the households that have been fined by park officials earn significantly higher incomes than those that have not. This latter result can perhaps be attributed to a keen eye, on the part of officials, in terms of who can afford to pay such fines.

## **6. Attitudes**

### **6.1 The models**

As noted in Section 2 (c), attitudes towards conservation may differ significantly from attitudes towards park management or towards tourism. Our regression models are designed to reveal whether the various benefits and costs described in previous sections have any significant effect on attitudes towards establishment of Bwindi as a national park. Thus, our models have a single, common dependent variable – a binary “yes” or “no” response to the question of whether the conversion of Bwindi from a forest reserve to a national park “was a good thing”.<sup>13</sup>

We tested three models. These models share identical control variables and cost variables. That is, they all include: head-of-household age, education, and gender; household adult equivalents, wealth, total net income, relative environmental income, diversification index, and distance (in minutes) to park; and the two binary cost variables related to wildlife damage and fines.

The models differ, however, in their treatment of benefits. Model 1 includes all 10 benefits, described in Section 4 (b), as separate, independent variables. In Model 2, we divide benefits into direct and indirect benefits, as discussed also in Section 4 (b). These then enter the model as two simple count variables; the number of direct benefits realized by each household (0 to 4) and the number of indirect benefits realized (0-6). In Model 3, we divide benefits into material and non-material benefits, deriving count variables (0-5 in both cases) in a similar manner.

We used a log-link function for a binary response variable and exponentiated model coefficients for interpretation as odds-ratios.

### **6.2 Results**

The results of the three regressions are summarized in Table 4. In Model 1, transportation beneficiaries were significantly more likely to have a positive attitude towards the park than non-beneficiaries. None of the other nine benefit variables, nor the two cost variables, exhibited significant influence on attitudes.

**Table 4:** Regression coefficients

Variable	Model 1	Model 2	Model 3
HHH age	1.02	1.02	1.01
HHH education	1.14 **	1.14 **	1.13 **
HHH female	0.68	0.62	0.66
HH adult equivalents	1.10	1.08	1.08
Wealth	1.00	1.00	1.00
Total net income	1.00	1.00	1.00
Relative environmental income	10.00	10.94	9.89
Diversification index	0.04 **	0.05 **	0.05 **
Distance to the park (minutes)	1.00	1.00	1.00
Multiple Use Zone beneficiary	0.90		
Tree planting beneficiary	3.47		
Agricultural support beneficiary	3.39		
Goat recipient	0.98		
Health care beneficiary	2.42		
Education beneficiary	0.79		
Employment beneficiary	2.02		
Roads beneficiary	1.80		
Transportation beneficiary	2.88 **		
Security beneficiary	1.99		
Wildlife damage cost bearer	0.81	0.82	0.77
Fine recipient	0.73	0.64	0.65
Count of direct benefits		1.50 *	
Count of indirect benefits		2.05 ***	
Count of material benefits			2.02 *
Count of non-material benefits			1.76 ***
Intercept	0.21	0.22	0.23
R-square	0.23	0.21	0.20
AIC	199.28	186.99	187.78

N = 190

For binary variables (individual benefit and cost variables and HHH gender): no = 0 and yes = 1

AIC is the Akaike Information Criterion (lower value signifies a better fit)

\*, \*\*, and \*\*\* indicate significant coefficients at significance levels of 0.10, 0.05, and 0.01 respectively

The lack of any significant effect on attitudes among these nine benefit categories may in some cases – in particular use zones, tree planting, goats, and employment – be explained by their low coverage. The lack of any significant influence on the part

of health care can perhaps be explained by its very high coverage (and few non-beneficiaries). The failure of the remaining three categories – health, education, roads, and security – to exhibit significant influence is more difficult to explain, since the role of the park in providing these benefits was internalized into our questionnaire; that is, households were asked to evaluate their realization of benefits only insofar as they could be attributed to the presence of the protected area.

Models 2 and 3, however, may shed some light on this. In Model 2, both direct and indirect benefits – entering as count variables – were observed significantly to influence attitudes. In Model 3, the same held true for both material and non-material benefits. We take these results as an indication that benefits, broadly defined, in fact are capable of influencing local attitudes towards Bwindi but that – with the exception of transportation – each individual benefit category either exhibits too little variation in its realization or is not in and of itself sufficient to significantly influence attitudes.

As in Section 5, however, we need to step back and examine the assumed causality. In the normal scheme of things, the allocation of conservation benefits (or costs) is assumed to lead to more (or less) favourable attitudes towards conservation. For direct benefits resulting from targeted initiatives, however, it may also be the case that park management or non-governmental organizations employ a rewards system whereby individuals or communities that already possess favourable attitudes are given preferential treatment when potential beneficiaries are screened. Such reward systems were, for example, observed by Cavanagh (2011) around Mt. Elgon, another Ugandan national park. In Bwindi, transportation beneficiaries do not lend themselves to this form of selection but the issue should be kept in mind in future inquiries into direct benefits and attitudes among local people.<sup>14</sup>

Among the control variables, longer schooling on the part of the household head was associated with a greater likelihood of possessing a more favourable attitude towards the park. This is in line with much of the literature on conservation attitudes (Baral and Heinen 2007; Infield 1988; Mehta and Heinen 2001).

How do we explain that households with more diversified livelihoods are more likely to possess a favourable attitude? Households with a high dependence on crop

production or wild resources (or both) score significantly lower on the diversification index; households that score higher on this index tend to be precisely those that have been able to take advantage of the economic opportunities provided by off-farm activities, many of which are related to tourism. These households tend to be more educated and to live closer to major tourism clusters.

## **7. Conclusions**

In this paper, we have considered benefits and costs attributed to the gazettement of Bwindi as a national park. We have not attempted to place a value on these benefits and costs, nor have we attempted a complete inventory. Thus, regardless of the observed frequencies with which households believe themselves to have gained or lost from the various benefit and cost categories, our results have no bearing on the question of whether the gazettement of Bwindi produced benefits that match or outstrip associated costs to the local population. We can, of course, report that 78 percent of our respondents believed Bwindi's conversion to a national park to have been beneficial, but our sample excluded the Batwa settlements that, disproportionately, suffered from evictions at the time the park was established.

Our goal has been, instead, to examine whether benefits – and, in particular, benefits attributable to targeted ICD initiatives – act as consolation for cost bearers, affect local inequality, and influence local attitudes towards the park. The results of these inquiries are summarized in Table 5.

The results reveal that five of ten benefit categories have had a pervasive impact around Bwindi – between 48 and 84 percent of respondents claimed to have benefited from park-related developments associated with health care, education, roads infrastructure, transportation, and security. The two first of these benefits are direct, in the sense that they resulted from targeted community development initiatives. As observed by Sandbrook and Adams (2012), park benefits in some form can reach a relatively large number of local people. It is notable that non-material direct benefits such as health and education have had a far broader impact than material direct



benefits related to use zones, tree planting, agricultural support, and the distribution of goats.

**Table 5:** Summary of benefits and costs

Benefits/costs	Period	Coverage	Consolation	Equality	Attitudes
MUZ	1993-	8.4	(+)	–	0
Tree planting	1993-2002	7.9	(0)	+	0
Agric. support	1993-2002	14.7	(+)	0	0
Goats	2006-	5.8	(0)	–	0
Health care	1995-	84.2	0	–	0
Education	1995-	69.5	+	–	0
Employment	Current	4.7	(+)	0	0
Roads	1991-	47.9	0	0	0
Transportation	1991-	54.2	0	0	+
Security	1991-	60.5	+	0	0
Direct	1993-	88.4	0	–	+
Indirect	1991-	78.9	0	0	+
Material	1993-	31.1	+	0	+
Non-material	1991-	91.6	0	0	+
Wildlife damage	12 months	23.7		0	0
Fines	1991-	6.8		+	0

Among this latter group of benefits, however, we note that there is a significant, positive association between perceived realization of benefits and incurrence of wildlife damage costs. Thus, although material direct benefits have reached only a minority of the local population, their allocation indicates a potential for a significant, consolatory effect. This raises the question of whether targeting of “Development-Through-Conservation” benefits, if preceded by an adequate mapping of damage risks and undertaken on a sufficient scale, may represent a viable alternative to direct compensation for wildlife damage costs. Consolatory initiatives such as this may avoid many of the costly monitoring and incentive problems associated with direct compensation. On the other hand, identification of beneficiaries within such initiatives is often attended by problems related to preferential treatment of park-friendly communities and privileged households (Cavanagh 2011; Tumusiime and Vedeld 2012), and cost bearers may fail to appreciate the implied link between damages and benefits; a link that would be explicit and presumably more complete within a system of direct compensation. At present, benefit sharing in Bwindi is limited to the

distribution of goats, a measure that fails with respect to both coverage and targeting (Tumusiime and Svarstad 2011; Tumusiime and Vedeld 2012).

The results also reveal a significant clumping of the most prevalent benefits. In general, it is clear that the different benefit categories are interdependent in terms of their realization by individual households. The explanation is surely that so many of these benefits are associated with location, in such a way that direct benefits accrue to households that are already favourably positioned with respect to indirect benefits. Benefits related to infrastructure, transportation, security, and employment all tend to cluster around tourist facilities and park entry points.

It is no surprise, therefore, that five of the benefits considered here appear to contribute to increased local inequality in terms of incomes, assets, or both, while only tree planting appears to have an equalizing effect. A more even allocation of benefits thus represents a major challenge for development initiatives around Bwindi. This challenge could perhaps be pursued by increased efforts to reach more remote communities within each direct benefit category but probably requires a shift in priorities through greater focus on those benefit categories that are comparatively location-independent but, as yet, of limited impact (use zones, tree planting, agricultural support, goats). Generally speaking, the high-impact benefit categories around Bwindi are concentrated along radial axes while the wildlife damage costs are concentrated around the park's circumference. Scaling up the low-impact benefit categories and striving to give their distribution a more "circumferential" orientation could potentially have benevolent consequences in terms of both consolation and equality.

In terms of single benefit categories, only transportation benefits had a significant impact on attitudes towards the park. Besides underlining the importance of transportation opportunities in rural communities, this perhaps also illustrates the difficulty of relying on any single initiative to turn attitudes towards protected areas around. Improved attitudes towards Bwindi in the surrounding communities seem to have resulted from a complex of effects. Indeed, when aggregated into groups, direct, indirect, material, and non-material benefits were all found to have had a significant effect.

Bwindi is a national park of considerable ecological importance that clearly also harbours significant economic potential for surrounding communities. As such, it represents something of a litmus test for the prospects of integrated conservation and development initiatives; failure around Bwindi would not bode well for similar initiatives elsewhere in Africa. Eventual success, we believe, will require a focus not only on the overall benefits and costs that eventually reach local communities but also the relations between allocation of costs and benefits and implications for damage compensation, local inequality, and associated impacts on attitudes towards the park.

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<sup>1</sup> This idea, although forcefully challenged by Brockington (2004), remains pervasive.

<sup>2</sup> Indeed, Rondeau and Bulte (2007) develop a dynamic general equilibrium model in which a damage compensation scheme in an open, isolated economy leads to both declining wildlife stocks and local welfare losses.

<sup>3</sup> The area around Bwindi Impenetrable National Park and the nearby Mgahinga National Park is home to 5,000 – 10,000 Batwa (International Gorilla Conservation Programme 2011; Musinguzi 2010). These are settled in 39 communities (African Commission on Human Peoples' Rights 2009).

<sup>4</sup> Note that the question asked – and thus responses – specifically concerned the effects of the PA on health services. In this sense, the perceptions of the source of health care improvement are internalized into the questionnaire so that improvements perceived as unrelated to the park are excluded (regardless of whether or not these perceptions in fact are accurate).

<sup>5</sup> So, again, the role of the park is internalized in the questionnaire.

<sup>6</sup> Although predominantly an indirect benefit, this benefit category also captures a direct effect, in that pre-2006 revenue sharing also involved local road maintenance projects. As noted previously, our “indirect” benefits generally involve benefits that are not purely targeted towards the local population but nevertheless may involve a measure of such targeting (the size of which, in some cases, can only be determined if one knows the intentions of those responsible for the associated economic initiative).

<sup>7</sup> Our justification for omitting costs related to eviction and loss of access to park resources is, in part, practical. These costs would all have been incurred around two decades ago, and would not only pose challenges related to recall for household already formed at the time but would also exclude those that were not. There is also a conceptual justification: some of the evicted household would have moved away from the community, and thus our sampling

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frame. Inclusion of age of head-of-household and distance to park boundary will to some degree capture the variation ignored by this omission in the regression analysis in Section 6.

<sup>8</sup> All our benefit and cost variables are essentially of the “yes or no” type. Note that coverage (the number of households that responded “yes”) will not only vary with duration and age of source but also with, for example, the amount of funding devoted (which itself may vary over time), the amount of volunteer work deployed, and the degree to which effort was concentrated in a small segment of the local population. In short, a weakness of categorical variables such as these is their failure to capture the size of benefits and costs to each household and temporal variation in the various benefit and cost categories will generally tend to accentuate this weakness.

<sup>9</sup> It is of course possible to examine other combinations of benefits. Note, however, that because of the low realization frequencies exhibited by five of the benefits, extending the number of benefits beyond the top five would quickly push both expected and observed frequencies towards zero. Those low realization frequencies would also render a complete 10×10 table of pairs of benefits largely uninformative.

<sup>10</sup> For example, since 84.2 and 69.5 percent claimed to have received health-care and education benefits respectively, we should expect  $0.842 \times 0.695 = 58.5$  percent to have received both if these two benefits were independently allocated. In actual fact, 68.4 percent of respondents claimed to have received both.

<sup>11</sup> We have termed the allocation of benefits to households that have suffered costs “consolatory” rather than “compensatory” because it serves to underline the difference between direct compensation, based on rights to redress and an assessment of damages, and indirect compensation whereby benefits are assumed to reach those who suffer costs even in the absence of any obligations on the part of park management to ensure such an outcome.

<sup>12</sup> 50 of 190 households in our sample, or 26.3 percent, had benefited within at least one of the three DTC benefit categories.

<sup>13</sup> The question that was asked in the Rukiga language was as follows: *Eihamba erya Bwindi bakarihindura irindiro ryenyamaishwa emyaka makumi abiri ehingwireho. Ahakurebera kwawe, nogyira ngu eki kikaba kiri kirungi?*

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<sup>14</sup> Implementing such reward systems may be a very tempting manner in which to ensure correlation between benefit allocation and attitudes, even though the long-term effects are likely to be detrimental to both conservation and development.

***Paper IV***

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## A Local Counter-Narrative on the Conservation of Mountain Gorillas

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Using social science narrative analysis, we studied how people who live next to Bwindi Impenetrable National Park (Bwindi INP) in Uganda narrate about their situation. We found a dominant ambivalence narrative, which deviates substantially from win–win and traditionalist narratives, both of which have been produced by external actors about the same case. Each of the two latter narratives is associated with a broader discourse on protected areas in Africa. The ambivalence narrative describes a situation in which villagers are forced to pay a high price for conservation of the habitat of mountain gorillas. Nevertheless, it contains hope for the future associated with economic benefits from the park through tourism. When looking at the findings of ‘realist’ studies of costs, benefits and participation, we conclude the dissatisfaction to be well-grounded. Furthermore, we highlight types of changes that would have to take place if the hope for the future is to be realised. The ambivalence narrative constitutes a counter-narrative to externally produced wisdom.

**Keywords:** narrative; discourse; conservation; protected area; mountain gorilla; Uganda

### Introduction

How do various actors narrate about conservation? And, more specifically, how do villagers narrate about their situation as neighbours of a national park in which mountain gorillas are conserved? In this article we present empirical data from an investigation of local narrations on conservation around the Bwindi Impenetrable National Park (hereafter Bwindi INP) in Uganda. Smallholders there are concerned about how the national park affects their lives as park neighbours. We compare the findings with two narratives produced by external actors. One of these is a ‘win–win narrative’, in which Bwindi INP is seen as delivering positive outcomes for both conservation and local communities. The other, which we label as a ‘traditionalist narrative’, is critical of gorilla tourism in Bwindi INP and is also implicitly critical of area conservation. As we will show later, each of these two narratives about Bwindi INP is connected to an international discourse on protected areas.

The first of our two research questions is whether local people who live adjacent to Bwindi INP narrate about their relation to the park in line with the win–win narrative or the traditionalist narrative. We applied the approach and methodology of social science narrative analysis, which is presented below. In our selection of interviewees we used a snowball method to identify as broad as possible a range of various narratives on the topic. We managed, with some effort, to find interviewees who presented a win–win narrative of the case, as well as those who described Bwindi INP in terms of the traditionalist narrative. However, it was by far the easiest to find interviewees who presented what we call an ‘ambivalence narrative’. This narrative encompasses a positive notion of the existence of the park as such, but at the same time it entails disappointments with the degree to which the park so far has brought economic benefits to its neighbours and dissatisfaction due to a lack of local influence in decision-making.

We chose the term ‘ambivalence’ in accordance with the most common understanding of it as ‘coexistence of opposing attitudes of feelings, such as love and hate, toward a person, object, or idea’ (Farlex, 2009). Ambivalence may also be used about uncertainty, indecisiveness or a lack of caring, but this is not what we have in mind.

Our second research question focuses on possible explanations for the mentioned disappointments and dissatisfaction. To be more specific, why is there a discrepancy between the win–win narrative that many external actors tend to produce about Bwindi INP and the ambivalence narrative that most local people presented to us? We compare each element of the ambivalence narrative with the findings of so-called ‘realist’ studies that have been conducted on Bwindi INP. Our conclusion is that the disappointments are understandable in the light of knowledge yielded by realist studies. Furthermore, we suggest changes that could reduce the source of disappointments, thereby making it possible to realise the hope of the ambivalence narrative. We find that this narrative constitutes an important counter-narrative (Roe, 1999) to both externally produced narratives.

This study contributes to knowledge about local views on conservation. In the literature, there are many examples of conservation interventions that are expensive and fail because external actors ignore the need to properly understand local views (e.g., Hoben, 1995; Rocheleau et al., 1995). The approach of narrative analysis offers a way of obtaining a rich understanding of the main ways that local people experience and view conservation efforts by means of their presentations of relevant narratives.

In the sections that follow, we begin by specifying the concept of ‘narrative’. Then we provide a brief description of Bwindi INP. After providing details of the methodology and approach used, we present the win–win and traditionalist narratives on Bwindi INP, before we present and discuss the findings on each of the two research questions.

### **Conceptual specification of ‘narrative’**

*Narrative* constitutes a key concept in this article. It is a term subjected to various definitions and, concomitantly, various types of related narrative analyses. Our

perspective is not a linguistic, but a social science one in which the content of narratives is emphasised rather than applying more narrow approaches related to language. We see *narrativity* as the phenomenon that people tend to use in order to organise their knowledge and views in the form of stories. Johansson (2005) characterises narratives as the core form in capturing culture as well as knowledge. Following Svarstad (2009), we define narrative as a story that contains a course of action and involves one or more actors. Furthermore, narratives constitute ways of narrating about aspects and concerns regarding the case in question. Narrative producers create and recreate the narratives and employ structural frames of norms in terms of how to narrate.

The course of action embodied by a narrative implies that events are connected together with claims of causality (Elliott, 2005; Polkinghorne, 1995). A major distinction can be made between a *progressive* narrative that talks about progress, achievement and success, and a *regressive* narrative that emphasises negative development (Elliott, 2005). In our study we were interested in learning what kinds of courses of action are apparent in the ways people talk about Bwindi INP.

Actor galleries may consist of a high number of different types of actors, as identified by Propp in his study of Russian fairytales (Propp, 1968). On the other hand, actor galleries may consist of simply pairs of binary categories, such as the powerful on one side and the marginalised on the other (Derrida, 1998). In terms of narratives on Bwindi INP we considered the types of actor galleries that narrative producers employ.

It is useful to distinguish between various levels of narratives. While some narratives are about individuals, others are about collectives. Collective narratives may address issues involving a small community, or claim broader generality (Svarstad, 2009). Emery Roe has been seminal in bringing a narrative focus to social science analyses of questions about development and natural resources (Roe, 1991, 1994, 1995, 1999). His concept of 'development narratives' includes claims of generality on a relatively large scale such as his specific example of the narrative he calls 'Except-Africa': 'Everything works... except in Africa' (Roe, 1999, p. 2). Several scholars have applied Roe's narrative concept in their presentations of claims and 'received wisdom' on environmental issues in Africa (e.g., Adams and Hulme, 2001; Carswell, 2003; Hoben, 1995; Leach and Mearns, 1996a). In our study, the level of analysis is collective, although at a more local scale than Roe's development narratives. Although our focus is on the collective level, we were also interested in learning about how some actors narrate about their individual experiences (in what we consider as sub-narratives) when they talk about Bwindi INP.

It may often be important to recognise how narrative producers themselves play a role in their own narrative, and how narratives about particular issues may be framed very differently from other actor positions. However, we warn against an assumption that actors are more or less determined – in presentations and practices – by their interests. Instead, we find it important to consider the empirical question of how particular actors interpret and shape their own interests by the way they narrate about topics in which they themselves are involved.



Roe argues that ‘each local case should be judged on its own merits because of its complexity’ (Roe, 1999, p. 2). Thus, he recommends ‘denarrativising’ blue-print views on specific cases and establishing ‘counter-narratives’. In this article, we argue that the local production of an ambivalence narrative on Bwindi INP should be considered a counter-narrative to the win–win and traditionalist narratives that external actors have produced on the same case.

We recognise that not only narrative, but also *discourse*, is a term that is applied to very different concepts. A main distinction may be made between linguistic and sociological discourse perspectives (Johansson, 2005), with the everyday application of discourse as ‘talk or discussion’ being a third perspective (Svarstad, 2002). Within the sociological perspective we define *discursivity* as an aspect of the social organisation of knowledge so that presentations of a topic are often dominated by one, or a few, discourses. Thus, we define discourse as constituting a manner of perceiving and presenting a particular issue that is produced and reproduced by more than one person. Each discourse involves assumptions, claims and arguments. Leading discourses create important frameworks for interpretation and presentation of specific issues, and political decisions and ways of handling the issues are influenced by these discourses (Adger et al., 2001; Dryzek, 1997).

The concept of *discursive narratives* claims a close relationship between specific discourses and narratives. A discursive narrative is a narrative of a case that is produced according to the way the discourse frames the issue (Svarstad, 2009). In this article we show how Bwindi INP has been subjected to the construction of two different such discursive narratives by external actors, and that both of these deviate substantially from the dominating narrative in our study based on interviews with local villagers living adjacent to Bwindi INP.

### **Bwindi Impenetrable National Park**

Bwindi Impenetrable National Park is a 330 km<sup>2</sup> afro-montane forest located in the southwestern corner of Uganda on the edge of the Albertine Rift Valley, with a short part of its border following the national border between Uganda and the Democratic Republic of Congo (Figure 1). The area was in 1932 designated as the Kasatoro and Kayonza Crown Forests, primarily to protect and preserve the mountain gorillas (UWA, 2001). This implied that communities had to seek permission from the colonial government to access the reserve’s resources. Nevertheless, hunting and cultivation continued inside the forest area. In 1942 the two Crown Forests were unified as Bwindi Impenetrable Central Crown Forest, which, in 1961, just before Uganda attained political independence, was gazetted as a gorilla sanctuary.

The introduction of the 1964 Forest and Game Acts by the post-independence Uganda government resulted in dual management of the area by the newly formed Forest and Game departments, as a forest reserve as well as a game sanctuary. Both departments banned residing and farming inside the forest area, the Game Department

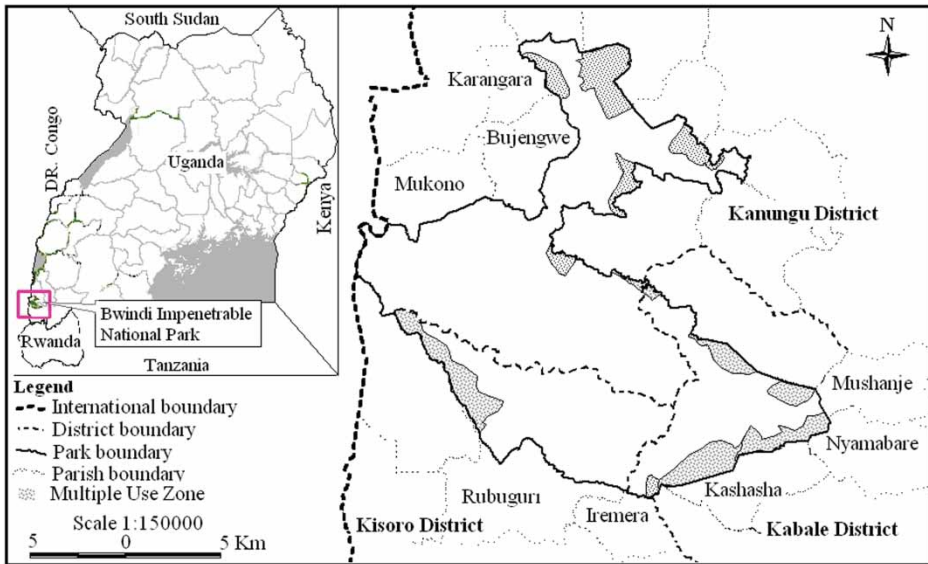


Figure 1. Map of Uganda (inset) showing location of Bwindi Impenetrable National Park (Bwindi INP) at the southwestern border, and map of Bwindi INP showing neighbouring parishes and multiple use zones. The labeled parishes are those from which sample villages were selected.

banned hunting, while the Forest Department allowed local licensed timber concessions and the collection of forest products for subsistence. In 1991, the area was gazetted as Bwindi INP and put under the management of Uganda National Parks (UNP). The wildlife statute of 1996 merged UNP and Games Department to form the Uganda Wildlife Authority (UWA) that was then given the mandate to manage all national parks in the country.

Bwindi INP is located in the Albertine Rift Valley, a region with high biodiversity as well as a large number of endemic species (Hamilton, 1976; Shaw, 2010). Some consider Bwindi INP as one of the most biologically rich ecosystems on Earth and consequently Uganda's most important forest area for the conservation of biological diversity (Howard, 1991). It has been identified by the International Union for the Conservation of Nature (IUCN) as one of the most important forests to be conserved in Africa. Bwindi INP is a UNESCO world heritage site because of its ecological qualities as a home to endemic species, but most importantly because of the endangered mountain gorillas (IUCN, 2010).

IUCN has listed *Gorilla beringei ssp. beringei* as 'critically endangered' (IUCN, 2010), with only two remaining habitats globally. Bwindi INP was in a 2006 census estimated to be home to 302 mountain gorillas. Another 480 individuals live in a nearby but separated mountain area of about 450 km<sup>2</sup> bordering Rwanda (Volcanoes National Park), the Democratic Republic Congo (Virunga National Park) and Uganda (Mgahinga NP) (International Gorilla Conservation Programme 2010).

Local people in the area surrounding Bwindi INP belong to different ethnic groups. Most are Bantu, with about 90 percent of the population being Bakiga, with the Bafumbira accounting for another 9.5 percent. The remaining 0.5 percent includes the Batwa, Bahororo, Bahunde, and recent immigrants from the DR Congo, Rwanda and other areas of Uganda (Plumptre et al., 2004; UWA, 2001). The Batwa are traditionally hunters and gatherers in forests and wetlands (Kabanankye and Wily, 1996). Land holdings are small and fragmented (Ellis and Bahiigwa, 2003), but subsistence agriculture remains the main occupation of almost all the inhabitants, the majority of whom are reported to live in extreme poverty (Lanjouw et al., 2001). Before the designation of the national park, the use of forest resources was important for local livelihoods. Designation of the park was therefore met by local resistance in different forms, even to the extent of setting the forest on fire. In one incident in the first dry season after the park was gazetted, there were 16 fires, some of which were found to have been deliberately set or left to burn. These fires destroyed an estimated five percent of the forest (Hamilton et al., 2000).

To improve the appeal of the Protected Area to local communities, a range of park outreach programmes was implemented and steps taken to communicate with these communities (Blomley et al., 2010; UWA, 2004). Since the establishment of the national park and continuing today, several international and local NGOs work in the area to promote conservation and improve local livelihoods. In 1993, CARE (Cooperative for Assistance and Relief Everywhere) steered a Development Through Conservation programme in which mechanisms were established for people to access some park resources in what have come to be known as Multiple Use Zones (MUZs). These zones are located outside the ranges of the mountain gorillas and resource utilisation is thus seen as being harmless in terms of gorilla conservation. Access to these areas was promoted as having the dual purpose of meeting the people's needs and creating a favourable attitude towards the park (UWA, 2001). Among the resources allowed are specific medicinal plants, beekeeping and recently the collection of wild yams. CARE continues to work in the area currently through the Rights and Equity Program (REPA).

The International Gorilla Conservation Project (IGCP) is another key actor in relation to Bwindi INP. This is a coalition established in 1991 between the World Wide Fund for Nature (WWF), the African Wildlife Foundation (AWF) and Fauna and Flora International (FFI). The IGCP works to improve the socio-economic conditions of people living adjacent to the gorilla ranges, so as to influence their attitudes towards conservation (WWF, 2006).

In 1995, the World Bank's Global Environment Facility (GEF) created the Bwindi Mgahinga Conservation Trust (BMCT) to support park management and local development. The initial investment of USD 4 million is projected to generate enough interest to fund conservation and development activities in perpetuity. To date, this trust continues to fund community development activities around the park, as well as

supporting park management and providing funds for applied research by the Institute of Tropical Forest Conservation (ITFC).

A variety of partnerships has emerged between NGOs, the UWA, local government and citizens in the area. Local people take part in efforts to avoid crop raiding, through HUMAN GORILLA conflict resolution (HUGO) committees. Committee members help chase gorillas and elephants back into the park. UWA park management and the IGCP have provided these committees with field equipment, and have occasionally funded HUGO projects. Local people have also planted thorny hedges along the boundary of the park to restrain park animals from entering farmland. All these efforts contribute to conservation and particularly to the protection of the mountain gorilla.

The mountain gorillas have made Bwindi INP a popular tourist destination. Bwindi INP presently has eight groups of gorillas which are habituated to people. The Uganda Wildlife Authority organises 'tracking' tours for tourists to see gorillas. Each group accommodates a maximum of eight tourists per viewing, which take place once per day.

Tourism has come to provide an important source of foreign revenues for Uganda, and gorilla tracking accounted for more than 80 percent of these in 2010. Remittances from Ugandans abroad were the only source of foreign revenues in Uganda higher than tourism that year. However, only eight percent (\$660m) of Uganda's Gross Domestic Product in 2010 came from tourism (Lanyero, 2011).

A Uganda wildlife statute requires park management, through the local government, to plough back 20 percent of park entry fees into the local communities living adjacent to Bwindi INP (UWA, 2000). Most of this revenue has been spent on community level projects particularly social infrastructure, but from 2006 there has been an increasing focus on efforts to improve livelihoods at individual household levels (Tumusiime and Vedeld, forthcoming). In 2006, a Gorilla Levy Fund was established in order to channel money to the communities from the permits tourists must obtain from the UWA for their gorilla tracking. In 2008 such a permit for a foreign tourist cost US\$500. Of this, US\$10 is allocated to the Gorilla Levy Fund at UWA head office in Kampala. Half of this is, in principle, remitted directly to the villages adjacent to Bwindi INP, in addition to the 20 percent of the park entry fees that they receive. The remaining US\$5 is shared amongst local people adjacent to other national parks, particularly the ones with relatively limited tourism prospects (UWA key informants, personal communication).

### **Methodology and data collection**

This article is based on empirical material collected during fieldwork in Uganda of a total of 11 months between September 2008 and January 2011. As mentioned above, we applied narrative analysis to examine how people at the local level narrate about the park and how it is to live adjacent to it. We compare these findings with the findings among external actors of the win-win and traditionalist narratives. We conducted interviews with 60 villagers living adjacent to Bwindi INP; 38 men and 22 women. None of these held positions of leadership within their localities. The interviews were conducted

in twelve villages directly bordering the park. We selected some villages where we assumed that benefits from the park associated with tourism are relatively high because of gorilla tracking sites and other villages far from these sites. Furthermore, we selected villages in consideration of access to some forest resources through agreements made with Uganda Wildlife Authorities of Multiple Use Zones and costs from being park neighbors in terms of crop raiding.

Within each village we randomly selected some interviewees to start with. Thereafter we applied a snowball method with the aim of collecting material about the diversity of types of narratives that people employ when narrating about the park and their living adjacent to it. In each village, we continued to interview until we felt that a saturation point (Guest et al., 2006) had been reached regarding each type of narrative. Thus, our strategy was not intended to achieve representativity in terms of percentages of interviewees who presented the various narratives in comparison to the total population or various parts of the population.

Before conducting the interviews, we clarified with each respondent that the purpose of the study was purely scientific and academic, and had no connection with the UWA or any of the organisations working in the area. Interviewees were also assured of anonymity and confidentiality. People in the investigated villages speak Rukiga, which is the mother tongue of the first author of this article. Thus, we had no need for an interpreter. We recorded and transcribed all the interviews.

In the first part of each interview, we tried to avoid interrupting with questions, so as to record accounts as ‘undisturbed’ as possible of narrations on the national park and what it means for the interviewee and for the village. The last part of the interview was semi-structured, with the aim of making sure that the interviewee could comment on the main aspects of the two externally produced narratives on Bwindi INP that they might not have mentioned earlier themselves. In the analysis, we separated these two parts of the interviews, as the first provided the most genuine insight to what each interviewee emphasised her(/him)self.

In addition to the mentioned 60 interviews with villagers, we also conducted 28 interviews with local political leaders, park staff, governmental bodies and NGO representatives in the villages and in Kampala. Furthermore, we collected and reviewed written sources on Bwindi INP and took part in local meetings, regional workshops as well as some tourism experiences such as gorilla tracking and visiting tourism facilities. The identification of the win–win narrative on Bwindi INP is based on parts of the material thus collected, as are our findings on the second research question.

We applied a standard procedure for the analysis of qualitative data by elaborating codes and index. A core aim was to gain a solid understanding of the aspects that the interviewees themselves emphasised when they talked about their lives on the border of the national park. At the same time, we also focused on comparative dimensions of the local material in relation to the win–win and traditionalist narratives.

In positing possible explanations for the dominance in our local material of the ambivalence narrative with dissatisfaction of the present situation rather than a

win–win narrative, we compare each element of the ambivalence narrative to findings of so-called realist studies of the case. Some scholars who conduct constructivist studies argue that constructivists should not examine claims in social constructions such as those produced in narratives and discourses, but instead should concentrate all attention on the social constructions themselves (e.g., Johansson, 2005; Jørgensen and Phillips, 1999; see Svarstad, 2009). However, we have found it useful in this study to cross the constructivism/realism border in search of insight to understand the ambivalence narrative.

### **Narratives on Bwindi INP from external actors: win–win and traditionalist narratives**

In this section, we discuss the production by external actors of win–win and traditionalist narratives on Bwindi INP, both of which can be seen as discursive narratives. The first is connected to the *win–win discourse* on protected areas, while the second has a link to a broader *traditionalist discourse*. We first provide brief descriptions of the mentioned discourses, and thereafter present each of the two narratives.

Internationally, a *discourse order* (Fairclough, 1995) can be identified about protected areas, for which the domination of a win–win discourse in recent years has taken over from a fortress conservation discourse based on fences and fines. For the producers of both these discourses, the primary concern is to conserve nature. However, communities adjacent to conservation area are described in the win–win discourse as being beneficiaries of conservation, and their co-operation is seen as a precondition for effective conservation. It is argued in this discourse that communities that become involved in conservation as local participants, and who get to share some of the benefits from conservation, will contribute to reaching the aim of conservation. Major conservation NGOs as well as many government officials in the wildlife sector in Africa today seem to have adopted this discourse. Various other actors have also done so, such as development donors, owners of hotels and other tourism companies located next to or within protected areas, and many scientists with various specialisations who carry out research related to protected areas (see Adams and Hulme, 2001; Adams, 2004; Benjaminsen and Svarstad, 2010a, b; Hulme and Murphree, 2001; Sletten, 2009; Sullivan, 2006; Svarstad et al., 2008).

In Uganda, the win–win discourse is reflected, for instance, in Uganda Wildlife Authority's statement of mission: 'To conserve and sustainably manage the wildlife and Protected Areas of Uganda in partnership with neighbouring communities and other stake holders for the benefit of the people of Uganda and the global community' (UWA, 2004, p. 2). Furthermore, this discourse is also present in the UWA's goal of revenue sharing that has been an official policy since 1994:



... [to] ensure that local communities living adjacent to PAs obtain benefits from existence of these areas, improve their welfare, and ultimately strengthen partnerships between UWA, local communities, and local governments, for sustainable management of resources in and around PAs. (UWA, 2000, p. 6)

On the other hand, some actors in solidarity organisations and in social science research produce what has been called a traditionalist (or critical or populist) discourse on protected areas in Africa. The primary concerns here are the interests and rights of local communities. Local people are seen as being best capable in ensuring the maintenance of natural resources when external actors – such as agents in conservation as well as those with economic interests do not interfere. The traditionalist discourse turns the attention to the relatively low financial benefits for park neighbours, the high costs they incur in terms of refused access to natural resources, and by wild animals which raid crops and attack people and livestock. Furthermore, this discourse points out the lack of real devolution of authority associated with participation arrangements (see Benjaminsen and Svarstad, 2010a, b; Brockington and Schmidt-Soltau, 2004; Chapin, 2004; Dzingirai, 2003; Igoe and Croucher, 2007; Kepe et al., 2004; Neumann, 1998; Sullivan, 2006; Svarstad et al., 2008).

The situation of Bwindi INP is often presented by external actors as a win–win narrative in coherence with the win–win discourse (Bensted-Smith et al., 1995; Hamilton et al., 2000; Makombo, 2003; Wild and Mutebi, 1996). The main content of this narrative is that the tropical rainforest of Bwindi INP with its biodiversity is highly valued, and that conservation in this case goes together with local benefits and participation. The win–win narrative is related to the favourable situation of this particular national park in generating relatively high tourism income because of the popular gorilla tracking. In addition, as described above, there are many efforts around Bwindi INP to support activities related to livelihood security so that local people may become less interested in *trespassing* across the border of the national park.

In a report from the World Wide Fund for Nature (WWF), Bwindi INP is presented as one of six examples from Asia, Latin America and Africa as a manifestation of the win–win narrative. The report was ‘produced to demonstrate how species conservation contributes to sustainable development’ (WWF, 2006, p. 2), and it claims to demonstrate ‘that species conservation and poverty reduction can be delivered together’ (p. 9). The report concludes that mountain gorilla conservation in Bwindi INP contributes towards achieving three of the Millenium Development Goals (MDGs): eradication of extreme poverty and hunger; environmental sustainability; and partnership for development. Further, the case was seen as contributing to ‘enabling good governance for MDGs delivery’ (WWF, 2006, p. 17).

The following quotation from an interview with a government official in Uganda also demonstrates the presentation of Bwindi INP in terms of a win–win narrative:

Bwindi is one of the parks where we have seen most benefits to communities and most involvement of communities... It is the first park where we started revenue sharing... It

is in Bwindi where we have a high concentration of NGOs whose programmes target increasing benefits to local communities and conservation of gorillas... It is in Bwindi where we first established the Multiple Use Zones... It is in Bwindi where we first established problem animal management... So Bwindi is certainly a good case for community involvement... There are a number of initiatives benefiting the communities, which have made people appreciate the existence of the park... Also in the same area people sacrificed their land and said 'let us save these gorillas'. When you reach there you really see integration and willingness. (Informant interview (II) 8)

However, our interviews with park rangers and NGO representatives on the ground around Bwindi INP demonstrate that the actors tend to provide nuanced pictures of the situation, highlighting various shortcomings and challenges. Also among conservation actors in Kampala, we found that ways of talking about the case of Bwindi INP vary along a scale ranging from a clear win–win narrative, such as in the quotation above, to more nuanced presentations comparable to those of the local villagers.

There are also examples in which Bwindi INP is presented by external actors from the perspective of a traditionalist narrative. Contrary to stories of win–win partnerships between external and local actors, Laudati (2010), for instance, characterises the situation for local people as one of 'inequality, exploitation, vulnerability, and insecurity' (p. 727). She presents data on the extent of revenue sharing from park tourism since the establishment of the national park till the present and concludes this to be small and not having alleviated the 'endemic and unchanging poverty' of most villagers (p. 729). Furthermore, park-related employment is small, the cultural influence of tourism is negative, and park neighbours experience problems with crop raiding. Instead of 'participation', Laudati finds a shift in power to western organisations and external owners of the tourist industry. She argues particularly against what we call the win–win narrative on Bwindi INP, as being a narrative 'in which foreign visitors save the local environment and are warmly received by the local population as salvation from poverty' (p. 741).

Furthermore, with a focus on economic aspects, Adams and Infield (2003) use the case of Bwindi INP to assert win–win as an illusion. They argue:

If institutions cannot be devised such that the mountain gorilla in Uganda can pay its way to the satisfaction of all parties, then the argument that conservation more widely can be based on this approach, let alone that it provides a 'win–win' solution of 'development-with-conservation' must be weak. This is especially true for the many species without the global interest that gorillas attract, and for countries or environments less suitable for tourism than Uganda. (Adams and Infield, 2003, p. 187)

There are also authors who concentrate on the situation of the Batwa and present this in terms of the traditionalist narrative (e.g., Kidd, 2008; Rudd, 2004; Tumushabe and Musiime, 2006).



### **Findings of a local narrative of ambivalence**

Our application of the snowball method focused on providing a diversity of types of narratives. By means of this method we found that it was most easy to find interviewees who presented versions of what we call a ‘narrative of ambivalence’. We did not observe any differences in this aspect between men, women or different village categories. Furthermore, we identified that some interviewees are very negative towards the park, while others are very positive. Due to the methodology we adopted, we have more interview data from the latter two groups than we could have expected from probability samples based on random selection, and it would be erroneous to calculate percentages of answers in coherence with each of these three categories.

We found that the ambivalence narrative entails three main elements. The first of these is a positive notion of the existence of the park, related to hopes for what the park may bring in terms of economic benefits in the future. Secondly, strong disappointments were communicated to us about a broad range of economic consequences of the park. These include disappointments relating to the limited benefits to local people through revenue-sharing, low local park-related employment, lack of compensation for costs of animal raiding, and restrictions on access to natural resources in the park. Finally, there was lack of satisfaction connected to the lack of local influence on decision-making.

### ***Hopes associated with the existence of the park***

Some interviewees said that they are against the very existence of the park, and, suggested it should be degazetted and the whole or part be given to local people for farming. One of these said:

So actually the park is useless to us. It is useful to white people only. They come and enjoy it. They come and see the gorilla and other animals. . . The park is useless to us local people. Except for the leaders and those people who receive some resources from the park. But these are *very* few. (Interview (I) 41)

On the other hand, we also found interviewees who gave us a presentation that can be seen as close to the win–win narrative. These presentations also provided some critical opinions on the situation, but they thought that on the whole, the economic conditions of villagers had improved with the establishment of the park. One woman said:

Generally the park is good. . . and many others will tell you the same. We were badly off, but now our lives are better. . . You just have to take a look around and you will see this. (I 44)

She attributed all the positive changes that have occurred in the area during recent years to the existence of the park and she argued that the economic conditions were worse before the establishment of the park. At that time, she said, the villagers did

not even have racks to sun-dry kitchen utensils. There were also interviewees who specifically mentioned their appreciation of benefits from the revenue-sharing scheme. They mentioned the contributions to social infrastructure as well as recent benefits to individual households.

Interviewees who narrated about the park in a manner that we categorised as the ambivalence narrative, said that it is the right thing to have the park. The arguments they provided for this view were hardly related to environmental conditions as such. Nevertheless, some interviewees also thought that without national park status, the forest would be degraded and disappear, and they did not see that as being more beneficial to them compared to the present situation. Furthermore, a few participants mentioned that they thought the forest had a positive effect on the pattern and amount of rainfall. However, the main reason the ambivalent interviewees gave for being positive about the park was that it gave them hope for better livelihoods in the future due to income related to gorilla tourism. One interviewee put it this way:

The idea of the park is good. It should remain like this, but they should improve. I really think they should improve. . . . If the benefits were well distributed, people would benefit from this park. (I 8)

Another said:

I am not saying that the park is bad, but I think the way things are, honestly, local people hardly benefit from it. Yet the costs we pay are high. . . . They [park management] need to seriously think about us. (I 52)

The interviewees often focused on the mountain gorillas as the main source of revenue associated with the park. One put it this way:

Gorillas are *really* important. They earn us some money. . . . This is given to the people, but it is *very very* little. People are not happy with it and therefore still encroach on the forest. (I 56)

In the ambivalence narrative on Bwindi INP, local park neighbours characterise the park as causing an unsatisfactory economic situation for them at present, but they express hope for positive change with a proper share of gorilla tourism revenues in the future.

### ***Disappointments with present economic benefits through revenue sharing and employment***

The focus of the interviewees on economic consequences of the park encompassed several elements. On the one hand, the interviewees emphasised benefits from tourism in terms of revenue sharing and employment. On the other hand, they were concerned about crop losses by animal raiding and restricted access to natural resources in the park.

On the aspect of revenue sharing, most interviewees were neither satisfied with the total shares that have so far been given to local communities, nor with the distribution of these among local recipients. A local leader said the following in this connection: 'The revenue sharing money is too small and we cannot explain to affected people to understand this meagre benefit' (II 15).

As a reason for low local revenues, interviewees pointed to the limited amounts allocated for this purpose in comparison to what the Uganda Wildlife Authority keep for itself. One interviewee described it in this way:

Now you wonder why you are close to the park. A tourist pays USD 500, and the community share is to be only US\$5. This is not enough. They should give people at least US\$100. Let us compare it to the preparation of a meal: If you were a cook, would you prefer to get the smallest or the biggest portion to eat? Now, we the park neighbours are the cooks of that meal, but what do we get? The smallest portion. Is that fair? (I 46)

People pointed at several problems with the way the revenue sharing scheme is administered. These were blamed partly on local leaders and partly on park management. Several interviewees claimed that benefits usually end up in the hands of close family members and friends of local leaders. One interviewee expressed his dissatisfaction by providing the following examples:

The revenue-sharing process is not transparent. We have a problem with our local political leaders. For example, I remember an incident where the head of the committee to distribute goats was from a family of six people. That family got six goats, while other families got nothing. . . I told you that revenue sharing and the park as such would be beneficial to local people if the distribution of benefits was fair. . . In the mentioned incident, there was somebody in this village who is a close friend to the head of the committee, and in this village he was the only person who received a goat. Yet in the chairperson's village, about ten or more people received a goat or something else. (I 3)

Park management was blamed for the low level of benefits to local people and the fact that these revenues are distributed in an irregular manner. Furthermore, they were blamed for failing to deal with corruption and nepotism displayed by the local leaders in distributing revenue benefits.

Interviewees also described the situation of park-related employment. The following is an example of one of the very few positive notions provided on this issue:

This park generates many benefits to us. For example, our children get school fees through working in the tourism business. They work as porters during holidays and earn some money. (I 48)

However, most of the interviewees expressed disappointment with the limited job opportunities associated with park management and tourism. One of them said:

We have some people from our village who work in the park as porters and guides, but as a general rule, they are few. Most of the opportunities to fill these positions are given to the people downhill who have nothing to do with the park. They are given the jobs, yet it is us who are the park's neighbours, who suffer all the ills of the park. We are the ones who should be given such opportunities. (I 52)

Thus, our empirical material shows that the interviewees focus much attention on economic benefits in terms of the established revenue-sharing scheme and employment opportunities. However, almost all of them are disappointed by what they have experienced so far of such benefits, although most of them have hopes that this situation may change in the future. Further, most interviewees told us about their costs associated with the park due to crop losses by animal raiding and restricted access to natural resources in the park.

### *Disappointments with lack of compensation for costs of animal raiding*

All interviewees with land directly bordering the park told us about losses of crops and livestock due to animals from the park, mainly bush pigs, baboons, elephants and mountain gorillas. Interviewees mentioned several ways in which crop raiding is a problem to them, in particular the loss of livelihood security since farmers rely on the crops for subsistence as well as cash. One elderly interviewee put it this way: 'Imagine a poor woman like me losing my crop field to the park animals. . . Here we live off our crops. When they are lost one loses one's life' (I 33). Another cost to local farmers is the extent of labour required to fight crop raiding. Relatively wealthy farmers told us that they spend a lot of money on hiring labour (of poorer and Batwa households) to do the guarding. Finally, the farmers decried what they view as a long-term effect of crop raiding, by curtailing households' ability to send children to school. They said in some instances this results from a lack of money to pay school fees following crop raids, and in others because the children have to guard field crops against the otherwise debilitating crop raids. Some youths linked their dropping out of school to this necessity. One described it this way:

Crop raiding was the most important reason for my dropping out of school. . . Around November and December it is time to do end of year exams for one to be promoted to the next class. This is the time when the baboons do havoc in the fields. Parents would make me go guarding against the animals instead of going to school, and that is why I failed to continue at school. (I 15)

Interviewees told us that the crop-raiding problem has increased substantially since the designation of the national park. They gave several reasons, ranging from an increase in the wildlife population following protection, to restrictions that have been put on farmers against fighting crop-raiding animals. One interviewee described it this way:

The issue of crop raiding bothers us, because when the wild animal destroys the gardens, we are not allowed to chase it and kill it in the park. If we do that, we risk even to be killed ourselves by park rangers. (I 7)

Local farmers also mentioned their frustration by the wildlife authority's requirement that local people keep some distance from the gorillas. A few interviewees appreciated this as an effort to minimise the possibility for inter-species transfer of diseases, but most viewed it in negative terms. They mentioned that this was done primarily to protect the gorillas and not the local people, and, as one of them noted: 'Sometimes we feel like the gorillas are treated as more important than us' (I 2). In one village, people told us a story of a woman who threw stones at a gorilla to chase it away from eating her crops. The gorilla died, and people told us that the woman got much trouble with the park rangers who even took her to a legal court. Interviewees also told about people who became severely injured and disabled from gorilla attacks, without receiving any compensation.

### *Disappointments with restrictions on access to natural resources in the park*

All interviewees told us about the pre-park days when local people accessed forest resources for subsistence and income generation. Older individuals told about this from their own memories, and younger ones gave us accounts that they had heard from the elders. Some people presented thoughts of the cash income from forest resources as being very useful. For example, one interviewee told us:

I was a child at that time, but together with some other children I used to help the pit sawyers to carry timber from the pit sawing site inside the forest reserve to the village or to a point where the timber would be loaded onto vehicles. We could use the money paid to us to pay school fees. Later I was taught how to use the pit saw and I started pit sawing. . . We also used to collect basketry materials to make baskets and medicinal plants to treat the sick. (I 15)

This interviewee described how he continued to work as a pit sawyer until it became illegal due to the designation of the park. Another man said: 'Many of us derived our livelihood from the reserve' (I 59) and, as a result, yet another said, they 'were rich. . . really rich' (I 20). People believe that the park still has plenty of such valuable resources. One female respondent commented: 'If we get the opportunity, there are resources that can give us an income. This is only if we get allowed to collect them' (I 12).

In some instances, interviewees exhibited attachment to and preferences for in-park resources, even where alternatives are available. For example, an elderly Mutwa woman, after stating that she currently goes to a community health centre for all her medical needs was quick to reiterate that she would prefer medicinal plants from the forest since 'the other medicine from the health centre is for the westerners, while medicinal plants are our medicines' (I 18).

Interviewees in villages with Multiple Use Zones told us that they were disappointed about the restrictions they met in what they are allowed to collect in these zones. They mentioned that access in these zones is permitted relatively seldom,

such as twice a year in the cases of medicinal plants and basketry materials. They also told us about natural resources that they value highly but are not allowed to collect at all, such as gold and fish. Some Batwa among the interviewees also told us that they wished that they could be allowed to visit their traditional sites in the forest for spiritual purposes.

### ***Dissatisfaction with lack of influence on decision-making***

Most interviewees touched on the topic of local participation in decision-making regarding the park. Most of them expressed dissatisfaction with their lack of influence. However, one interviewee mentioned that the UWA had listened to villagers in the change that has taken place from local park revenues being spent on community level projects to household level benefits such as the provision of goats. A few interviewees also told us that they had participated actively in the final selection of the recipients of the goats. Most of these individuals happened to have received goats themselves.

The UWA arranges meetings with villagers, which are intended to create a means of dialogue between the two parties. At these meetings, issues are addressed such as local benefits, crop raiding and aspects of the collection by some communities of specific forest resources in the Multiple Use Zones. However, many of the interviewees told about their dissatisfaction with these meetings. One put it simply this way: 'The problem is that we talk and talk but nobody listens' (I 52). Another provided the following description of how he sees the situation:

We lose trust because we realise that our pleas are not considered, and that we have no say... When we mention our suggestions to UWA officials, they... assure us that they will communicate with other top officials and give us feedback. Unfortunately, they usually tell us that our suggestions are not possible because there is no legal provision for it in terms of policy on compensation. Or they say that the UWA cannot accept this and that... One wonders why we should spend our time attending such meetings... We ask ourselves of what good is it for us to attend a meeting where we are not going to benefit anything? I myself would rather stay behind and guard my crops against the baboons. (I 28)

### **The findings in the light of narrative theory and other narratives**

Our methodology made it possible to identify a dominating narrative as a pattern used by many villagers when telling about life as neighbours to Bwindi INP. We have above described the main issues on which this narrative focuses. These include hope for the future as well as disappointments and dissatisfaction with various elements of the present arrangements.

Considering the course of action, the ambivalence narrative entails two main elements. First, it embodies an element of regression in the presentation of the situation

from the time the park was designated until today. This regression includes restrictions on access to forest resources, increased problems with crop raiding, lack of economic gains and lack of influence in decision making. Second, there is an element of progression from the present situation to a future in terms of hope for a situation where the park and related tourism will yield economic gains and employment for park neighbours.

Villagers play a central role in the actor gallery of the ambivalence narrative. In this case, the narrative producers portray themselves so far as victims in terms of events that they have not been able to influence. Nevertheless, their hopes for the future imply a potential transformation from victims to beneficiaries.

When we examine which actors are viewed in the narratives as the villains, the state conservation authorities on the ground attract most of the blame. Furthermore some culpability is ascribed to political leaders at the local level, who in the ambivalence narrative are accused of illegitimate handling of funds for revenue sharing. International conservation NGOs tend not to be identified as actors with much influence on the situation, but are given some recognition for participation in park outreach activities.

Let us make a comparison of the ambivalence narrative with the win–win and traditionalist narratives described earlier. We see that the ambivalence narrative, in most aspects, provides a view of the situation that deviates from that of the win–win and is in accordance with that of the traditionalist narrative. This can be seen in the negative views on present economic benefits in terms of revenue sharing and employment, as well as in the critique of lack of compensation for costs of animal raiding and dissatisfaction with restrictions on access to natural resources. In addition, lack of influence in decision-making (‘participation’) is an aspect shared by the ambivalence and traditionalist narratives. However, as part of their ambivalence narrative, most villagers say they want the park with its tourism-related opportunities to remain, since for them this brings hope for the future. The last element deviates from the traditionalist narrative, as well as from claims in the win–win narrative that the present situation is satisfactory for park neighbours.

### **Explanations and implications of the findings**

In this last section we posit explanations of the findings that villagers tend to produce an ambivalent narrative about Bwindi INP. Furthermore, we suggest changes that would have to take place if the hope for the future is to be realised.

Why do people tend to produce specific narratives in general? One answer may be that the narrative provides a precise description of reality. However, each narrative constitutes a way of telling about a situation that producers and reproducers are likely to think is to their own advantage. Thus, it is not surprising that governmental and non-governmental actors in conservation present the approach that they themselves apply as successful or promising. Such win–win narratives thereby legitimise their own practices (see Fairhead and Leach, 1995; Leach and Mearns, 1996b; Roe, 1991, 1995).



Similarly, it may be likely that local villagers tell outsiders about the situation around Bwindi INP in a manner that points to aspects of the situation which they think outsiders may help in improving. In our opinion, it is useful to compare claims in such narratives with empirical knowledge gathered through more direct methods of realist research approaches. In the following, we give a brief overview of recent data from realist examinations relevant to each of the main elements of the ambivalence narrative on Bwindi INP. This will provide an indication as to whether or not the ambivalence narrative constitutes a well-grounded presentation, and in that sense a sound response to the situation.

Why does the local production of an ambivalence narrative differ from the externally produced win–win narrative on the same case? Let us examine knowledge from realist research of each of the elements in which the ambivalence narrative – like the traditionalist narrative – contains disappointments with the present situation. The first element is the disappointment with present economic benefits from tourism. There are studies concluding revenues from gorilla tracking to be relatively high (e.g., Hatfield and Malleret-King, 2003; Sandbrook, 2006; Tumusiime and Vedeld, forthcoming). Sandbrook (2006), for instance, calculated that income from gorilla tourism at one of the three Bwindi INP sites amounted to US\$1.15 million in 2005. However, several studies point to the high degree of external interests involved in such tourism, which cause relatively high economic leakages (Adams and Infield, 2003; Hatfield, 2005; Sandbrook, 2006, 2010). According to Sandbrook's 2006 estimates, over 75 percent of gorilla tourism revenues leak out of the Bwindi area.

Similarly, Tumusiime and Vedeld (forthcoming) estimate that at full capacity, the current eight habituated gorilla groups can generate annual revenues of over USD 11 million, but a very small part of this is at present distributed in the form of revenue sharing to park neighbours. With the current tempo of the most common arrangement of distribution of goats to local households, it will take an estimated 11–17 years before all households around the park get just one goat each on average. Adams and Infield (2003) argue that the amount spent on revenue-sharing for park neighbours does not compensate them for the costs that the park imposes on them. Furthermore, Namara and Nsabagasani (2003) found that national institutions use revenue sharing programmes as an argument to relinquish their responsibility for social welfare programmes, thus allocating less money to local government.

Altogether, direct employment in tourism and park management locally for Bwindi INP neighbours is assessed to amount to less than 500 jobs in 2010 (Tumusiime and Sjaastad, forthcoming). Compared to even a moderate estimation of the total population of the parishes closest to the national park of 170,000 (Hamilton et al., 2000), this is not much. Furthermore, as much as one third of all tourism jobs around Bwindi INP are held by non-local employees (Sandbrook, 2006). Lack of education and relevant skills among local people are given as reasons for this.

Secondly, the ambivalence narrative entails disappointment with uncompensated costs in terms of crop raiding. Considering relevant realist type investigations, there



are indications that crop raiding constitutes a severe problem for farmers. Crop raiding appears to be on the increase, partly because habituated gorilla groups spend significant amounts of time on private land outside the park (Goldsmith, 2005). Crops damaged include sorghum, millet, eucalyptus tree bark, sweet potato vines and bananas. The cost to individual farmers has been found to be high (Kiiza et al., 2004; Tukahirwa and Pomeroy, 1993). For bananas in particular, it is estimated that an individual farmer loses a total of US\$472 in the 10 years of the life of a banana plant (Baker, 2005). This is a significant loss, particularly given that most of the park neighbours live on less than a dollar a day (Kidd and Giampaoli, 2006). Reports of food shortage have increased with increasing reports of crop damage, with several negative local consequences (Namara, 2000; Olupot et al., 2009).

Thirdly, the ambivalence narrative expresses disappointment with the restrictions on access to natural resources of the park. This has been a longstanding source of dissatisfaction at Bwindi INP (Blomley and Namara, 2003; Blomley et al., 2010; Docherty, 1993; Hamilton et al., 2000; Namara, 2000; Scott, 1992; Wild and Mutebi, 1996). Studies conclude that permitted access provides little to no tangible benefits for local people (Blomley and Namara, 2003; Worah et al., 2000). In return for permitted access, local people have to assume responsibilities including fighting forest fires, patrolling for illegal activities, and reporting lawbreakers. Namara (2006) holds that these responsibilities far outweigh the benefits of permitted resource access.

Last but not least, the ambivalence narrative reflects dissatisfaction with the lack of influence on decision-making, which contrasts the presentation of local participation as an element of the win–win narrative. There are three main ways local people may participate in decision making related to Bwindi INP. Firstly, they may express their views directly at meetings with the park management. Secondly, they may participate indirectly through elected local government, and thirdly a body is established by local government to oversee implementation of the revenue-sharing policy. However, Namara (2006) found that sections of the park authorities at Bwindi INP tend to treat communities as having no authority over park affairs. Thus, she concludes that the UWA maintains ‘tight control over decision-making and resources’ (Namara, 2006, p. 61). Furthermore, Blomley and Namara (2003) hold that the park authorities undermine the authority of community institutions and are uncomfortable with the work of these institutions. Atuhaire (2009) found that ‘participation’ in this case does not imply that local people participate in decision-making, but that they are involved in activities to promote conservation.

We observed three consultative meetings between the park authority and local people. During these meetings we found that neither ordinary villagers nor local representatives played any independent or influential roles. Instead, we found a power asymmetry in which the UWA provided the premises and to a large extent informed and guided people on what to do. Laudati (2010) observed the implementation of plans for a participatory process in which NGOs assisted with a tourism development project at Nkuringo. She found that people were involved in the form of providing

physical labour as a low-skilled labour force, and that participation in decision-making was rather cursory.

Furthermore, a major problem with both types of indirect participation is that the system for local representative democracy is not well developed in Uganda. One of the results is that local elections are not yet arranged on a regular basis. One such election was held in 2001, and it took 10 years before the next one in 2011.

As shown so far in this section, the dissatisfactions expressed in the ambivalence narrative with the present situation, provide an interpretation of the situation that must be concluded as being sound when compared to realist knowledge from economic and institutional studies. In this respect the ambivalence narrative is in line with the traditionalist narrative, but deviates from it significantly by containing an element of progression from the present situation through hopes for a better future, particularly related to gorilla tourism. External interventions following the traditionalist narrative may miss this aspect, which we see as holding the potential for the situation to be improved. The win–win narrative, on the other hand, must be seen as providing a description of the present situation that is not confirmed by realist research.

Finally, we identify four types of changes that could reduce the sources of disappointment and make it possible for hope for the future to be realised. It would go far beyond the aims and space of this article to provide assessments of feasibility and details of such changes, but we highlight types of changes connected to the contents of the ambivalence narrative and associated needs of research assessments. Firstly, in order to reduce the disappointments regarding economic benefits, tourism would have to increase substantially in order to create large impacts in terms of revenues and jobs. There is a need for economic and other feasibility studies to examine realism and implications of such a scenario. At the same time, the share of revenues distributed to local communities would have to be increased. At present, much money seems to be lost on its way to appropriate receivers due to the lack of good governance (Tumusiime and Vedeld, forthcoming). Thus, the hope of the ambivalence narrative is not likely to be realised without strengthening the relevant institutions and establishing a transparent system of distribution. More research is needed to identify the various obstacles associated with this on different governance levels from the local to the national.

Secondly, the disappointment with lack of compensation for costs of animal raiding could be met with arrangements to directly compensate those who are affected. From the literature, we see that such compensation schemes seem to be taken for granted in much of Europe and North America (Boitani et al., 2010; Kaczensky, 1999; Naughton-Treves et al., 2003; Swenson and Andrén, 2005), with even instances of private wildlife compensation funds to complement national schemes or to serve in their absence (Swenson and Andrén, 2005). In such cases, farmers are compensated for confirmed and probable damages, as well as time spent guarding against damage. However, in Africa the same ideas have been criticised for being cumbersome and expensive to implement (Hoare, 1995; Schwerdtner and Gruber, 2007) or to be counter-productive when farmers who expect compensation (wholly or partly) lose the incentive to fight crop raiding actively

(Nyhus et al., 2003). Critics of direct compensation tend to favour a payment-in-advance approach such as the tourism revenue sharing scheme currently operating at Bwindi INP where farmers are rewarded for living with wildlife (Nyhus et al., 2003; Schwerdtner and Gruber, 2007). Some studies have claimed a lack of difference in attitude towards wildlife between individuals compensated for their losses and those not compensated (see Boitani et al., 2010; Naughton-Treves et al., 2003). However, on ethical grounds, we find the present situation particularly problematic when major costs of conservation are carried by small-scale farmers through their losses by crop raiding, while revenues argued to compensate these farmers are distributed to other actors. The lack of satisfaction reflected in the ambivalence narrative also constitutes a problem of legitimacy. Research assessments could assist in identifying relevant alternatives for compensation mechanisms and their associated challenges.

Thirdly, park authorities could facilitate more access for people to sustainably collect and use natural resources. These are vital sources of subsistence income for poor people (Tumusiime et al., 2011). Moreover, access to these resources is a main reason for local support in fire control and fighting, since fire is regarded a big threat to valued products (Blomley et al., 2010). Also, resource substitution programmes that provide alternative materials to those sourced in the park may be necessary for locally desired but scarce forest products. As shown in the map of Figure 1, Multiple Use Zones have been established in only a few border areas of the national park. Participatory forest inventories in the outer areas of the park could provide a basis for more such zones and help guide decision on additional types of products that can be accessed.

Fourthly, to address local dissatisfaction with the lack of influence on decision-making, institutional changes to real decentralisation and devolution of power would have to be established. Research assessments could be useful in order to specify alternatives and challenges in relation to this on all governance levels.

As shown above, major changes would need to take place in order for the hope of the ambivalence narrative to be realised. Should these be seen as matters left to local people and to the government of Uganda to deal with alone? According to the traditionalist discourse, external actors should not interfere in such issues. However, the conservation of the habitat of mountain gorillas at Bwindi INP yields substantial global benefits, even if it incurs significant costs to local people (Hatfield, 2005). At the same time, foreign conservation organisations, with much funding from governments of Western countries, have played important roles in establishing a situation as that found around Bwindi INP where villagers in practice pay a high price for conservation. Perhaps it is time to place the responsibility on these external actors to contribute sufficient funding to lift the burden of conservation from the shoulders of the local poor?

In this article we have presented the findings of a narrative analysis which reveals that an ambivalence narrative has a strong standing among park neighbours. We found this to contrast with the win–win narrative that we have shown constitutes a discursive narrative of the win–win discourse on protected areas. An examination of realist studies on the same case concludes the ambivalence narrative to be well-grounded. Furthermore, the

ambivalence narrative contains a hope of a better future for park neighbours associated with tourism, and this contrasts a narrative on the same case with a traditionalist bend. We will point at two important questions that the findings raise for further research. First, we see a need for research on other cases of protected areas that are used in the production of discursive narratives by powerful external actors: such research could reveal whether or not one or more discursive narratives about the cases tend to have a high standing also among park neighbours, or whether there are other cases in which local narrative production deviate substantially from ways that the same cases are presented externally. Secondly, we find it important to ask how it is possible for external actors to use a case as a supporting narrative for a discourse despite the lack of a high standing of this narrative among local people.

### Acknowledgements

This article is one of the outputs from the research project Protected Areas and Poverty in Africa (PAPIA) funded by the Research Council of Norway. Connected to the PAPIA project, D.M. Tumusiime has received PhD funding from the Norwegian State Education Loan Fund, Makerere University and Norwegian Institute for Nature Research (NINA). The Nordic Africa Institute (NAI) has provided a travel grant for field work, and Makerere University has contributed with field logistics. Fred Ahimbisibwe has assisted in the drawing of the map of Figure 1. We appreciate comments on the article from Tor A. Benjaminsen and anonymous referees.

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