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Chapter 2

LINKING PROTECTED AREA CONSERVATION WITH POVERTY ALLEVIATION IN UGANDA: INTEGRATED CONSERVATION AND DEVELOPMENT AT BWINDI IMPENETRABLE NATIONAL PARK

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1. INTRODUCTION

Priorities for Managing National Parks

Gaining the support of local communities for conservation and resolving local conflict issues are priorities for managers of national parks. Conflict can be defined as the expression of divergent interests between resource-poor households neighbouring a national park and the national and international actors concerned with conservation of biological diversity (Blomley 2003). Conflict can arise when access to natural resources is prohibited or from human-wildlife conflict. In addition to gaining the support of local communities, managers must also protect endangered wildlife and ecosystems from activities that threaten the conservation status, particularly unauthorized resource use. However achieving the balance of improving relations with local communities while enforcing conservation law can be a significant challenge, particularly at national parks surrounded by high populations of rural communities whose livelihoods depend on the natural resource base.

Poverty Alleviation

The 2011-2020 Strategic Plan for the Convention of Biological Diversity (CBD) heralded a new era of national park management when it set an agenda for biodiversity conservation to contribute towards poverty eradication. The 10th Conference of Parties encouraged parties to '*support initiatives on the role of protected areas in poverty alleviation*' (Decision X31) and, in doing so, identified national parks as important for CBD signatories to deliver conservation-poverty alleviation goals. National park managers must therefore seek to reduce the poverty of local communities using interventions that achieve conservation goals. However linking conservation with poverty alleviation is more than effective national park management, but requires that issues of governance, human rights, equity and power are addressed at the highest levels. This requires governments to align conservation and development policies whereby conservation policies take account of social justice and development policies incorporate environmental needs, and establish a framework that provides conservation and development practitioners with one strategic direction on the governance of natural resources.

Governance

Natural resource governance can be defined as 'the interactions among structures, processes and traditions that determine how power and responsibilities are exercised, how decisions are taken, and how citizens or other stakeholders have their say in the management of natural resources - including biodiversity conservation' (IUCN Resolution RESWCC3). Commonly recognised elements of good governance include: transparency; access to information; access to justice (and a way of resolving conflict and disputes when they occur); involvement in decision making (indicated by participation, legitimacy and the 'voice' that people have); fairness; coherence; performance; subsidiary; respect for human rights; accountability; and rule of law, which should be fair, transparent and consistently enforced (Borrini-Feyerabend et al. 2004).

Good governance of natural resources is the foundation for linking national park conservation with poverty alleviation. Achieving good governance within a national park context includes the effective participation of informed local communities in natural resource management, negotiated agreements between communities and authorities on natural resource use, fair compensation for the costs of conservation and equitable benefit sharing that addresses the needs of the poor and marginalised.

Integrated Conservation and Development

Integrated Conservation and Development (ICD), where conservation is achieved by addressing local development priorities (Wells et al. 1992), is a tool for national park managers to link conservation with poverty alleviation. While national park conservation is the goal, the ICD approach achieves this through economic development and by providing local people with alternative income sources that do not threaten natural resources (Brandon and Wells, 1992).

First Generation ICD

When first introduced, ICD was considered a radical new approach that held great promise for overcoming major challenges to national park conservation, particularly for developing countries. Integrated conservation and development programmes (ICDP) attracted considerable funding and were rapidly implemented across the world. Early ICDPs were projects that integrated natural resource management with grass-root economics (Larson et al. 1997).

In practice social services including schools, health clinics and roads were provided to improve local attitudes towards conservation and, by doing so, reduce threats to the national park. For example, conservation efforts for the Beza Mahafaly Special Reserve in Madagascar incorporated various development activities that included constructing a school and developing a community health programme (Larson et al. 1997). However ICDPs became large, multi-institutional efforts that relied on external expertise. Concerns soon arose over the long-term funding requirements (Kremen et al. 1998) and, as the interventions bore no relation to conservation, that ICDPs were too focused on rural development (Wells et al. 1992). The programmes were widely considered as large, complex experiments that alienated communities from resource management (Kremen et al. 1998) and failed to link conservation and development (Wells et al. 1992).

Second Generation ICD

In response to criticism, the ICD approach was refined. Based on the premise that local populations will commit to conservation when their socio-economic well-being is assured (Kremen et al. 1998), the aims were to provide communities with sustainable economic alternatives to unsustainable harvesting and land use practices (Wells and Brandon, 1993; Alpert, 1995) and resolve conflict between national park authorities and local communities. Collaborative management agreements for local resource use were promoted as strategies to address conflict through the sharing of benefits from conservation and decision-making powers among stakeholders (Wells and Brandon, 1993), and as a mechanism to involve local people in natural resource management (Borrini-Feyerabend, 1996).

Agreements for local resource use were commonly implemented through a system of buffer zones. The first were adjacent to national parks (Mackinnon et al., 1986) and then became harvest zones inside national parks (Wells and Brandon, 1993).

Several projects in tropical forests implemented harvest zones for the collection of minor forest products including wild plant resources, honey and bamboo (Boot and Gullison, 1995). This provided rural communities with vital basic needs such as building materials, fuel, food and medicines, and the opportunity to continue cultural traditions (Cunningham, 1996). These ICD projects varied in size and budget from a small marine park in Haiti with a budget of several thousand dollars, to national level support for ICD in Namibia, which involved $10 million over 10 years (Larson et al. 1997). However, the criticism continued from ecological, socio-economic and governance perspectives.

Ecological Concerns

Ecological concerns included the harvesting of non-timber and minor forest products from national parks. In theory harvesting practices were the least harmful extractive use of forests (Jacob, 1988). However, in practice there were instances where resources were over-exploited. For example the destruction of medicinal plants and dye resources by ring-barking and uprooting in Africa (Cunningham, 1987; 1990), the depletion of copal and rattan resources in the Philippines (Conelly, 1985) and the over-exploitation of two species of palm fruits in the Peruvian Amazon (Vasquez and Gentry, 1989; Peters, 1990). While the likelihood of over-exploitation depends on supply, the part of the plant harvested and growth form, an increase in demand for resources by local harvesters was the common cause of over-exploitation (Cunningham, 1996). Therefore although collaborative management agreements proved successful in involving local communities in resource management and gaining local support for conservation, the agreements must be based on regulations on the harvesting with the number of harvesters balanced against the conservation value of the species that is harvested (Cunningham, 1996; Scott, 1998).

Socio-Economic Concerns

The use of economic benefits as a conservation tool is a common feature of ICD and many strategies have been promoted as providing economic benefits while securing conservation. The sharing of tourism revenue is common at sites where charismatic species attract large numbers of tourists. This non-consumptive means of generating local income is to build national park support by transferring economic benefits to local communities as a means to offset local costs of conservation (Wunder, 2000; Walpole and Goodwin, 2001; Walpole and Leader-Williams, 2002). Revenue sharing can improve local attitudes towards conservation (Archabald and Naughton-Treves, 2001). However, success has been mixed and several reviews have identified that more must be done to link economic benefits directly to national park conservation (e.g. Wells and Brandon, 1993). Distribution issues are a common barrier, particularly the decision of who receives the revenue and how it is disbursed equally. One solution is to share revenue with communities who most immediately affect, and are affected by, the national park (Wells, Brandon and Hannah, 1992; Western and Wright, 1994; Ross and Wall, 1999). However, those who have the greatest impact on conservation are not necessarily the same as those suffering the greatest cost, and the uneven distribution of costs and benefits impedes efforts to ensure that revenue sharing funds achieve conservation-poverty linkages by reaching the poor and marginalised (Barrett and Arcese, 1995; Archabald and Naughton-Treves, 2001).

Governance Concerns

Participation is fundamental to ICD yet many projects failed to devolve natural resource management to local communities (Ghimire, 1994). An internal WWF review found that many ICDPs had not incorporated the interests of key stakeholders and that participation was particularly difficult in forest projects where local resource use is intensive (Larson et al.

1997). Forest projects managed through a centralised body have also been criticised for failing to meet conservation goals and the needs of local people (Fisher, 1995).

While participation of local communities in national park management has increased, the type of participation is rarely defined (Box 1), yet critical for conservation managers to evaluate progress towards achieving good governance as an output of ICD.

Box 1. Types of participation (adapted from Adnan et al. 1992)

Type of participation	Characteristics
Passive participation	People are told what is going to happen or has already happened. These are unilateral announcements that do not listen to people's responses.
Participation in information giving	People answer questions posed by extractive researchers and they are not able to influence proceedings, with research findings not being shared with them.
Participation by consultation	People are consulted, but external professionals largely define both problems and solutions. Decision-making is not shared, and professionals are under no obligation to take on board people's views.
Participation for material incentives	People provide resources, for example labour, in return for food, cash or other material incentives.
Functional participation	People form groups to meet predetermined objectives related to the project. Such involvement tends to be during later project cycle stages after major decisions have been made.
Interactive participation	People participate in joint analysis, which leads to action plans and the formation of new local institutions or the strengthening of existing ones. These groups take control over local decisions so people have a stake in maintaining emerging structures or practices.
Self-mobilisation	People take initiatives independent of external institutions. They develop contacts with external institutions for the resources and technical advice they need, but retain control over how resources are used.

The ICD Debate

Therefore the ICD approach aims to meet development priorities and conservation goals, with the use of socio-economic tools as a conservation strategy. It has proven to improve community-park relations although its effectiveness in linking conservation and development has been questioned (Wells, Brandon and Hannah, 1992; Malleson, 2002). This could be because efforts to reconcile conservation and development are most likely to achieve a best compromise and only problems are documented (Hughes and Flintan, 2001), or that the slow and complex process of changing the way people manage resources and earn their livelihood means that ICD develop and improve gradually (Larson et al. 1997; Abbot et al. 2001; Browder, 2002).

The debate as to whether ICD can conserve national parks through poverty alleviation is limited by the lack of multi-disciplinary monitoring of ecological and socio-economic impacts (Larson and Svendsen, 1995). Many ICD evaluations highlight the need for empirical evidence on drivers of conflict and resource use to better target ICD interventions (Blomley et al. 2010). Improving ICD therefore requires a greater understanding of the social, economic

and wellbeing profiles of individuals who instigate conflict and harvest resources, and their motivations for doing so.

For ICD to successfully achieve conservation through poverty alleviation, there is also a need to account for governance, as monitoring and evaluation efforts tend to focus on conservation and development outcomes rather than indicators of good governance. This limits our understanding of how best to achieve good governance when implementing ICD and, consequently, ICD success. Questions including whether local communities were effectively engaged with the decision-making process, felt a sense of ownership of natural resource management, received fair and equitable compensation for the costs of conservation need to be examined with scientific rigour to fully understand the governance issues that underpin ICD success.

2. Linking Conservation and Poverty Alleviation at Bwindi Impenetrable National Park

ICD at Bwindi

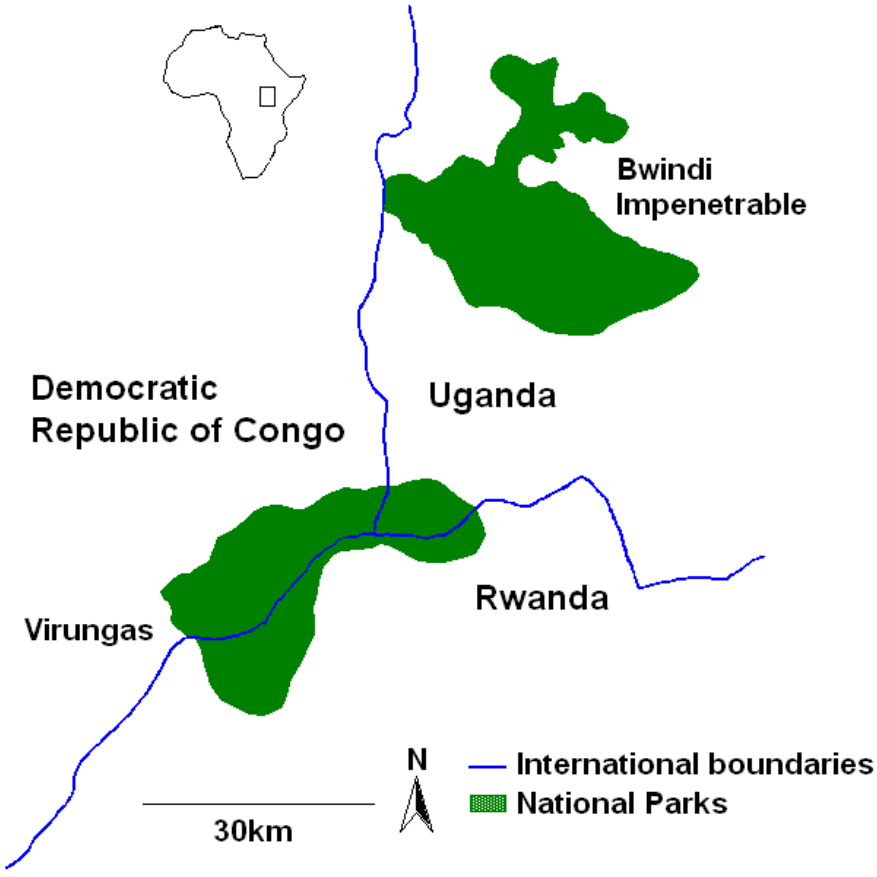

Figure 1. Location of Bwindi Impenetrable Forest.

The ICD approach was adopted at one of Uganda's most prestigious national parks – Bwindi Impenetrable National park (hereafter referred to as Bwindi) in south-west Uganda (Figure 1). Bwindi was established in 1991 to protect Mountain gorillas (*Gorilla beringei beringei*) (photograph 1) and other natural resources. It is within one of the poorest and most densely populated regions of Africa where rural communities depend on natural resources for their livelihood (Plumptre et al. 2004). When local access to Bwindi forest was prohibited under national park status, violent conflict between local communities and park staff arose and, in response, ICD was implemented as a mechanism for conflict reduction and community participation in park management (Blomley et al. 2010; Baker et al. 2011). The first initiatives were collaborative management agreements with specialist resource users from local communities for the collection of minor forest products within harvest zones inside the national park. A series of ICD initiatives followed that included revenue sharing of income from gorilla tourism, crop-raiding mitigation, agricultural development and alternative livelihoods programmes. With this variety of initiatives and success in conflict resolution, ICD at Bwindi evolved to adopt the aim of achieving national park conservation through poverty alleviation. Now, with over 20 years of ICD interventions at Bwindi and a national policy framework that links biodiversity conservation with poverty alleviation, the learning from both Uganda and Bwindi is a valuable resource for the conservation community.

Photograph 1. Mountain gorillas (*Gorilla beringei beringei*) (credit Julia Baker).

Chapter Overview

In this chapter we seek to review the Ugandan context of conservation-poverty linkages and evaluate ICD at Bwindi as a tool for achieving conservation through poverty alleviation. By identifying lessons learnt from Uganda and Bwindi, our aim is to improve the policy and practice of linking national park conservation with poverty alleviation, particularly to overcome challenges inherent in the ICD approach of reaching the poor and marginalized.

Our starting point, in section 3, is to examine historical trends in natural resource management from pre-colonial to the post-independence period when national parks were first established in Uganda. We also assess the legacy of past management regimes on current issues faced by national park managers. In section 4, we analyse the Ugandan policy framework of national park conservation and poverty alleviation and, from this framework, identify the outcomes that national park managers must achieve. In section 5 we introduce our study site of Bwindi Impenetrable National Park, present a conceptual framework of the ICD approach at Bwindi and illustrate the framework by describing the Multiple Use Programme, which has been heralded a success in conflict resolution through collaborative management agreements with local resource user groups. In section 6 we present our first study: a retrospective analysis of interactions between local people and law enforcement rangers as indicators of conflict and local support for conservation at Bwindi. Here we explore drivers of conflict and the factors that engendered local support for the national park during a five-year period (1996-2000) after ICD interventions were first implemented. In section 7 we present our second study: perceptions of local communities regarding governance issues of projects implemented by a major ICD practitioner at Bwindi. Finally, in section 8, we review the lessons learnt from Uganda and Bwindi in the context of forthcoming change to Bwindi's ICD. We then draw conclusions on the design and implementation of ICD to link national park conservation with poverty alleviation.

To achieve conservation goals, reducing unauthorized resource use is often a target of ICD. In this context we define unauthorized resource use as any form of resource harvesting that is not in line with laws or management regulations or conducted without a legal permit. We also define unauthorized resource use not in terms of criminality but as an indicator. Firstly of the different needs and uses of a national park by people: for forest access, to use natural resources and to meet cultural and traditional needs. Secondly of the governance challenges and limitations of national park management to balance people's uses and needs with biodiversity conservation aims.

3. Historical Trends in Natural Resource Management in Uganda

Pre-Colonial Period

In Africa before colonialism, land was generally managed communally. Over time, African societies promulgated rules and regulations on use of natural resources. The rules were precise and codified, although not written down, but were incorporated into the culture (Ochieng Odhiambo 2006; DeGeorges and Reilly 2009).

Forests

In Uganda, communities were socially organized in various ways from kingdoms to chiefdoms and clan systems. The most significant kingdoms were those of Bunyoro, Buganda, Toro, Bunyoro and Busoga. Kingdoms owned the forests, which was managed as either as a communally owned or an open access resource. The former tended to be those that were adjacent to settlements from which people obtained wood and non-wood products for domestic use. Some forests were classified as sacred, in which case an individual or clan was assigned the responsibility of regulating use of its resources with sanctions were imposed for misuse that were learnt by society through stories and folklore. For example, one of the beliefs by Ugandan societies was that, if one went into the forest without reporting the purpose of the visit to the spiritual leader or clan head, that individual would not be able to find their way out and back to the village. Penalties were levied on individuals who broke rules on forest resource use and these ranged from simple ones such as an order to return the removed product to the forest, to severe penalties including ostracism from society (Ggombya-Ssembajjwe, 1995; Turyahabew and Banana 2008; DeGeorges and Reilly 2009).

Wildlife

Regarding wildlife, most wildlife resources could be used freely although free access did not imply irresponsible use. Similarly to forests, norms and practices had to be observed and these were passed from generation to generation through strict instruction of the young by the old using stories, taboos, riddles, slogans, tales, proverbs, sayings and song (Osei-Amakye, 1993). Evidence shows that wildlife populations were not as high on community land as in the current protected areas, but were held in check by humans through hunting (DeGeorges and Reilly, 2009). However culturally, many animals, reptiles, birds and fish were venerated and any violation of this taboo attracted supernatural sanctions (Oke, 2007). Among the Baganda for example, folksongs described that the killing of a skink was punishable by not going to heaven. The Baganda also had a tradition of totems, many of which were plants or animals and members of a totem were culturally obliged to protect and defend that species (Nuwagaba and Kiwere in press). There were also community norms for activities such as fishing. Restrictions on equipment such as fishing nets arose from peer-group pressure, social custom and tradition, which amounted to binding law against certain fishing activities (Richardson, 1993).

Summary

Therefore before colonialism in Uganda, while natural resources were accessible, there were regulations on use of resources with penalties for misuse. Conservation in the form of protected areas existed through hunting grounds and cultural and spiritual areas that were protected through a set of practices unique to each community. Community leaders were the guardians of natural resources and responsible for regulating access, enforcing rules and adjudicating conflicts associated with access and use.

Colonial Period

The first Europeans to visit Uganda were the British explorers John H. Speke and James Grant, in 1862, during their search for the source of the Nile. As part of the scramble for Africa by European nations, Uganda was declared a British Protectorate in 1894. One of the first acts of the colonial administration was to control natural resource use. The colonial authorities recognized and adopted the systems of land ownership and resource management under the kingdoms, although imposed new regimes to govern natural resources. These included the designation of large areas as crown property where local people were forbidden to enter and collect resources. At this time, large areas of Uganda's forests were cleared for plantations of crops such as coffee, tea and sugar cane. However, the colonial administration soon realized the need to manage forests, particularly for timber production, and began formal management of Uganda's forest estate by establishing the Forestry Department in 1917, which was re-named as the Forest Department ten years later (Turyahabwe and Banana, 2008).

Forests

The Department was established to direct timber production and manage crown forests, which it did so by entering into a series of agreements on use of forests with each kingdom. The result however included prohibitions on local access to crown reserve forests, which was exacerbated with the first formal forestry policy in Uganda, which was enacted in 1929, led to establishment of more forest reserves. This policy did not address the needs of local people whose livelihoods depended on forests and, in some areas, villagers were displaced from their traditional land without negotiation or compensation. Local access to the forests was allowed only under prescribed conditions although, as these favored the more affluent members of society, communities were gradually alienated from the forests (Turyahabwe and Banana 2008).

Conflict between local communities and the colonial authorities arose, which the colonial government responded to by creating local forest reserves that were directly managed by local administrations in an attempt to decentralize forest management. This was the genesis of the two-tier system where larger forests were gazetted as Central Forest Reserves primarily for commercial timber production under control of the government, and smaller forests were gazetted as Local Forest Reserves to cater for local needs. This system was directed by Nicholson (1929) who recognized the dependence of rural communities on forest resources and recommended that supplies of fuel wood, poles and sawn timber be guaranteed by encouraging farmers to grow trees and establish small plantations.

Wildlife

Management of wildlife in Uganda during colonial times originated from the culling of elephants. Following Pitman's (1942) observation on the need to protect local communities from the huge herds of elephant roaming the land, the Elephant Control Department was established to control crop depredation by elephants. Elephant culls were undertaken

throughout the country with meat from the kills given to local communities and ivory traded to generate revenue. It became the Game Department in 1925 and employed villagers as 'vermin guards' to protect the crops of rural communities neighbouring game reserves from elephants and other wildlife species. As observed by Temple-Perkins (1955), by the 1950s "*an African guard of the Game Department*" was stationed in the vicinity of each community area. This vermin control was a key duty of the department, particularly given the recognition that their efforts to control crop damage by wild animals improved relations with local communities. However, local demand for assistance with controlling crop raiding increased and conflict between local communities and the department arose when local demand was not met. Nonetheless, rural farmers continued to receive assistance with vermin control until the 1980s, when the department's activities were restricted by the civil war (Uganda Game Department Archives, 1923-1994).

In addition to problem animal control, duties of the Game Department included game preservation and reserve management. The Game Ordinance of 1926 mandated the Game Department to regulate hunting and all other forms of wildlife utilization, where trophy hunting by foreigners was permitted although hunting by local communities was restricted. The first wildlife protected areas in the form of Game Reserves and Controlled Hunting Areas were established, and the Ordinance resulted in a strengthening of the game laws and an increase in penalties for illegal activities.

Major developments in Uganda's conservation policies occurred during the 1950s. Under the National Parks Ordinance of 1952, Uganda National Parks (UNP) was established as the government organisation responsible for the management and protection of national parks. Two game reserves were upgraded to national park status: Lake George Game Reserve and Lake Edward Game Reserve were gazetted as the single Queen Elizabeth National Park. Murchison Falls National park was also established and both have remained the largest national parks in Uganda. However their establishment involved the eviction of local people from their traditional land and UNP enforced bans on hunting, natural resource collection and grazing by domestic animals by local people, as well as increasing penalties for offenders. This resulted in widespread exclusion of rural communities from their traditional hunting grounds, burial sites and sacred forests (DeGeorges and Reilly, 2009).

Summary

Therefore, natural resource management during Uganda's colonial era was marked by the transformation of community areas into reserves that were governed under formal laws and regulations. There an attempt to decentralize forest management through a two-tier system of government and locally managed forests. However, establishment of national parks was founded on conservation policies set on protectionist objectives that permeated through not only the laws that were enacted, but also the character of the institutions that were created. This fundamentally changed the conservation landscape redefining the relationship between communities and protected areas as well as legal regimes governing this relationship.

Independence

While the attainment of independence in 1962 was a fundamental milestone in the governance of Uganda, there was no major shift in conservation policy at this time. The colonial legal instruments including conservation laws were codified and published into the laws of Uganda in 1964. Consequently, the philosophy of protectionism as the primary purpose of conservation was inherited at independence and continued to be the hallmark of conservation policy for many years after independence.

All natural resources including crown forests became the property of the new independent government of Uganda. However, since the decentralized form of governance in the form of kingdoms and local governments had been maintained, both central and local governments tried to strengthen forest management structures to maximize their benefits from the sector. Whereas it had been agreed during the independence negotiations that all crown forests be returned to local governments, this was on condition that central government was satisfied that local governments had sufficient resources to undertake effective management. By the mid-1960s, no crown forests had been handed over to local governments. They had been left to manage local forest reserves. In 1967, the independence constitution was abrogated and kingdoms were abolished. Local Forest Reserves were turned into Central Forest Reserves and the role of local governments in forest management waned. Forest management became a predominantly central government affair.

As was noted by Turyahabwe and Banana, (2004) '*this change in governance meant that the institutional arrangements that had been instituted by the Local Administrators and forest users to limit entry and harvesting levels lost their legal standing. The decisions regarding forest resource use were entrusted to the Forest Department as the sole agency with powers to regulate the harvesting of forest produce in all Government forest reserves and the use of tree products on public and private land. Thereafter, the Local Administrators were no longer allowed to undertake any forestry work, except maintaining a few village forests, which were not affected by the statutory instrument. The entire Forest Department had little or no downward accountability and limited recourse. This created disinterest in forestry from both local administrators and forest users who viewed forestry as a Government property and no need for its protection*'.

Developments in the conservation map of Uganda did occur in the 1970s: the Aswa-Lolim Game Reserve, which had been gazzetted in 1959, was degazetted in 1972 and the Kilak Controlled Hunting Area was revoked. However, there were no significant changes to the national conservation policy or agenda because of the breakdown in law and order as President Idi Amin's government progressively became dictatorial and subsequently collapsed in 1979. The fall of the Amin regime was followed by a period of uncertainty leading up to the elections in 1980 when Milton Obote returned as President. The political uncertainty and instability continued throughout the first half of the 1980s, as the Obote Government was undermined by an insurgency by rebels of the National Resistance Army (NRA). The NRA eventually captured power in 1986 beginning a new phase of Uganda's conservation discourse. However the political instability post independence constrained both conservation policy-making and practice in the country. In particular, the protectionist approach to conservation that restricted access to natural resources generated widespread public animosity against protected areas. This problem was aggravated by underfunding of conservation activities that resulted in a near collapse of mandated public institutions. A

combination of all these factors undermined the ecological and legal integrity of protected areas, as major threats such as encroachment, illegal hunting and overharvesting continued unabated.

4. THE LEGACY OF NATURAL RESOURCE MANAGEMENT

The historical context of natural resource management can help to understand the attitudinal and behavioral response of local communities towards conservation interventions. In Uganda three factors appear important: resource management systems of local communities, the assistance with controlling crop raiding that authorities gave to villagers and the perception by local communities that national parks are government property.

Resource Management Systems of Local Communities

The need for social assessments to inform national park management has long been recognized. However, the more recent acceptance by the conservation community that biodiversity loss and poverty must be addressed as interlocking challenges (Adams et al. 2004) gave additional emphasis to the importance of understanding the socio-economic context of rural communities to develop conservation-poverty alleviation strategies. There is now a growing body of literature on harvesting and use of natural resources by local communities and links between resource use and livelihood security, notably for bushmeat and minor forest products. Community rules, norms and beliefs of resource use is less well studied yet essential to develop conservation interventions that involve resource use or aim to change resource use behaviours. For example, bushmeat hunting in Tanzania is driven by a variety of reasons that include livelihood needs and values but also individual perceptions of what is beneficial, as well as community norms on appropriate and legitimate use of wildlife resources. Therefore, the assumption that poor people hunt for food or income can mask the complexity of this traditional activity and the actors involved, which limits the ability of practitioners seeking to reduce hunting through livelihood improvement initiatives (Bitanyi et al. 2012).

A reason why ICD fail is that complex social structure of resource harvesting activities is underestimated or not understood (Bitanyi et al. 2012). Here, by describing resource management systems of Ugandan communities before the colonial period, we provide an insight into the regulations and customs of resource use that included taboos and penalties for misuse. Our intentions are two-fold. Firstly to emphasize the importance of understanding the local socio-economic context of resource use. Secondly to provide a foundation for conservation practitioners to develop a greater understanding of present-day local community norms and individual beliefs on natural resource use, particularly how individuals perceive links between natural resources and their livelihood needs, in order to design and implement conservation-poverty alleviation strategies.

Assistance with Controlling Crop Raiding and Government Property

Box 2. A history of Mountain gorilla - human conflict at Bwindi Impenetrable Forest

The first evidence of Mountain gorilla crop raiding around Bwindi is a letter, written during the 1930s, by a prospector working in the Impenetrable Forest to the Chief Game Warden. The prospector described his encounters with gorillas and made the following observation: *"the gorillas sometimes raid nearby shambas, but I have never heard of them attacking the natives, and the natives leave them alone except to chase them away from their property"* (Uganda Game Department Archives, 1923-1994:1933).

Further evidence comes from a report by a game warden of his visit to Bwindi, in 1933, which was then the newly established reserve of Kayonsa. The warden described crop raiding by gorillas and noted that gorillas favoured abandoned cultivated patches: *"the Kayonsa gorilla, apparently, is not guilty of frequent shamba-raiding, at least so the natives reassure me. It is true that the gorillas often feed in the vicinity of crops but the attraction is usually the occurrence of various nourishing weeds of exceptional growth which are found on the abandoned cultivated patches"* (Uganda Game Department Archives, 1923-1994:1933).

The warden also noted conflict issues arising from the presence of gorillas on community land: "*the local natives, who can blame them, very naturally object to the proximity of these fearsome beasts, and usually try and drive them away. I am reliably informed that the gorillas are most contemptuous of their efforts, the females and young having been sent off to safety, males only move when it suits them to do so*" (Uganda Game Department Archives, 1923-1994:1933).

The warden described his trip to see a gorilla group near the forest boundary and the conflict that followed: "*when I had seen my fill and was about to retrace my steps, I found at least fifty unauthorised spearmen hanging in the rear, hoping for the opportunity of attacking the gorillas. In fact, I was warned that if I did not personally see this crowd out of the locality, the moment my back was turned they intended going in to spear the male before he could get away from the tree, after which the slaughter of the other four would have been simple. The presence of a European and a misunderstanding would have been their excuse. It shows how easily an unfortunate episode may develop, vide a recent incident in the Belgian Congo, unless all participants in gorilla investigations are absolutely under control*" (Uganda Game Department Archives, 1923-1994:1933).

The warden also described complaints about gorillas that he received from miners working in Bwindi "*prospecting on a systematic scale has taken place in the extreme southerly portion of the forest, but when I was in that neighbourhood at the beginning of November, there were frequent complaints from isolated pairs of natives digging pits, that gorillas were too close to be pleasant*" (Uganda Game Department Archives, 1923-1994:1933).

Communities around Bwindi did receive assistance with controlling crop raiding from the authorities. One vermin guard was stationed at Bwindi when the forest was under joint management of the Game and Forest Departments (Butynski, 1984) and staff from both departments regularly assisted farmers by scare-shooting when wild animals foraged within agricultural land. Game guards, in particular, would respond when large animals, such as elephants, entered community land. The guards would also kill smaller animals that frequently raided crop and livestock including baboons and bushpigs (Namara, 2000). Vermin control remained a duty of law enforcement rangers after Bwindi was designated a national park. Farmers would request assistance when rangers passed their fields while patrolling the national park boundary or would travel to the ranger outpost to request assistance. Rangers would employ scare shooting for elephants and monkeys, and help farmers to chase gorillas and duikers into the forest by shouting and beating drums. However problem animal control was a secondary duty for rangers after law enforcement and gradually phased out when ICD initiatives for problem animal control, which included Mountain gorillas, were introduced (Baker 2004).

In Uganda crop raiding by wild animals has been documented since the early 1900s. Historical records include crop raiding by Mountain gorillas around Bwindi Impenetrable Forest during the 1930s (Box 2). Here we describe how colonial authorities employed local people as vermin guards to control crop-raiding by wild animals, and how central management of reserves led to local populations viewing the reserves as government property. Crop raiding is currently a significant cause of conflict between local communities and national park authorities in Uganda, although the conflict often arises when local communities perceive that the authorities have failed to assist them to control crop raiding (Baker 2004). The legacy of the colonial authorities providing assistance to control crop raiding may have contributed towards this conflict, as local communities still speak of the assistance they used to receive (Baker 2004). Furthermore, the conflict could be compounded by the view of local communities that national parks are government property and wild animals in the parks are the government's responsibility.

Learning from previous management regimes is therefore important for designing interventions to reduce crop raiding. With Uganda, the Game Department documented how assistance with controlling crop raiding improved their relations with local communities, but also documented the rise in conflict when an increase in local demand for assistance was not met. If interventions to reduce crop raiding are to be implemented, managing local expectations and involving communities in the design and implementation of the intervention are therefore important. Furthermore, if local communities believe that a national park is owned by the government and that the government is responsible for its management, ICD practitioners must consider how best to involve communities in managing the park so that they do feel a sense of ownership and, when ownership has been achieved, a voluntary commitment to safeguard the park. One example of an approach to engender a sense of ownership and encourage individuals to adopt the role of 'national park guardians' is the Multiple Use Programme at Bwindi Impenetrable National park.

5. UGANDA'S POLICY FRAMEWORK FOR CONSERVATION AND POVERTY ALLEVIATION

Contemporary national policy framework for conservation and poverty alleviation in Uganda can be categorised into four phases:

- **the colonial phase** with resource management regimes that excluded communities from traditional lands, focused on revenue generating and included problem animal control
- **the post-independence phase up to 1992** where the establishment of national parks further alienated communities for their lands
- **the post-UNCED phase up to 2010** where poverty was identified as a key driver of environmental degradation
- **the National Development Plan (2010) to present day** with emphasis on wealth creation as the vehicle for attaining poverty eradication and conservation policy objectives

Our last section described the policies and natural resource management regimes of the colonial and post-independence phases. In this section we review developments by the global environmental movement to link conservation and poverty alleviation and then analyze Uganda's response to the movement to link conservation and poverty alleviation in both policy and practice.

Beyond Environmental Protection: The Global Discourse on Conservation and Poverty Alleviation

In 1972 the international community adopted the Stockholm Declaration and a plan of action for the environment outlining an ambitious agenda linking conservation and development (See UN GA RES 37/7 (1982)). The term poverty was not reflected in the final documents of the Conference, although the term "development" was used in the Declaration and in the Plan, and also in the World Charter for Nature that was adopted by the United Nations General Assembly in 1982. The outcomes of Stockholm and the World Charter reflected a growing realization that preservationist strategies for natural resource protection were ineffective and that conservation needed to be reconfigured to achieve objectives of sustainable development.

There was then a global shift in the management and conservation of protected areas. The lexicon of poverty entered the conservation discourse in the 1980s during the work of the World Commission on Environment and Development (WCED), and was used extensively in its final report entitled "Our Common Future." In its report, the Bundtland Commission drew a clear nexus between conservation and poverty noting that a world in which poverty is endemic will always be prone to ecological and other catastrophes.

By the United Nations Conference on Environment and Development (UNCED), which was convened in Rio de Janerio, Brazil, in 1992 to respond to the Brundtland Commission, there was already growing consensus that conservation policy should address issues of poverty. All the three key outcomes of the UNCED emphasized the centrality of poverty eradication as an overriding goal in the design of conservation policies at all levels. These outcomes were a political statement commonly referred to as the "Rio Declaration", an action plan termed "Agenda 21" and a legally binding agreement on the conservation of biological diversity. Parties to the Convention acknowledged that the extent to which developing countries will implement their commitments to conserve biological diversity '*will depend on the effective implementation by developed countries of their commitments under this Convention related to financial resources and transfer of technology and will take fully into account the fact that economic and social development and eradication of poverty are the first and overriding priorities of the developing countries'.* In effect, the Rio Declaration and subsequent global processes placed poverty firmly on the agenda of conservation and emphasised the role of protected areas governance to achieve this agenda. New strategies such as "collaborative forest management", "sustainable use of forests" and "equitable sharing of resources" emerged (CBD, 1993). These strategies were later emphasized and strengthened by the 2003 fifth world park's congress held in Durban. Uganda became a signatory to the CBD on 12th June 1992 and, being part of the 2003 World Park's Congress, was obliged to involve local people in protected area management and adopt the mandate of conservation through poverty alleviation.

The Post-UNCED Conservation Policy and Poverty Eradication Discourse in Uganda

Deliberate efforts to link conservation, protected areas and poverty alleviation in Uganda are a recent phenomenon. These efforts began in 1986 when the National Resistance Movement (NRM) and its military outfit, the National Resistance Army (NRA), took power and formed a new government. The conservation consciousness of the NRM leadership was evidence in its blue print document – the Ten Point Programme – that made reference to '*the continued destruction of the environment'* and '*the profitless extraction and export of exhaustible natural resources'.* The ministry of tourism and wildlife was among the first ministries to be created when the new government was formed and, in 1987, a specific ministry responsible for environmental protection was created. In 1989, forestry was transferred from the ministry of agriculture and combined with the ministry for environment protection. Then in 1992, a realigned ministry dealing with energy, minerals and environmental protection was established.

During this period until the promulgation of a new constitution in 1995, there were significant policy developments in terms of protected areas governance. The most significant of these developments were:

(i) the adoption of the National Environment Action for Uganda, 1994
(ii) the promulgation of the National Environment Management Policy, 1994
(iii) the enactment of the National Environment Statute
(iv) the promulgation of a new constitution, 1996
(v) the enactment of the Uganda Wildlife Statute, 1996

Since these instruments, the commitment to simultaneously achieve the objectives of conservation by securing the ecological and legal integrity of protected areas, and of poverty eradication has remained the hallmark of Uganda's national policy framework.

The dominant policy narrative on the environment and poverty nexus was defined in the National Environment Action Plan 1994 in the following terms:

> The key link between poverty and environment is that poverty affects people's ability to manage their environment sustainably. As they lack resources and appropriate technologies, many farmers must resort to cultivating steep slopes, erosion-prone hill sides, semi-arid lands or encroach on the protected areas in order to meet their various demands. In short, poverty compels them to destroy those very resources that are necessary to relieve them of hunger, disease, and further poverty.

This narrative makes clear that poverty is a driver of environmental degradation and a threat to protected areas. This theme continued through the various policy instruments including the National Environment Management Policy. This policy recognized, inter alia, that poverty and the degradation of natural resources and the environmental were so intertwined that they required an integrated approach to address them. It observed that the need to reorient national and local efforts to address environmental problems in a more comprehensive and integrated manner '*will constitute the fundamental basis for achieving overall policy goal of sustainable socio-economic development which maintains and*

enhances environmental quality and resource productivity to meet the needs of present and future generations'.

Although the term '*poverty'* is used in the policy only three times, it is clear from its principles and strategies that poverty eradication is both the means and the ultimate objective of natural resource management. For example, the policy sets out the objective of population, health and human settlement as '*to manage population growth, settlements, distribution and health in such a way as to match people and resources in an economically, socially acceptable and environmentally sound manner*'. Strategies to achieve this objective include actions to '*promote income generation programs which aim at the alleviation of poverty especially among women and lower income groups'* and '*facilitate women's participation in population and environment decision making, resource ownership and management, as well as improve their access to inputs including better access to credit'.*

The critical relationship between conservation and poverty alleviation is further addressed under sections of the policy that detail the two key management regimes of protected areas: forestry and wildlife. Under forest conservation and management, the policy provides that local community involvement in the planning and management of protected areas and in the sharing of benefits derived from protected areas is crucial for conserving forest resources.

Three of the strategies outlined to achieve these objectives of sustainable forestry management emphasize that community participation and revenue sharing - and the governance required to achieve both - are central tenets of conservation policy and ethic (Box 3).

Box 3. Strategies to achieve sustainable forestry management in the National Environment Management Policy of Uganda 1994

(ii) Revise and strengthen the Forest Act with particular regard to gazetting and degazetting, collective responsibility in management, revenue sharing and local community participation in PA management

(iii) Improve local capacity to manage protected and gazetted forest reserves by encouraging people's participation in forest planning and management

(xvii) Enhance local community participation in the management of protected areas, where feasible, through the development of Forest Management Advisory Committees, cooperative co-management agreements, and parish and sub-county workshops, and provide more direct benefits to local communities from protected area activities including the return of a percentage of revenue to them.

Similar principles and strategies are captured in the policy section on wildlife conservation and management (Box 4). Here the policy provides that '*the involvement of local communities in the planning and management of protected areas and in the sharing of benefits derived from these areas is crucial for the conservation of wildlife resources*'. This illustrates that good governance is the foundation for efforts to link protected area conservation with poverty alleviation and that the output of 'good governance' is important to measure when evaluating success of these efforts.

This policy therefore clearly establishes practical strategies for linking protected area conservation with poverty alleviation. However, two of the key policy instruments adopted after UNCED (the 1995 Constitution and the Uganda Wildlife Statute) did not include

poverty alleviation as a central tenet of protected area governance. Nevertheless, the 1995 Constitution defines a set of guiding principles whereby management of Uganda's protected areas is to benefit local people. In addition, the Uganda Wildlife Statute established a system of '*wildlife use rights*' that could be a basis for designing protected area programmes to ensure mutuality between protected area management and poverty alleviation.

Box 4. Strategies to achieve wildlife conservation in the National Environment Management Policy of Uganda 1994

(iii) Develop a policy framework and guidelines for the identification and management of buffer zones and buffer areas in and around protected areas to help reduce conflicts between multiple uses and users (e.g., livestock and wildlife)
(iv) Establish a mechanism for collaboration between protected area management and the neighbouring communities in order to resolve potential conflicts through the involvement of local people in the planning, management and decision making process, and ensure that a portion of benefits from the protected area system is offered to the local communities
(v) Enhance local community participation in the management of protected areas through the development of Parks Management Advisory Committees, parish and sub-county workshops, etc., and provide more direct benefits to local communities from protected areas activities including the return of a percentage of revenue to them
(vi) Establish a mechanism for collaboration between protected area management and the neighbouring communities in order to resolve potential conflicts through the involvement of local people in the planning, management and decision making process, and ensure that a portion of benefits from the protected area system is offered to the local communities

A number of conclusions can be made from the immediate post-UNCED national policy instruments for governing protected areas. Firstly, by the mid-1990s, the relationship between protected area management and poverty alleviation was widely accepted in policy-making circles in Uganda. Secondly, the dominant policy narrative in these instruments, as well as the practice of the mandated institutions, identified poverty as a major threat to protected area conservation. Consequently, many conservation interventions during this period relied on law enforcement and legal sanctions to address problems confronting protected areas. Thirdly, the mandated agencies were configured explicitly as protection or conservation agencies and were not properly retooled to serve the goal of poverty alleviation. Finally, poverty alleviation was then seen not as a goal but a vehicle to achieve objectives of conservation. This policy discourse on protected area management and poverty alleviation remained on parallel tracks until the late 1990s when the Poverty Eradication Action Plan process (PEAP) commenced.

From The Poverty Eradication Action Plan to the National Development Plan

There was widespread perception that the promulgation of written policies and enactment of legislation providing incentives for public participation and benefit sharing would fundamentally change the conservation landscape in Uganda. However, the reforms of the

early 1990s did not result into substantive programmes until 1997 when the Poverty Eradication Action Plan (PEAP) was adopted.

For over a decade (1997-2010), PEAP acted as Uganda's national development policy framework and medium term planning tool. PEAP put the poverty alleviation agenda at the forefront of development planning and budget policy in Uganda. By bringing together the conservation community, planning and budget policy makers, political leaders, the civil society and a broad range of stakeholders, the PEAP process itself enhanced the policy discourse on the environment, protected areas and poverty nexus. Several key policies were promulgated during this period. In particular, the Plan for Modernization of Agriculture (PMA) sought to channel appropriate investments in agriculture and natural resource management as a strategy to eradicate rural poverty, and the National Forestry Policy outlined a comprehensive national agenda with emphasis on harnessing forestry resources to contribute to poverty eradication.

From Policy to Practice: The ICD Approach

There is compelling evidence that, over the last two decades, a comprehensive policy regime that provides the framework for achieving convergence between conservation and poverty alleviation objectives has been established in Uganda. These polices have been complemented by laws and institutions with wide ranging mandates to take actions to achieve the convergence. No matter the shortcomings, the policy framework that evolved over the years provides a framework for targeted interventions to simultaneously pursue the objectives of protected area conservation and poverty alleviation. This includes the aim to redress the inequitable distribution of the costs and benefits of conservation.

The ICD approach has been adopted at many protected areas in Uganda. It was based on the premise that communities living around protected areas incur substantial costs on account of restricted access to natural resources and alienation of traditional lands. Our next section reviews the ICD approach at Bwindi Impenetrable National park in southwest Uganda.

6. BWINDI IMPENETRABLE NATIONAL PARK

Located in south-west Uganda (Figure 1), Bwindi covers 330.8 km^2 of dense forest with a rugged topography of narrow valleys and steep hills and elevations ranging from 1200 m to 2600 m (Plumptre et al. 2004) (Photographs 2 and 3). A small section of the western park boundary borders the Democratic Republic of Congo and the remaining boundary is bordered by 21 densely populated parishes. At gazettement, average population densities were 125 people/km^2 in central and northern areas, 256 people/km^2 in eastern areas, and 275 people/km^2 in southern and western areas (UBOS 1991). This is one of the poorest and most densely populated regions of Africa, where rural communities depend on natural resources for their livelihood (Plumptre et al. 2004).

Photograph 2. Forest-community boundary of Bwindi Impenetrable National Park (photo credit Julia Baker).

Photograph 3. Bwindi Impenetrable National Park (photo credit Julia Baker).

Local People and Bwindi Forest

Villagers neighbouring Bwindi rely on agriculture and forest products for their livelihoods. Farming is mainly for subsistence but provides an income from cash crops that include tea and from sales of surplus subsistence crops at local markets (Plumptre et al. 2004). Although described as rural subsistence-based communities, the villagers seek multiple sources of income and, before gazettement, Bwindi forest provided most of their non-farming income when traders employed villagers as labourers for pit sawing and mining within Bwindi and for smuggling cattle and other goods across international borders through Bwindi. Trails through Bwindi also provided access to markets for villagers to sell crops, crafts or forest products. The sale of forest products provided both an income for the seller and a source of forest products for villagers, particularly wood for furniture. Forest products were used by crafts people for their trade. For example blacksmiths, a small but important group of specialists for the farming community, used the forest tree species *Polyscias fulva* to construct bellows for producing farming tools. Community groups also relied on forest resources, such as the stretcher-bearer societies. These societies transport sick (or dead) people within the Rukiga highlands surrounding Bwindi. The societies are well-organised and receive financial payments from villagers on a monthly basis to cover the cost of food for journeys and for buying new stretchers. Stretchers last 2-4 years depending on the materials used and, before gazettement of Bwindi, were woven from leaf stems or plants from the forest.

In addition to providing direct and indirect income sources, Bwindi provided subsistence resources for villagers including forest products such as firewood and beanstakes, and resources for specialist forest users including minor (non-timber) forest products of medicinal plants, basketry materials and food. Food included honey, edible plants and bushmeat. Although bushmeat hunting was an important cultural tradition, bushmeat was primarily sought for domestic consumption and provided only a modest income for local hunters (Tukahirwa & Pomeroy 1993; Cunningham 1996).

Conservation Importance

Bwindi contains one of the two remaining small populations of the critically endangered mountain gorilla. The forest is the only site in East Africa with a continuous forest cover over an altitudinal range of 1190-2607m and, as a Pleistocene refugium, the highest biodiversity site in East Africa for various species including rare and endemic species (Butynski 1984; Kingdom, 1990; Howard, 1991; Hamilton et al. 2000; McNeilage et al. 2006).

History of Management

Bwindi Impenetrable National park comprises two blocks of forest connected by a small corridor with approximately a 115km long boundary. It was first gazetted as a forest reserve by the colonial government in 1932. In 1961 Bwindi became a game sanctuary under joint management of the Forestry and Game Departments until 1991, when it was gazetted as a national park and became under management of the Ugandan National Parks (later renamed

as the Uganda Wildlife Authority (UWA)). Mountain gorillas are the flagship species for conservation efforts at Bwindi and, before establishment of the national park, threats to gorillas included habitat loss from timber pit sawing and mineral prospecting, and death or injury from bushmeat snares. Commercial activities of pit sawing and mining had been conducted in Bwindi since the 1930s. At gazettement pit sawing was the most prevalent human activity occurring throughout Bwindi, whereas mining was concentrated in the centre of the forest in or near water. At the time of gazettement, Bwindi was an island surrounded by intensively farmed land that in many places extended to the boundary (Butynski 1984; Howard, 1991; Cunningham, 1996).

Conflict

Under national park status, intensive ranger patrols were implemented to enforce the prohibition on local access to Bwindi. Conflict between local communities and conservation authorities then arose and included violent incidents where rangers were attacked and fires within the national park were started deliberately. The conflict arose because of various factors including loss of subsistence resources that local people gained from the forest (Wild & Mutebi 1996; Hamilton et al. 2000; Blomley et al. 2010). However the violent conflict was primarily triggered by rangers arresting pit sawyers or miners. The conflict therefore arose because of the loss of financial benefits to villagers that these trades generated, which included employment for villagers, income for traders and timber and mineral markets for other villagers to sell crops or crafts (Baker et al. 2011).

ICD at Bwindi Forest: A Conceptual Framework

In response to the conflict, ICD was adopted as a mechanism for conflict reduction and community participation in park management. The initiatives comprised linking and delinking strategies. Linking strategies aimed to increase local support for conservation by generating benefits from the national park. The first strategies were collaborative management agreements with specialist resource users whereby zones inside Bwindi were established for beekeeping (1991 and 1992) and collection of herbal medicines and basketry materials (1994) (Figure 2). Tourism focused on viewing mountain gorillas began in western areas in 1993 and brought employment and trade opportunities. Tourism revenue sharing and a trust fund were established in 1994 to support community projects, including the construction of schools and health clinics. By contrast, delinking strategies aimed to decrease pressure on forest resources by providing alternative incomes and resources. These strategies included agricultural extension programs to reduce demands for forest land by increasing productivity on existing farmland, and on-farm substitution of forest products, including firewood (Blomley et al. 2010).

Many of Bwindi's ICD initiatives were designed to reduce conflict and have been designed and implemented with the participation of local communities (McNeilage & Robbins 2006). The ICD has since developed to seek to achieve both conservation and poverty alleviation goals.

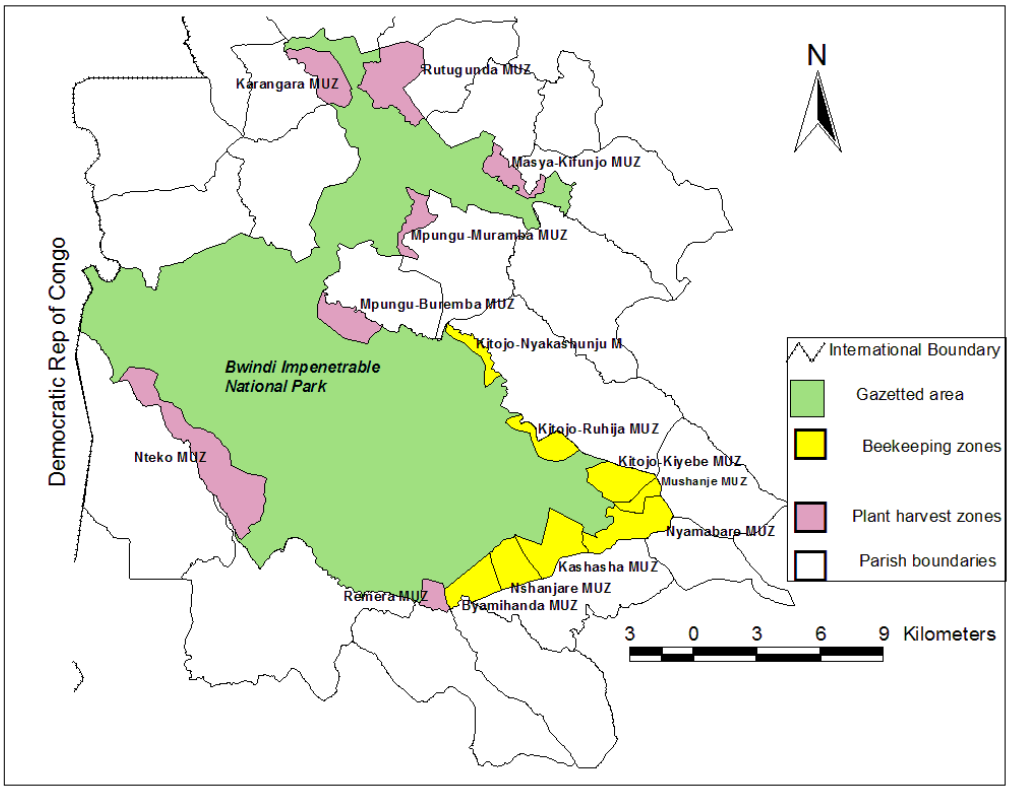

Figure 2. Harvest zones of Bwindi Impenetrable National Park.

Multiple Use Programme: Harvesting Resources in Bwindi Impenetrable National Park

Forest resource use by local people around Bwindi is as old as mankind that has lived there. For centuries Bwindi forest has been a source of livelihood for the local people. The forest was a source of protein from bush meat and fish for local people. It was also used for extraction of plant resources for food, basket weaving, medicinal purposes and house construction.

Multiple Use

The Multiple Use Programme (MUP) was established at Bwindi on the premise that giving local people access to the national park to harvest minor forest products for livelihood subsistence would improve park-community relations and would stop or reduce unauthorised resource use. Through collaborative management agreements with specialist resource users, MUP was also a strategy to involve local communities in the management and protection of the national park and re-establish a sense of forest ownership. The term ‘multiple use’ initially referred to multiple land-uses of Bwindi, i.e. biodiversity conservation, tourism,

research and low impact forest resource use. However as MUP developed, the term came to mean low impact forest resource use only (Cunningham, 1996; Wild, 2001)

A Pilot Scheme

Following an extensive review of how local people neighbouring Bwindi harvested and utilised forest resources, three resources were selected by conservation authorities on the basis that the harvesting activities were of low impact on the national park. The resources were plants for basket weaving and medicinal use and beekeeping for honey collection. Periphery areas of the national park for the resource harvesting (called harvest zones) were established in collaboration with local communities. The zones extend a maximum distance of 2km from the national park boundary into the forest interior and 20% of the total area of the national park was designated as harvest zones (Cunningham, 1996; Wild & Mutebi, 1996; Wild 2001; Bitariho et al., 2006).

Harvest zones started as a pilot scheme shortly after gazettement of Bwindi in 1991 for beekeepers in eastern areas. Following success of the pilot, in 1994 MUP was extended to parishes of Mpungu, Rutungunda and Nteko for plant collection and Kitojo, Nyamabare, Kashasha, Nshanjare and Byamihanda parishes for beekeeping. The programme was implemented by UWA with support from ICD organisations. Authorized resource users with given identity cards and Memorandums of Understanding (MoU) were established between UWA and each MUP parish. The MoU detailed the harvesting activities and quotas and defined the role of authorized resource users as forest guardians that included assisting rangers with law enforcement activities. In 1994 there were 187 authorized plant harvesters and 378 beekeepers. In 1999 MUP expanded to include 144 authorized plant harvesters in three additional zones for plant harvesting (Karangara, Masya-Kifunjo (now called southernward) and Remera). This resulted in a total of 709 authorized resource users under MUP at Bwindi (Wild & Mutebi, 1996; ITFC, 1999; Wild 2001; Bitariho et al., 2006 and 2006b).

Success?

Several reviews of the MUP have been carried out with an overall aim of involving more local people in park management e.g. Bensted-Smith et al. (1995); Davey et al. (*2001*) and Bitariho et al. (2004). All the reviews recommended the expansion of the MUP to include other areas not benefitting from the programme. However, the expansion of the programme to other parishes has been limited by the 20% quota allocated for multiple use zones. The 13 multiple use zones (MUZs) at the BINP park periphery had already covered the 20% quota allocated for the MUP. In 2001, a new management plan for Bwindi recommended the expansion of gorilla tracking to other new forest areas (apart from Buhoma) and this included Nteko multiple use zone (UWA, 2001). Since it was deemed that both tourism and multiple use zones could not exist together, a recommendation was made in 2002 where Nteko MUZs was replaced with a tourism zone. This therefore reduced the original MUZs from 13 to 12 zones, see figure 2(UWA, 2001). The total number of registered authorized resource users in Bwindi also reduced to 667 people.

Implications of Changes

Presently, a new management plan for Bwindi is being formulated (2012 to 2022) in which the MUZs will be reduced to a further 10 zones when the Kitojo and Mpungu MUZs are replaced with gorilla tourism zones as recommended by the draft plan (Figure 3). This would further reduce the number of authorized resource users around Bwindi to a further 478 people contributing to a percentage reduction of resource users in BINP to about 33%. Furthermore, the new management plan is proposing to reduce the maximum distance of the MUZs from the forest edge into the interior to 1 km from the original 2km see figure 3 (UWA, 2012). All these events in the Bwindi's MUP are recipes for future conflicts between the local people and park managers. It can be argued that tourism programmes in Bwindi provide income to the local people than the MUP. However evidence around BINP and elsewhere suggests that tourism activities tend to benefit only the elite and outsiders than the local resident poor people who lack the skills, knowledge and resources to tap from the tourism activities (Arnold & Perez, 2001; Newton, 2007; Sandbrok, 2009; Blomley,et al., 2010). In order for Bwindi's park management programs to benefit the poorest people like the elite, the multiple use zones should be allowed to exist alongside the tourism zones. Indeed this was the case in Kitojo a new tourism zone before park managers suggested otherwise without any scientific data to back such action.

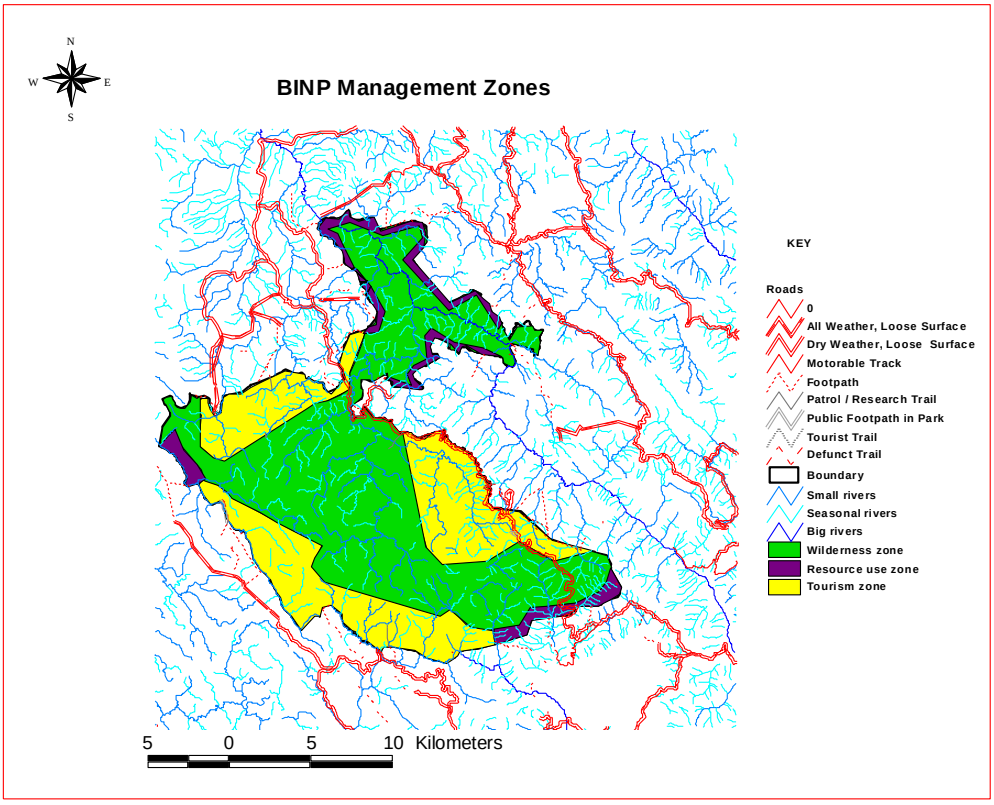

Figure 3. Proposed Bwindi park management zones (including new multiple use zones also known as resource use zones) (source UWA, 2012) .

Like most collaborative forest management programmes elsewhere, Bwindi's multiple use programme is a result of conflicts between natural resource managers and adjacent local communities. Local people depend on Bwindi forest for their livelihoods and see the forest as a source of insurance against environmental catastrophes such as droughts and floods. When local people's livelihoods are threatened and limited by park managers, there is bound to be conflicts. Although the multiple use programme was initiated to help mitigate such conflicts, the recent changes in the MUP might initiate new conflicts between park managers and the local people. There is need to find a balance between natural resources conservation and the need for local livelihoods in Bwindi forest. Although some elite local people are bound to benefit from other park programmes such as tourism, the poorest local people such as the Batwa do not have resources and skills to tap from the tourism potentials provided by replacing the multiple use zones with tourism zones. Therefore, Bwindi's newly proposed management plan should not exacerbate the conditions of the poorest local people by further replacing the multiple use zones with tourism zones. The two zones could exist together as a compromise since there is no scientific data to the contrary.

Summary: ICD at Bwindi

Photograph 4. Homestead neighbouring Bwindi Impenetrable National Park (photo credit Julia Baker).

Bwindi's mountain gorilla population occurs within one of the poorest and most densely populated regions of Africa. This creates major challenges for Uganda to conserve gorillas and ensure that conservation contributes towards local livelihood improvements (photograph 4). After ICD was adopted at Bwindi and MUP was implemented, conflict declined and local attitudes toward the park became more positive (Wild & Mutebi 1996; Hamilton et al. 2000;

McNeilage & Robbins 2006). The MUP was heralded an example of successful collaborative management between conservation authorities and local communities that involved local people in national park management and re-established their sense of forest ownership.

A recent review of ICD at Bwindi found that ICD was important for improving park-community relations but had several flaws: it tended to benefit wealthier community members rather than the poorer households assumed to be undertaking illegal activities and had little impact on reducing threats posed by illegal activities. While law enforcement has reduced illegal activities substantially since gazettement (Blomley et al. 2010), threats to gorillas remain. For example, gorillas were killed by local people illegally hunting for bushmeat inside the park in 1994 and in 2011 (Amooti, 1995; IGCP 2011). Therefore, ICD at Bwindi has improved park-community relations although has not been effective in linking conservation and poverty alleviation.

7. Interactions Between Local Communities and Law Enforcement Rangers as Indicators of Conflict and Local Support for Conservation at Bwindi Impenetrable National Park, Uganda

We undertook a historical analysis to examine responses that local community members made to law enforcement rangers at Bwindi Impenetrable National park from 1996 to 2000, a five-year period after MUP had been implemented. Our aims were to assess causes of conflict between local communities and park staff and identify factors that engendered local communities to support the national park. Our objectives were to determine the types of positive and types of negative responses by communities to rangers, and the factors that best explained whether communities responded positively or negatively towards rangers. The analysis was based on the hypothesis that individuals directly benefitting from MUP responded more positively to rangers than individuals not directly benefiting. Individuals directly benefitting from MUP were defined as authorised resource users of the MUP.

Methods

Retrieval and Verification of Law Enforcement Reports

We retrieved law enforcement patrol reports for Bwindi from 1986 to 2000 from the national park headquarters and ranger outposts around the park. The reports were hand-written accounts by rangers of their encounters with unauthorised resource use and wildlife while on patrol. We verified recordings by rangers to validate data within the reports (Baker 2004; Baker et al. 2011).

Community Response Data

From 1996, rangers recorded their interactions with, and observations of, members of local communities in their patrol reports. These recordings came under the heading of '*community response*' and consisted of descriptive notes detailing conversations with community members and general observations made by rangers on the attitude of local

communities towards the national park. All ranger-community interactions were made outside the national park when rangers patrolled the national park boundary or when rangers returned to their outpost after a patrol through community land.

Validation of Community Response Data

From 1996 to 2000, rangers recorded 445 responses by local communities from a total of 1288 patrol days. We validated rangers' recording of community responses using the same methods that we used to validate rangers' recording of law enforcement efforts (Baker 2004; Baker et al. 2011). Our validation showed that most (87%) ranger recordings of their interactions with local communities were assigned the same categories that were assigned from our recordings made while accompanying the patrols. We therefore considered that rangers' recordings were representative of ranger-community interactions and this validation permits confidence in the accuracy of rangers' recording of community response.

Constructing Typologies of Community Response Data

We developed three typologies of the community response data:

i. the type of response (i.e. whether positive or negative)
ii. the community member making the response
iii. the location of the response

I. Type of Response

From descriptions that rangers made in the patrol reports of their conversations and interactions with community members, we developed a five-point Likert scale that ranked from very negative to very positive on types of responses by communities to the rangers. We presented the scale to law enforcement rangers, community conservation rangers, national park wardens and staff of ICD organisations for their verification of the positive and negative responses. We then held focus group discussions with community conservation rangers and local community leaders to further refine positive and negative responses. Obtaining the local community perceptive was also to minimise bias in the data, as descriptions of community responses in the patrol reports were only from the rangers' perspective and no documented evidence by local communities of the interactions was available for this study.

The focus group discussions confirmed the difference evident from the rangers' descriptions in the level of conflict between complaints about crop raiding and requests for assistance to control crop raiding animals. Villagers complaining to rangers about crop raiding would typically just complain, whereas those asking rangers for assistance would often become aggressive, particularly when their requests were not met. The outcome from the focus group discussions was to categorise complaints about crop raiding as negative but requests for assistance to control crop raiding animals as very negative.

Previous evaluations of ICD at Bwindi have used actions by local communities regarding fire in the national park as indicators of conflict and support for conservation. For example, the deliberately started forest fires during gazettement of Bwindi demonstrated resentment of the national park whereas assistance by local communities to help park staff with fire control indicated their willingness to become engaged with protecting the National park (Blomley et al. 2012; Baker et al. 2011). In patrol reports from 1996 to 2000, rangers recorded two

incidents when communities reported fire to rangers, both in 1999 by villagers around the centre. Rangers also recorded 23 incidents when they received assistance by local communities with fire control, which were in 1999 and 2000. Reporting fire and assistance with fire control were categorised as very positive responses. However, discussions with park staff and local community leaders revealed that some forest fires were deliberately started by villagers who then assisted rangers with fire control to receive a reward. Therefore, the true nature of responses concerning fire during this period of Bwindi's history was difficult to determine. The outcome of focus group discussions was to omit fire responses from the statistical analysis although to include the responses as part of the interpretation. The final definitions on types of community responses comprised a five-point Likert scale that ranked from very negative to very positive (Table 1).

Table 1. The Likert scale for the type of response by communities to law enforcement rangers in Bwindi from 1996 to 2000

Type of Response	Definition
Very negative	Refuse to assist rangers investigating unauthorised resource use Refuse to assist rangers with the trial of arrested offenders Alert offenders inside the national park to rangers on patrol Aggressive request of compensation, vermin guards or land purchase because of crop raiding by wild animals
Negative	Complain to rangers about crop raiding animals Complain to rangers about living adjacent to the national park Complain to rangers about community projects of ICD
Neutral	Report suspected problems in the forest to rangers, e.g. dead animals from Enquire about national park related issues
Positive	Positive comments about National park and/or conservation Appreciation for rangers' assistance with problem animal control
Very positive	Assist rangers investigating unauthorised resource use Report unauthorised resource use to rangers on patrol Report unauthorised resource use to rangers at the outpost

II. Community member

From rangers' notes in the patrol reports, we identified four types of community members who were made responses to rangers: villagers; village and parish councillors (hereafter referred to as local councillors); authorised resource user (defined as individuals directly benefitting from MUP) and the Batwa (hunter-gatherer communities).

A concern arose about a separate category for authorised resource user because authorised resource users are members of the local community and therefore also villagers. Although many rangers recorded whether their interaction was with a villager or authorised resource user, some might have recorded 'villagers' if they did not know whether an individual was an authorised resource user, or knew but just recorded 'villagers'. Discussions with park staff and local community leaders revealed that rangers knew the authorised resource users (many rangers themselves being local community members) and that these individuals were referred to as 'authorised resource user' because of the status that this gave them in their community. This permitted confidence in the distinction that rangers made

between villagers and authorised resource users, which enabled comparisons of the type of response (whether positive or negative) by individuals directly benefiting from MUP and individuals not directly benefitting MUP.

There were two responses by the Batwa to rangers, which were both around the south of Bwindi. A Batwa man reported illegal pit sawing in the national park to rangers on patrol in 1996, which ranked very positive. In contrast, a group of Batwa men working in fields adjacent to the national park boundary alerted offenders inside the forest to an approaching patrol in 1998, which ranked very negative. These responses were noted although excluded from the analysis because of the small number of responses by the Batwa that rangers recorded.

III. Area of the response

In some patrol reports, rangers recorded the local name (topoymn) of the specific area of the community response. However there were patrol reports where only topoymns of the whole patrol were recorded with no details on where the community response occurred. For consistency in the data, we assigned the area of community response to one of the five patrol areas of Bwindi: north, centre, south, east and west. These patrol areas had been developed from geo-referencing topoymns (as described in Baker, 2004 and Baker et al. 2011). Most (92%) community responses were recorded in one patrol area only. The remaining community responses comprised patrols where rangers crossed from one patrol area to another and no specific location of the community response was recorded. Here we assigned the community response to the patrol area where rangers spent most patrol time on the national park boundary, as this was the most likely location of the community response.

Analysis

We conducted a historical, correlational analysis to examine the community members who responded negatively and who responded positively to rangers, and to examine temporal and geographical patterns of the negative and positive responses. We analysed data by monthly totals and summed the number of community responses per patrol day for each of the five patrol areas of Bwindi per calendar month per year (1996-2000 monthly totals for all areas; n = 141).

1. Was a particular area or community member significantly associated with positive or negative responses to rangers?

We first aimed to identify whether a particular area or community member was associated with positive or negative responses to rangers. We used the Chi Square test to examine associations between positive and negative response and area of Bwindi, and between positive and negative response and community member. The low number of responses by authorised resources users did not permit statistical analysis, so we grouped responses by authorised resource users into three categories of negative (negative and very negative), neutral and positive (positive and very positive) in order to conduct the association test.

2. Did either location or type of community member significantly influence whether rangers received a positive or negative response?

Our second analysis was to determine the significance of area and community member to the type of response that rangers received. The data comprised the number of community responses per month, which we analysed by log linear analysis under the assumption of a Poisson distribution, using the hierarchical approach and specifying a log link function. The west area and the Batwa were omitted from the log linear analysis because of the small numbers of responses.

A three-way (4x3x5) contingency table was constructed with the factors of area (north, centre, south, east), community member (villager, local councillor, authorised resource user) and type of response from very negative to very positive. When the final model was generated, we examined standardised lambda values of the interaction terms to determine patterns in community response that best explained the model.

3. Did the number of positive responses that rangers received significantly differ between locations around Bwindi, year (between 1996 and 2000) or season?

Our third analysis was to determine whether the amount of positive responses that rangers received differed between area, year or season. The number of positive responses per month was expressed as a proportion of the total number of community responses. This formed the dependent variable for the analyses, which were undertaken using the non-parametric tests of Kruskal-Wallis, Mann Whitney U and Spearman's rank correlation. Comparisons were undertaken of the mean proportion of positive community response between the five patrol areas of Bwindi, years from 1996 to 2000, months of the year, months of the rainy and dry seasons and months of the different farming seasons (planting, growing, harvesting) around Bwindi. Months of the rainy and dry seasons and farming seasons were developed based on discussions with community conservation rangers and local community leaders.

4. Which factor best explained the likelihood that communities responded positively to rangers?

Our final analysis aimed to identify the factors that best explained the likelihood that community members would respond positively to rangers. The number of positive responses per month was converted into binary data comprising months with a positive response (1996-2000 monthly totals; n = 81) and months without (1996-2000 monthly totals; n = 60) a positive response. This formed the dependent variable in a stepwise logistic regression analysis, using the forward stepwise procedure. The explanatory variables were significant factors identified from the univariate analyses. Areas of Bwindi were entered as categorical variables.

Results

Most responses to rangers by community members were negative (Figure 4). Of these, most were complaints about crop raiding by wild animals (84.3%). There were fewer complaints about ICD benefits (10.0%) or about the national park (5.7%). Therefore, five years after the violent conflict that arose between local communities and park staff during national park gazettement and after MUP implementation, complaints about crop raiding by wild animals were the most common type of response that communities neighbouring Bwindi made to rangers.

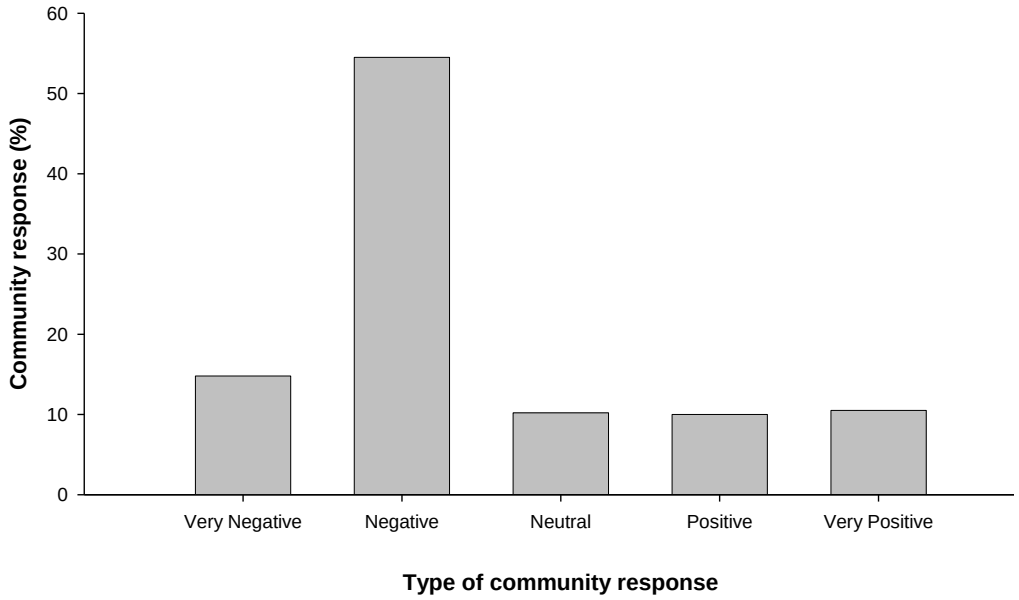

Figure 4. Positive and negative responses by communities to rangers at Bwindi Impenetrable National Park from 1996 to 2000.

Area

Most community responses to rangers in each area of Bwindi were negative (Pearson's $\chi 2 = 60.83$; df = 12; $p < 0.001$; Table 2; NB: the west area was omitted from analysis because of low cell frequencies). Rangers in the north and centre areas of Bwindi received the highest proportion of negative responses. In comparison although rangers patrolling the east mainly received negative responses, the proportion of positive responses that they received was higher than other areas (Kruskal-Wallis $\chi 2 = 18.25$; df = 4; $p < 0.01$). The proportion of positive responses to rangers in the south and west areas was similar. The west area of Bwindi, where Mountain gorilla tourism was first established, was the only area where communities did not make very positive responses towards rangers, for example providing assistance with law enforcement activities. Therefore during the 1996-2000 period at Bwindi, rangers in the east received the highest number of positive responses by community members, whereas rangers in the north and centre received the highest number of negative responses.

Table 2. Type of community response to law enforcement rangers by area of Bwindi from 1996 to 2000

Response	Area (%)				
	North (n = 96)	Centre (n = 153)	East (n = 110)	South (n = 39)	West (n = 22)
Very negative	14.6	21.6	4.6	20.5	9.1
Negative	64.6	60.8	40.0	46.2	54.6
Neutral	7.3	7.8	12.7	10.3	27.3
Positive	7.3	3.9	21.8	7.7	9.1
Very positive	6.3	5.9	20.9	15.4	0.0

Community Member

Villages accounted for most of the responses made to rangers (89.3%). There were fewer responses by authorised resource users (5.7%) and local councillors (5.0%).

Villagers and Local Councillors

Villagers made all of the very negative responses to rangers, except for one that was made by local councillors of village courts in the north who refused the trial of individuals arrested by rangers in the National Park. In general most responses by villagers and local councillors towards rangers were negative (Table 3).

Authorised Resource User

In contrast most responses by authorised resources users were positive. There were no occasions of very negative responses by authorised resource users where they refused to assist rangers with law enforcement activities or requested compensation because of crop raiding by wild animals (Fisher's Exact Test = 69.84; $p < 0.001$).

Table 3. Type of community response to law enforcement rangers by community member of Bwindi from 1996 to 2000

Response	Community member (%)		
	Villager (n = 374)	Local authority (n = 21)	Resource user (n = 24)
Very negative	16.1	15.1	0.0
Negative	60.6	55.4	12.5
Neutral	9.3	9.3	12.5
Positive	6.2	9.3	37.5
Very positive	7.6	10.8	37.5

Most responses by authorised resource users to rangers were made by beekeepers of the east (87.5%) and these beekeepers mainly responded positively towards rangers (66.7%). Authorised herbalists and basket makers of the north rarely interacted with rangers (8.4%) (Figure 5).

None of the responses in the analysis were made by authorised beekeepers of the south, although these beekeepers did assist rangers with fire control. The 23 incidents when rangers received assistance by local communities with fire control were in 1999 (n = 13) and 2000 (n = 10). The assistance was given by villagers around the centre (n = 4), villagers and authorised beekeepers around the south (n = 8) and villagers and authorised beekeepers in the east (n = 11).

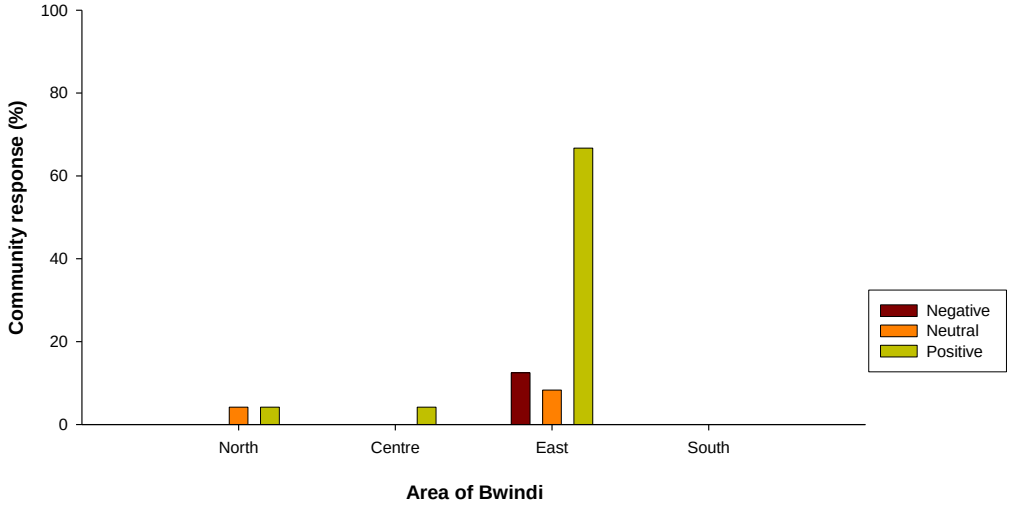

Figure 5. Responses to law enforcement rangers by resource users of the harvest zone programme in areas of Bwindi from 1996 to 2000.

Therefore, in summary, most responses by villagers and local councillors to rangers were negative. In contrast, individuals directly benefitting from MUP, particularly beekeepers in the east, mainly responded positively towards rangers.

Year and Season

There was no difference in the mean proportion of positive community response between years from 1996 and 2000 (Kruskal-Wallis $\chi 2 = 4.02$; df = 4; $p > 0.05$); months of the year (Kruskal-Wallis $\chi 2 = 10.63$; df = 11; $p > 0.05$); months of the rainy or dry seasons ($z = -1.14$; $p > 0.05$) or months of the farming season (Kruskal-Wallis $\chi 2 = 1.24$; df = 2; $p > 0.05$). Therefore year and season did not affect whether individuals responded positively or negatively towards rangers.

Patterns of Community Response

The final model that best explained patterns of community responses to rangers comprised the three-way, significant interaction of response-type*area*community-member. The standardised lambda values revealed that community members in the north and centre of Bwindi were mainly associated with very negative and negative responses towards rangers

and that, in contrast, community members in the east were mainly associated with very positive and positive responses towards rangers (Figure 6, Tables 4 and 5).

Table 4a. Positive responses to law enforcement rangers by communities in areas of Bwindi from 1996 to 2000

Response		Area (%)				
		North (n = 20)	Centre (n = 27)	East (n = 61)	South (n = 13)	West (n = 7)
Very positive	Report IA to outpost	0.0	0.0	5.1	5.5	0.0
	Report IA to patrol	0.0	0.0	2.7	2.7	0.0
	Assist investigation	6.3	5.9	7.7	12.7	0.0
Positive	Positive comment	13.5	9.8	7.7	21.8	9.0
	Appreciation	0.0	0.0	2.6	2.7	0.0
Neutral	Report problems	1.0	2.0	5.1	10.0	22.7
	Enquiry	0.0	0.0	2.4	0.0	4.5

Key: report IA to outpost (report illegal activities to rangers at the outpost); report IA to patrol (report illegal activities to rangers on patrol); assist investigation (assist rangers investigating illegal activities); positive comment (positive comments about the National Park and/or conservation); appreciation (appreciation for rangers assistance with problem animal control); enquiry (enquire about National Park issues).

Table 4b. Negative responses to law enforcement rangers by communities in areas of Bwindi from 1996 to 2000

Response		Area (%)				
		North (n = 76)	Centre (n = 126)	East (n = 49)	South (n = 26)	West (n = 14)
Very negative	Refuse assist IAs	5.2	5.9	0.9	5.1	9.1
	Refuse trial	1.0	0.0	0.0	2.3	0.0
	Alert offenders	0.0	0.7	0.9	2.3	0.0
	Request CR	8.3	15.0	2.7	10.3	0.0
Negative	Complain CR	54.2	51.0	34.6	35.9	50.0
	Complain NP	6.3	6.5	4.6	7.7	4.6
	Complain ICDP	4.2	3.3	0.9	2.6	0.0

Key: refuse assist IAs (refuse to assist rangers investigating illegal activities); refuse trial (refuse to assist rangers with the trial of offenders); alert offenders (alert offenders inside the National Park to rangers on patrol); request CR (request compensation, vermin guards, or land purchase from National Park officials because of crop raiding); complain CR (complain to rangers about crop raiding by wild animals); complain NP (complain to rangers about living adjacent to the National Park); complain ICDP (complain to rangers about community benefit schemes of the ICDP)

Northern and Centre Areas: Complaints about Crop Raiding

When villagers in the north and centre areas interacted with rangers, they mainly did so to complain about crop raiding by wild animals. Requests for assistance with crop raiding were fewer although higher around the centre than the north.

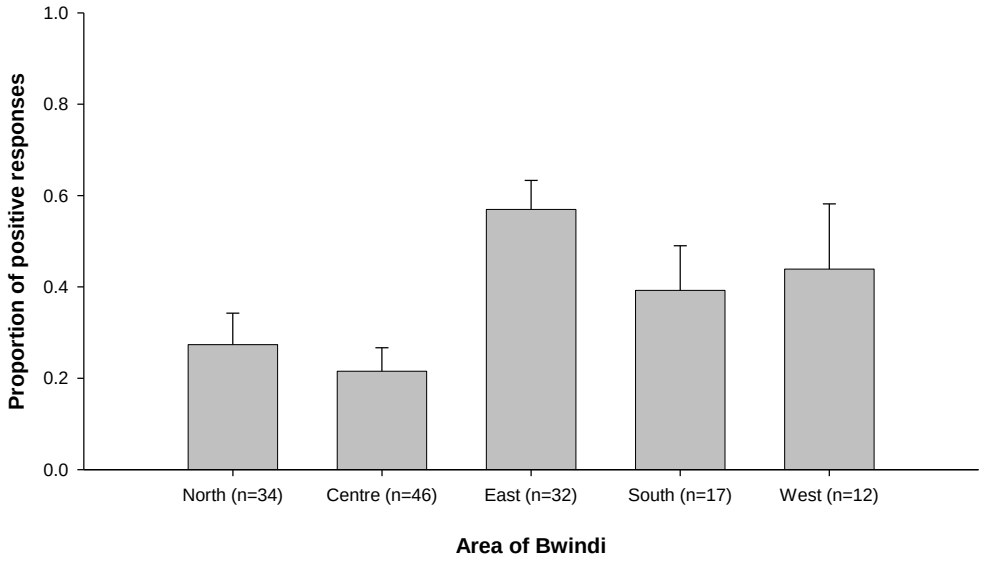

Figure 6. Mean+SE proportion of positive responses per month to rangers by communities in areas of Bwindi from 1996 to 2000.

Positive responses were few but included assistance with law enforcement: rangers did not receive reports of unauthorised resource use from community members, although communities did assist rangers when rangers asked for information on unauthorised resource use. In the north, most of this assistance was by villagers (83.3%) with some assistance by local councillors (16.7%). In the centre, most of the assistance was by villagers (55.6%) although there was a higher proportion of assistance by local councillors (33.3%) and some assistance by authorised resource users (herbalists and basket makers) (11.1%). Positive responses also included positive comments about the national Park. In the north villagers made most of the positive comments to rangers (66.7%) with fewer by authorised resource users (16.7%) and local councillors (16.7%). In contrast in the centre, local councillors (83.3%) made most of the positive comments with some by villagers (16.7%).

Eastern Areas: Assistance with Law Enforcement

Most responses to rangers by communities in the east were positive. Unlike the north, centre and west, rangers in the east received reports of unauthorised resource use both on patrol and at the outpost when a community member travelled from their homestead to the outpost to report unauthorised resource use. Villagers (66.7%) made most of these reports with some by authorised beekeepers (33.3%). Both villagers (50.0%) and authorised beekeepers (42.9%) assisted rangers with investigations into unauthorised resource use. Both also made positive comments about the national park to rangers although most of these positive comments were made by authorised beekeepers (57.1%) with fewer by villagers (21.4%) and local councillors (21.4%).

In comparison with other areas around Bwindi, in the east there were few incidents where community members refused to assist rangers with law enforcement. However both villagers

(92.1%) and authorised beekeepers (7.9%) made complaints to rangers about crop raiding by wild animals.

Southern Areas: Complaints about Crop Raiding

Similarly to northern and central areas, most interactions between communities and rangers were either villagers requesting assistance to control crop raiding or complaining about crop raiding. Of the few positive responses made, these comprised villagers reporting unauthorised resource use to rangers on patrol and at their outpost, and villagers (66.7%) and local councillors (33.3%) assisting rangers with their investigations into unauthorised resource use.

Western Areas: Refusals

The only type of very negative responses to rangers in the west was villagers refusing to assist them with law enforcement. The west was the only area with no records of community members assisting rangers with law enforcement. The few positive responses to rangers by communities were villagers making positive comments about the national park. There were neutral responses whereby villagers (88.3%) and local councillors (11.7%) reported problems of the national park to rangers.

Discussion

Our analyses showed that, five years after violent conflict between local communities and park staff when Bwindi was gazetted and after MUP, villagers complaining about crop raiding by wild animals was the most common type of interaction between rangers and local communities for the 1996-2000 period. Our analyses also showed that these complaints were particularly high in northern and central areas whereas, in contrast, villagers and authorised beekeepers in eastern areas responded more positively towards rangers. Year, month and season were not significant influences on whether communities responded positively or negatively to rangers.

Our approach of examining daily interactions between rangers of a national park and the neighbouring communities therefore provides insight into local conflict issues and an indication of the factors that engender support for protected areas. For Bwindi we were able to assess causes of conflict and the influence of MUP in shaping local attitudes and behaviours towards park authorities.

Causes of Conflict

Indicators of conflict were the negative and very negative responses that communities made to rangers. Very negative responses included incidents when community members

alerted offenders to an approaching patrol or refused to assist rangers with law enforcement. For example, in 1998, rangers recorded that villagers neighbouring central areas would not give information about hunters following an incident of bushmeat poaching in the national park. Also in 1998 around the west where villagers benefit from gorilla tourism, rangers found illegal pole cutting in the national park and noted "*we rangers asked people who cut the poles but they refused to tell us*".

Negative responses were community members complaining to rangers about an issue associated with the national park. From rangers' descriptions, the complaints regarded three issues: crop-raiding by wild animals, ICD benefits and loss of forest resources such as, in 1996, the response to rangers patrolling eastern areas where beekeeping inside the park was allowed "*the community were very annoyed and discontent, they were saying that since we had taken their bamboos and their firewood, now and then we should co-operate with them*".

Our study showed that complaints about crop raiding dominated interactions between villagers and rangers over the five-year period of 1996-2000. We also showed that this type of conflict was most common in northern and central areas. Northern and central areas are known to experience high levels of crop raiding, particularly by baboons (Baker, 2004), and were associated with high levels of violent conflict during gazettement (Baker et al. 2011). These areas are still associated with conflict, for example in 2012, villagers of the centre constructed a road block to stop vehicles of conservation authorities and tourists passing through Bwindi to protest about the lack of benefits that they receive from the National park.

Previous studies have demonstrated the negative influence of crop raiding by wild animals on relations between local communities and protected area authorities. This includes hostility between communities and authorities (Newmark et al., 1993; Hill, 1999; Nyhus, Tilson and Sumianto, 2000) and the undermining of efforts to gain local support for conservation (Infield, 1988; Archabald and Naughton-Treves, 2001). Indeed at Bwindi, crop raiding is known to adversely affect local attitudes towards the national park, particularly of poorer villagers (Blomley et al. 2010). Our study supports these findings, as villagers made a direct link between ICD benefits and livelihood impacts of crop raiding when, in 1996, villagers' complaints to rangers included "*people around the northern sector are not happy because the money of the Bwindi Trust is given to those who never had problems of the forest animals*". Furthermore, crop raiding affected the willingness of individuals to assist rangers with law enforcement. For example in 2000, rangers patrolling the centre recorded "*we could not get any response on illegal activities, only people complaining about baboon damage*". However rangers did receive assistance with law enforcement from women and children who were guarding crops from wild animals. For example in 1998, rangers patrolling the centre recorded "*a woman guarding from vermin told us that children were fishing inside the national park*", and, in 1996, rangers patrolling the east recorded "*we were told by a young boy who was chasing monkeys from his garden that firewood collection always occurs on Sunday evenings*". This inconsistency reveals the complexities of community-park relations and highlights the need for conservation practitioners to understand this complexity and the different community groups involved.

From rangers' notes on the complaints of crop raiding that they received, crop raiding in itself was not the root cause of conflict. Rather, it was the perception by villagers that national park authorities had failed to reduce impacts on their livelihoods from crop raiding. This was despite benefits from ICD and efforts by UWA and ICD practitioners to reduce crop raiding around Bwindi.

Historical records document crop raiding around Bwindi since the early 1900s by gorillas and the assistance that authorities gave to local communities to reduce crop raiding (section x). There could therefore be an expectation that authorities should reduce crop raiding. Our findings suggest that directing ICD funds towards crop-raid control, particularly for northern and central areas, might reduce conflict and address conservation-poverty linkages by alleviating impacts on local livelihoods from the national park. However, there are many considerations. Firstly if the aims of crop-raid control interventions are to reduce conflict and alleviate livelihood impacts of crop raiding, it must be noted that areas where crop raiding is a major cause of conflict might differ from areas where villagers incur the greatest cost of crop raiding. Similarly, if crop-raid control interventions are to endanger local support for the national park and, in doing so, reduce unauthorised resource use, the association between individuals incurring the greatest cost of crop raiding and those undertaking unauthorised resource use must first be established. Finally, crop-raid control interventions should be implemented on good governance principles whereby villagers are engaged with the decision-making process and have ownership of the type of intervention, particularly for the interventions to reduce conflict in the long-term. Therefore, ICD efforts to reduce crop raiding could resolve a major cause of conflict at Bwindi and contribute towards poverty alleviation. However, the complexities surrounding this issue and conservation-poverty linkages must first be fully identified and understood.

Local Community Support for the National Park

Very positive and positive responses by community members to law enforcement rangers indicated local support for the national park. Very positive responses included community members reporting unauthorised resource use to rangers and assisting rangers to investigate unauthorised resource use. For example, in 1998, authorised beekeepers of the east reported snares in their harvest zone to rangers, and the rangers recorded "*the beekeepers were not happy with this activity, which is carried out in their zone. They gave us two porters of their society to lead us to those snares. All snares we found were new and we talked with these porters to organise another patrol so they can lead us to other suspected places in the same area*." Positive responses included positive comments about the national park, such as the response by an authorised beekeeper to rangers patrolling the east in 1996 "*one man who was also a beekeeper member told us that people are ready to look after the park as they promised themselves as beekeepers, we thanked the beekeepers bordering the area and encouraged them to continue with the same spirit*".

During the period of gazettement from 1989 to 1992, villagers in eastern areas of Bwindi undertook a series of violent attacks on rangers following the arrest of fellow villagers for transporting cattle through Bwindi to sell in Rwanda (Baker et al. 2011). Our results showed that, from 1996 to 2000, authorised beekeepers and villagers of eastern areas accounted for the highest proportion of all positive and very positive responses that rangers recorded, and that their support was largely to assist rangers with law enforcement. This finding indicates a positive impact of MUP on the conservation attitudes and behaviours of both individuals directly benefitting from MUP and individuals not directly benefitting from MUP but living in a MUP village. The role of authorised resource users in protecting Bwindi and reporting unauthorised resource use was emphasised during implementation of MUP (Bensted-Smith et

al., 1995; Wild and Mutebi, 1996). Therefore the assistance by beekeepers to rangers could be expected although individuals not directly benefitting from MUP also responded positively to rangers. This could have resulted from local benefits that MUP generated including production of honey and the continuation of a traditional practice. However, authorised resource users and villagers of other MUPs did not respond as positively towards rangers as those in eastern areas. This difference in conservation support between different MUP areas could reflect the difference between these areas in MUP implementation. Eastern beekeepers were the first communities neighbouring Bwindi to be granted access to the forest, which was the year following gazettement (Bensted-Smith et al., 1995; Wild and Mutebi, 1996). MUP implementation in other areas began three years after gazettement and the process was delayed by organisational failure (Bensted-Smith et al., 1995), which created frustration amongst villagers with conservation authorities (Blomely, 2003). Therefore, the relatively quick implementation process for eastern beekeepers and the re-establishment of forest ownership shortly after gazettement appear important for securing local support for the national park.

Daily Interactions between Local Communities and Rangers as Indicators of Conflict and Support

Monitoring projects in multi-disciplinary terms of ecological and socio-economic impacts is important to determine whether the ICD approach can protect wildlife (Larson and Svendsen, 1996) and alleviate poverty. However, choosing socio-economic indicators is difficult because of the complexities involved (Kleiman et al., 2000). Attitudes are often used to determine local support for conservation and thus social impacts of conservation policy (Straede and Helles, 2000; Mehta and Heinen, 2001; Zhang and Wang, 2003), and factors that influence community attitudes towards protected areas are well documented, including wealth and education (Fiallo and Jacobson, 1995; Sah and Heinen, 2001; Holmes, 2003) and crop raiding by wild animals (Hill, 1998; Mehta and Heinen, 2001). However, positive community attitudes towards protected areas do not necessarily translate into conservation benefits (Badola, 1998; Straede and Helles, 2000; Infield and Namara, 2001), which raises the question as to the efficacy of attitudes as indicators. Furthermore, evaluating conservation policy requires an understanding of behavioural change particularly regarding resource use (Holmes, 2003), which limits the use of attitude surveys to evaluate conservation policy.

We used daily interactions between community members and rangers over a five year period to indicate conflict and local support for the national park and enable comparisons of positive and negative responses towards rangers between individuals directly benefiting and not directly benefiting from MUP. There were factors outside the scope of our analysis that possibly influenced how communities responded to rangers. These included law enforcement: several arrests in one area might have fuelled resentment amongst villagers that lead to their refusal to assist rangers with law enforcement activities; ranger patrol effort likely differed between areas during the study period; and, the extent that rangers asked villagers for assistance with law enforcement might have differed between areas. Also the amount and type of ICD interventions differed between areas, as well as political pressures, markets, land use, population density and other external factors. A further limitation is that the data comprised descriptive reports by law enforcement rangers. We verified the data by fieldwork

and incorporated the local community perspective from focus group discussions. However, the data primarily reflects rangers' perceptions of their interactions with community members.

Whilst acknowledging these limitations, our study does show that crop-raiding dominated ranger-community interactions and villagers who received the first MUP shortly after gazettement demonstrated the highest level of support for the national park. Our study also shows the use of historical records for social assessments within conservation management and that developing typologies of park-community interactions gives insight into the causes of conflict and factors that engender local communities to support protected areas.

8. Assessing Governance of Local Community Projects by the Bwindi Mgahinga Conservation Trust

A Conservation Trust Fund for Bwindi and Mgahinga National Parks

Table 5. Funding categories of BMCT

Category	Activities that receive funding
Park Management	Investment in UWA projects, training or equipment
Conservation / ecological research	Funding to research projects and ecological monitoring by the Institute of Tropical Forest Conservation (ITFC) or affiliated researchers
Communities	**Common goods (communal) projects** Projects that benefit communities as a whole, for example provision of classrooms, health units, laboratories and dormitories, community water harvesting tanks and gravity water schemes
	Conservation projects with communities Projects that aim to conserve natural resources through providing communities with alternative resources, for example tree planting and energy saving stoves Projects that reduce conservation costs incurred by communities from crop-raiding of wild animals, for example planting the Mauritius live fence for problem animal management
	Income/livelihood projects Projects that aim to improve household income, for example support for potato growing, mushroom growing, livestock, beekeeping outside of the national park, fish farming, handicrafts for sale, vegetable growing, Village Saving and Loan Associations
	Batwa support Projects targeted to improve household livelihoods and well-being of the Batwa including land purchase and settlement, income generating activities and education

Bwindi Mgahinga Conservation Trust (BMCT, formerly MBIFCT) was created in 1994 by a GEF World Bank project to support biodiversity conservation of Bwindi and Mgahinga Gorilla National Park (MGNP). The establishment of BMCT was to overcome the barrier of the need for long-term funding and support for ICD success. Therefore with its (currently) long-term funding commitment to ICD interventions, BMCT is a major ICD practitioner for both mountain gorilla national parks in Uganda.

The Trust mandate is to directly support national park conservation by funding research and park management activities and to support conservation through local community development programmes. Project activities of BMCT began in 1997 and continue to the

present day. In the 15 years since BMCT began its activities, it has funded various projects under three broad categories of park management, conservation / ecological research and communities (Table 5).

Community development programmes receive most of BMCT's funds. Allocation of these funds is in accordance with the following goal:

> Provide alternative means of meeting needs which were traditionally met by harvesting forest resources (e.g. timber, poles, meat, cash income). Among the types of activities likely to be funded are beekeeping (including marketing of products), agro-forestry and woodlots, dairy and poultry production[1], and ecotourism services and facilities. These economic activities will help compensate the communities for the loss of their traditional access to these resources when the forests were gazetted as protected areas. They will also help discourage illegal exploitation and burning of the forests, which the authorities cannot completely eliminate through simple enforcement, by providing alternatives and by fostering a positive attitude among the communities toward these national parks as a source of concrete benefits. The cooperative approach to managing the funds will also provide an opportunity for the different stakeholders to work together to identify and achieve common objectives.…The Trust is meant to provide incremental support, complementing but not displacing funds from the GOU and other donors…The project also represents an experiment in application of two important principles for biodiversity conservation: (I) including community representatives as full partners in decision-making, as a means of gaining community support for conservation and "ownership" of the project, and (2) the use of a Trust Fund as a mechanism for providing reliable, long-term funding for conservation activities. (GEF 1995)

In addition, community projects that receive BMCT funding must be projects that:

> (i) are proposed by established local community groups; (ii) have a demonstrable positive impact on conservation of the parks and their biodiversity (e.g. non-consumptive utilization of forests such as eco-tourism; development of substitutes for vulnerable resources); (iii) are consistent with UNP [now UWA] policies and park management plans; (iv) meet agreed criteria of social and environmental soundness, equitability and transparency; (v) include a matching contribution in cash or kind by the proposing group; and (vi) include provisions and arrangements for accountability and long-term sustainability (ibid).

These criteria were developed to represent aspects important to ICD success: alternative livelihood provision, compensation for lost resources, positive attitude development, sustainability, collaboration, ownership and governance. However to date there has been no evaluation of whether BMCT has achieved these aspects, particularly the principles of good governance within its operations and funded projects. Furthermore, while general evaluations of ICD at Bwindi indicate that projects developed and undertaken by BMCT have had a positive impact on the attitudes of local communities, all identified the need for a detailed assessment of BMCT impacts on national park conservation and rural development goals

[1] Since this was written, one of the Trust's core activities using endowment funds is community agriculture especially provision of improved seeds and extension work

(Craig and Malpas, 2007; World Bank, 2007; Blomley et al. 2010). This lack of monitoring and evaluation limits the ability of BMCT, as an ICD practitioner, to gauge its success in conservation and poverty alleviation goals, to understand whether it has achieved good governance and, in doing these, make a meaningful contribution to the ICD debate.

Governance Assessment

After 15 years of projects, BMCT elected to conduct an impact assessment of its activities with park management, research and communities. It also decided that the starting point for the impact assessment would be governance. Therefore the aim of this study was to assess whether BMCT had embedded the principles of good governance into its operations and projects, particularly to determine whether community representatives were full and genuine partners in the decision-making process and felt a sense of ownership of BMCT projects.

Methods

Attitude surveys were designed for stakeholders in BMCT community projects that included local government officials, local leaders and villagers. The questions were first to establish livelihood profiles, which for the Batwa included land, housing and education, and then to explore attitudes on governance issues of BMCT's activities (both common goods and livelihood projects). Interviews were held with local government officials at parish and sub-county levels. Attitude surveys of villagers and local leaders neighbouring the national parks were conducted in two villages per parish: one with a BMCT project and one selected at random with the criteria that the village was not neighbouring the first village and, where possible, one of the two villages bordered a national park. There were ten informants per parish that included (as available) one local leader, one head school teacher, two Trust project participants and five villagers selected at random.

Initial Findings

At the time of writing, the study was in the final stages. Our initial findings on governance issues are presented here in two sections: project governance, and grassroots representation (the ability of local people to be involved in the initial stages (application, project selection) of Trust interventions).

Project Governance

Two findings have been immediately evident from the attitude surveys. First that most respondents rated their *involvement* in BMCT projects as being 'very important' (Figure 8.1). Second that most respondents who benefitted from BMCT projects did feel involved (figure 8.2). Recipients of BMCT livelihood projects felt involved in both the project design and implementation. Of note, in order to compare the Trusts' approach to other organizations and

agencies, we had a particular focus on water projects (categorized under common goods projects) given the Trust had just completed work on a large gravity scheme. Results suggested recipients of BMCT water projects felt more involved in project governance than recipients of other water projects (Figures 8.3-8.6).

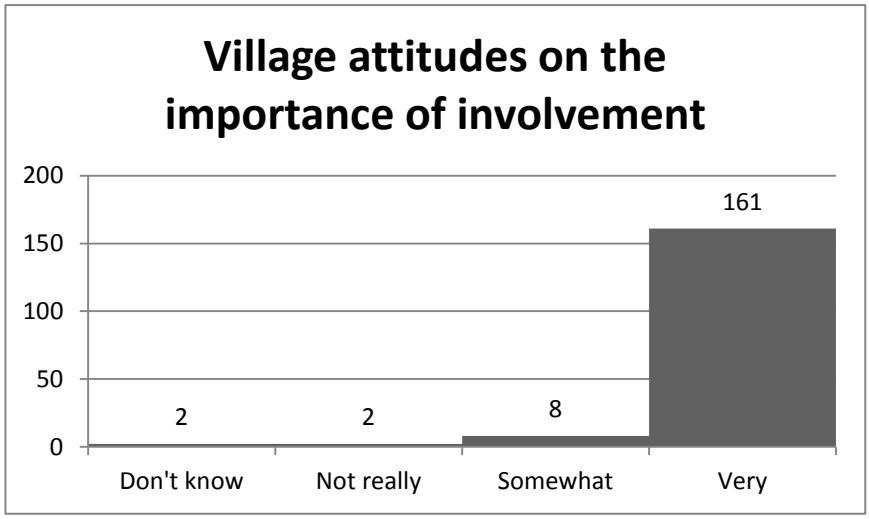

Figure 7. Attitude from respondents on local involvement in common goods projects. Villagers want to participate in decision-making processes that relate to projects impacting them (n=173)

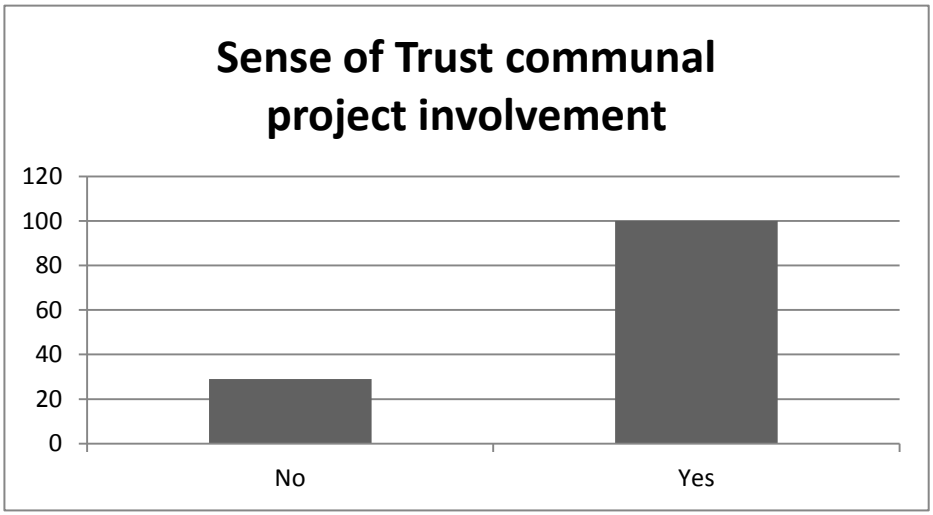

Figure 8. In BMCT projects, a vast majority of respondents felt they were involved in the project design and implementation (n=129).

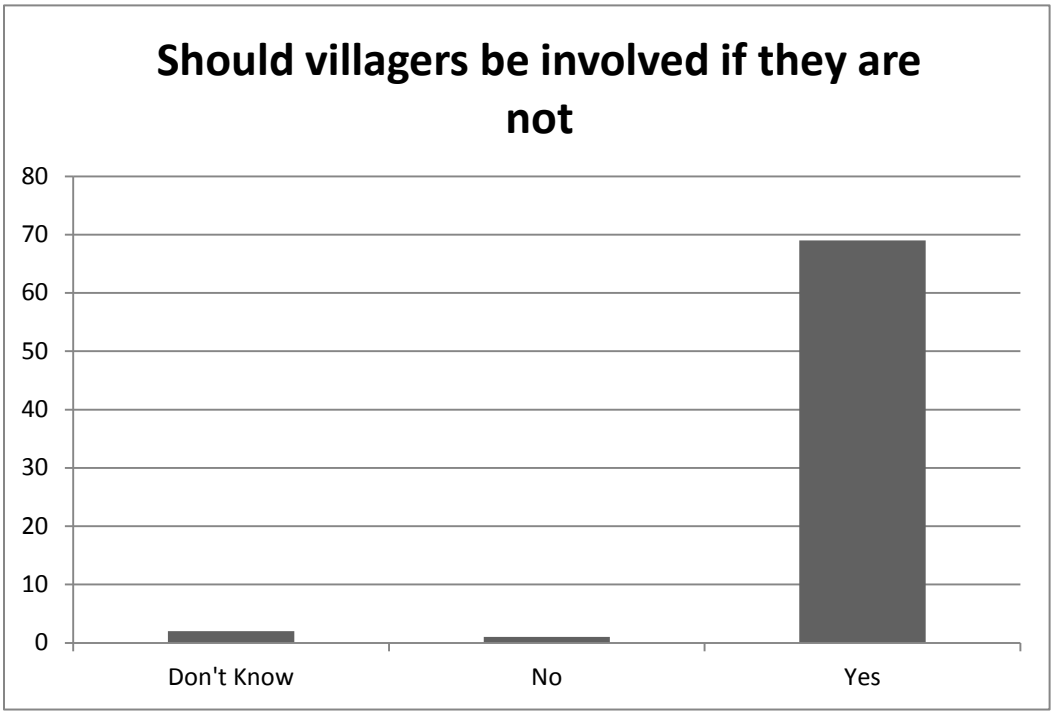

Figure 9. Project involvement is very important to local people, highlighting the need for all projects to ensure the opportunity to participate. (n=72).

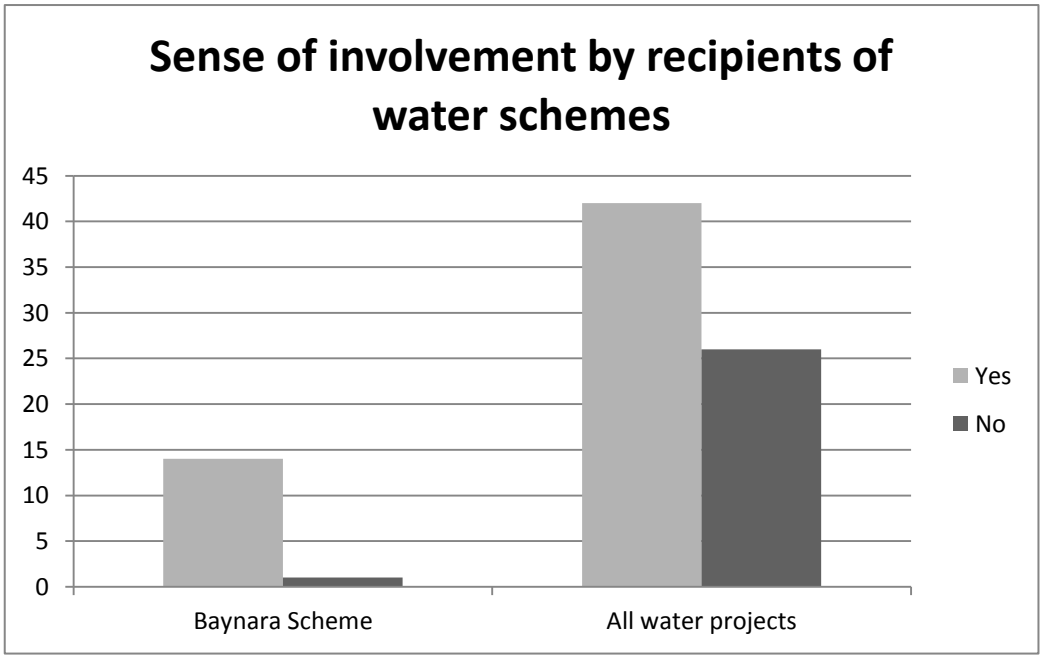

Figure 10. Using a specific type of common goods project, villagers participating in the Trust's Banyara Gravity Water scheme felt involved in project design, whereas more generally water projects are not as inclusive. (n=83).

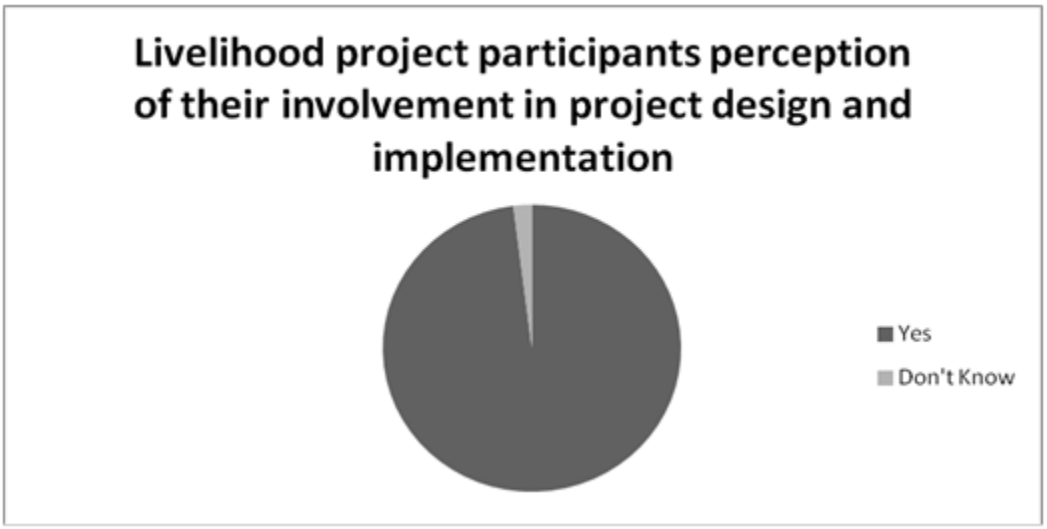

Figure 11. Participants in Trust livelihood projects nearly unanimously felt involved in the projects. (n=50).

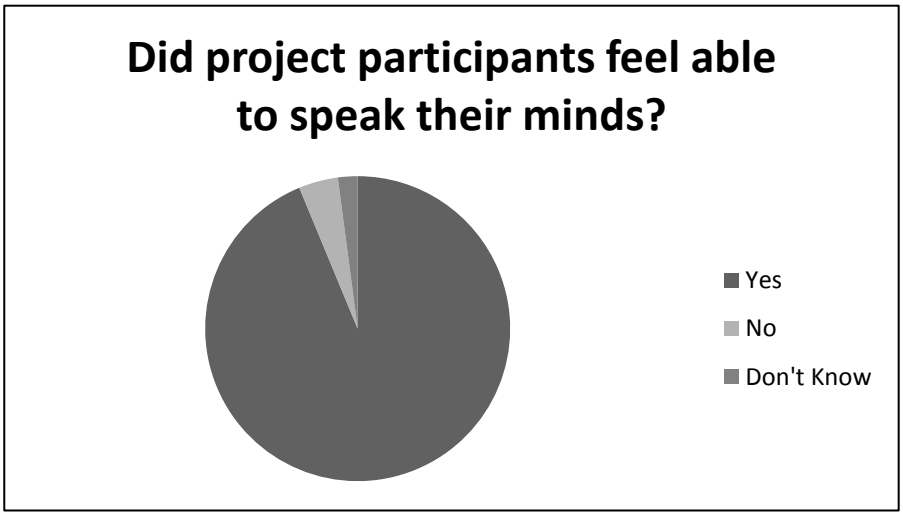

Figure 12. Similarly, livelihood project participants were comfortable to engage Trust staff openly during project implementation. (n=48).

Interviews with villagers and local government officials also showed that there is some level of *ownership* in common good and livelihood projects. Local government officials in particular (20 of 23 respondents) felt able to participate with BMCT community officers and the Local Community Steering Committee (LCSCs) and involved in BMCT projects, particularly to voice opinions on which projects should be chosen. One of those who did not feel so involve responded "BMCT invite us for meetings but we are not involved in project implementation and monitoring". This theme of lack of monitoring and evaluation was evident from the beginning of the survey, as BMCT itself noted that they wanted to use this study to help develop an M/E program. What was interesting is that it was a theme that came up repeatedly throughout the surveys in the villages and with government officials. The

quoted government official said to ensure local government involvement, the Trust should "involve me right from planning project selection, implementation and monitoring for project sustainability". Various suggestions for monitoring include providing money for LCSC to monitor projects, involving local government to monitor projects (leaders felt if villagers knew they were monitored they may work harder), allocating more money in the Trust budget for BMCT community officers to monitor projects, and finally develop a joint monitoring and evaluation team that includes BMCT, local government, and villagers in monitoring projects and activities.

Therefore this study provides evidence that BMCT's policies on governance issues of collaboration and ownership with local stakeholders have been incorporated into its project activities. However two aspects of governance within BMCT operations need consideration. Firstly BMCT must ensure that its operations with local government officials are carefully conducted to make sure that its good relationship with government does not result in its projects providing special benefits for local government officials and their supporters, or indeed that local politics begins to interfere with normal governance processes of BMCT projects. Political bias in the misuse of conservation funds has been documented (Blomley et al. 2010) around Bwindi in other projects. The Trust has successfully avoided this issue within its 15 years of operation and, to build on this good foundation, should establish and implement measures to mitigate this risk and be transparent in its efforts to do so.

Grassroots Representation

Our third major finding within this governance study came from the structure set up by the Trust to ensure community participation in the Trust. The Trust works with communities through the LCSC (Local Community Steering Committee), a structure that provides for 5 community representatives (one from each district, a woman's representative, and a Batwa representative) on the Trust's Board. The 5 Board representatives are elected by a system of LCSCs which contain representatives of each of the 15 sub-counties across BMCA. These sub-county LCSCs are elected every 3 years by a panel of temporary parish-level LCSC representatives that are disbanded after the sub-county elections. The LCSCs communicate with local government, but are a separate entity, which provides the Trust with a mechanism with at some separation from local political influences and costs.

The LCSC system is used for both communal goods and livelihood projects. The Trust engages the LCSC representatives to publicize livelihood grants both through local government chains and public radio messages, and uses the LCSC as the mechanism to communicate with the people around BMCA. Community members (often in the form of a group) interested in developing a project then write proposals and those that pass the scrutiny of LCSC are funded. Where possible the LCSC member provides assistance to groups needing capacity support, and in some cases encourages stronger individuals within the community to partner with poorer individuals to strengthen applications.

Although this system was designed to provide local representation and encourage local participation (while simultaneously being financially feasible to operate), the study revealed the system has two major shortcomings: lack of local participation/representation at the village level, and a lack of local LCSC oversight. LCSC representatives are not paid and are not financially supported to be mobile. Because of this the LCSC representatives often remain at the sub-county and do not work at the village level where most projects occur. The result, for many of the people that were interviewed, is that most villagers did not know about the

LCSC representative and, consequently, did not feel represented (Figures 8.7-8.11). 56 of the 108 informants who wanted to participate in Trust livelihood projects was that they did not know how to apply for them and thus did not have the opportunity to become involved. This is a significant barrier that could prevent BMCT from targeting livelihood projects at poorer members of local communities, especially those with weak links to local government. In addition, as most LCSC residences are not located near the park, those villages bordering the park (who suffer the highest costs of conservation) are least likely to be reached in communications/interactions with the LCSCs.

The second shortcoming noted by informants is the lack of term limits and a local oversight system for the LCSC representatives. Several LCSC members have served since the Trust was created. Although having LCSC members who are well informed of conservation goals, understand the Trust, and show willingness to serve, there are consequences of having entrenched representatives: stagnation, lack of local accountability, and in some cases, project recipient bias away from those who should be targeted in ICD projects. More importantly, the lack of a system of local transparency perceived by villagers can impact how the Trust and its activities are viewed. One local government representative reported that villagers think he is taking money from the Trust as 'only one out of 100 projects are funded' due to the lack of Trust funds available for livelihood projects. If the system was more transparent these challenges may not exist.

The consequences of these two LCSC system weaknesses are that good governance is not achieved at the village level during the project identification stage and that BMCT do not reach the poor and marginalised. This barrier that approximately half of our interested informants faced however is an implementation issue in selected parishes, rather than the failure of BMCT livelihood projects to positively impact on household income, and should be addressed accordingly. Despite the governance challenges identified, BMCT activities were well received by communities, local government and park management. All stakeholders stated a desire to see more activities from BMCT, demonstrating the positive impact that it has had on the region.

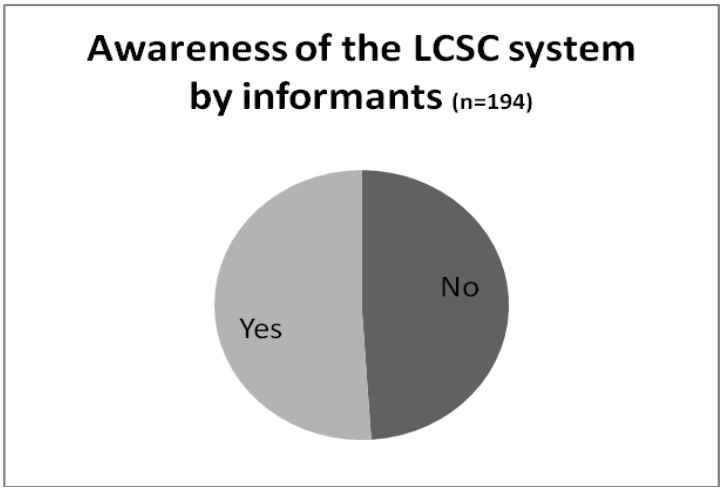

Figure 13. Almost half of all villagers interviewed in the area of Trust operations did not know the LCSC system that provides representation and awareness of Trust projects.

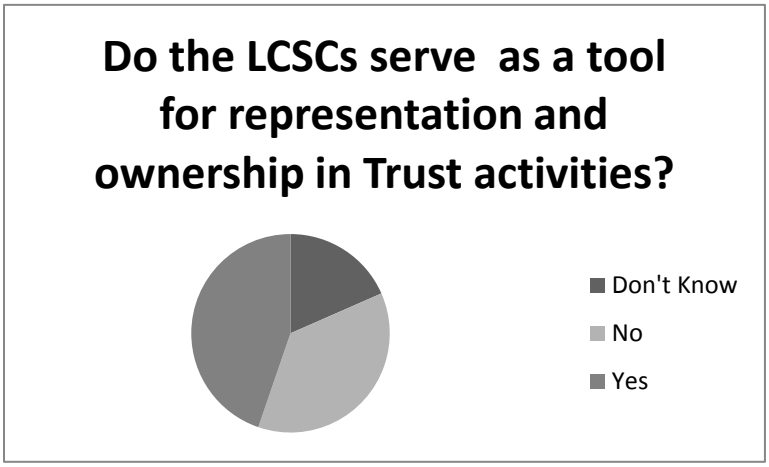

Figure 14. The LCSC system provides some ownership, however the study suggests that there is the need to improve this governance system. (n=114).

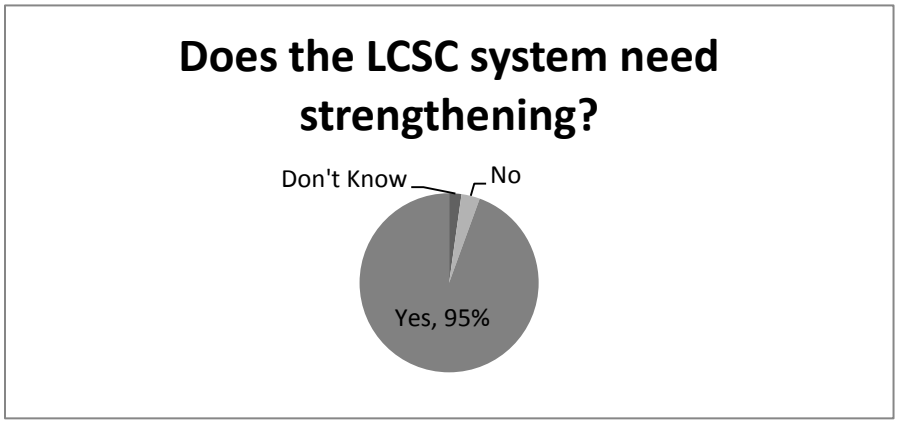

Figure 15. When asked directly, nearly all informants said the Trust needs to improve the LCSC system. Further probing revealed that people felt the representation needed to move from the sub-county level to the village level. (n=180).

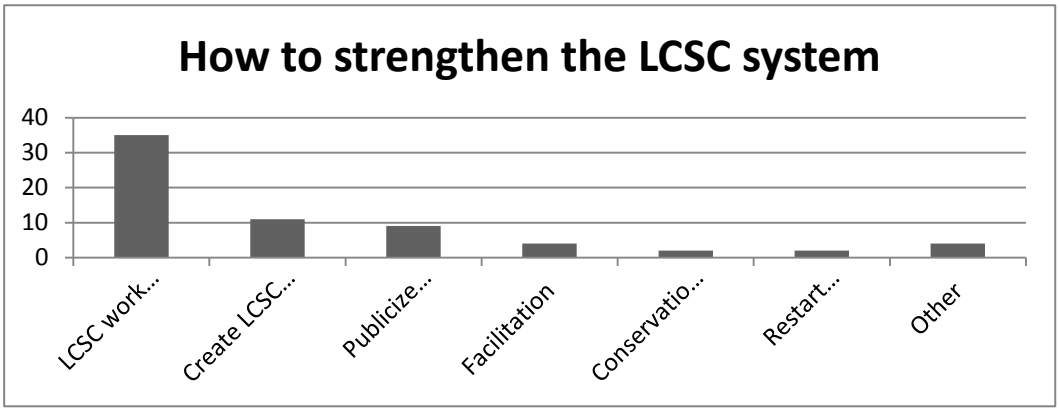

Figure 16. Most respondents felt devolving representation to the village level, oversight, and more LCSC governance awareness were the best ways to improve the LCSC system. (n=67).

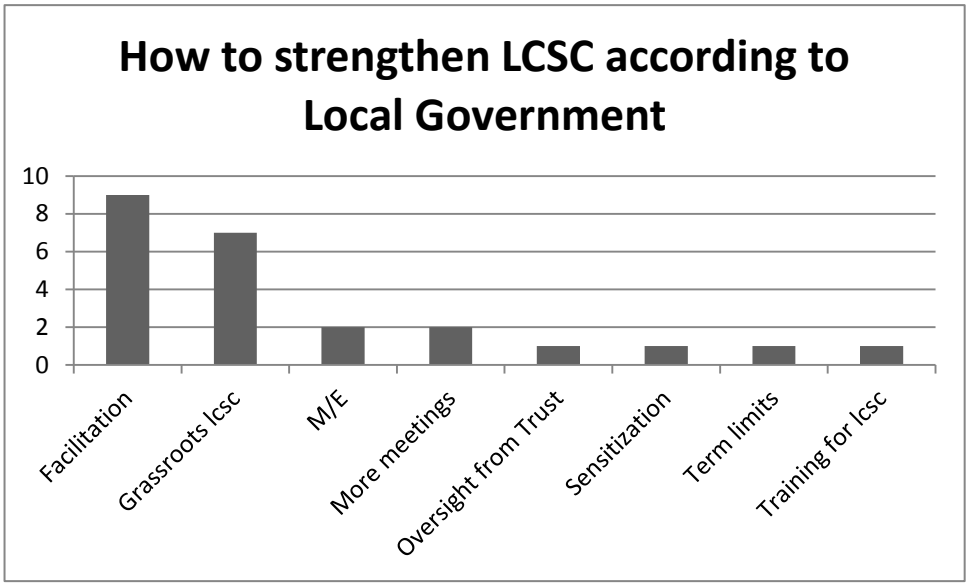

Figure 17. From local government's perspective, providing finances to existing LCSC members and devolving LCSC governance to the village level would improve the LCSC system. (n=24).

Applying Lessons Learned: BMCT Management Response

Governance challenges and policy suggestions are much easier to identify and recommend than to actually implement. The Trust has, overall, done a good job in developing a system of representation that avoids government influence and is financially balanced with providing communities with funds to implement projects. Their response to the findings of the study of the LCSC system reflects this: "BMCT uses the existing local government structure and even the social sector like churches to publicise the projects. During project selection the civil society as well as the local government elected officials at parish level and the government extension staff are involved in project identification appraisals and final selection with the approval by the LCSC for projects... I believe the rigorous process this involves can be improved but everything has been done to make transparent and inclusive of all the target communities (Mwine, pers comms)." Although the study found areas for improvement, the Trust is conscious of the need for good governance and the need to apply adaptive management when weaknesses are found.

Two of the main challenges with projects in general addressing governance issues is that it is time consuming and very costly. Is it feasible to set up an expensive system of representation when only one livelihood project per 5000 people is allocated? For the Trust, the two challenges that the study has highlighted to be addressed include local representation and local oversight. Below outlines the suggestions to BMCT to address these governance challenges.

1. Renovate the LCSC system. Given funding constraints, developing an LCSC system down to the village level seems unlikely. Thus, the Trust needs to:
    a. Improve LCSC transparency and monitor activities

   b. Impose term limits on LCSC
   c. Facilitate LCSCs to hold regular meetings with LC1s and stretcher groups
2. Develop a governance component for the M/E system. Ensuring the Trust practices good governance is key for long-term sustainability of projects. Although the Trust does engage in good governance, there are cases that came up during our interviews that suggest a system to monitor projects and staff would help ensure this. Consider the following:
   a. Are key stakeholders involved from decision-making to project design to implementation to monitoring?
   b. Are benefits equitable and free of corruption/elite capture?
   c. Attending meetings does not equate to meaningful participation
   d. Make transparent the system for choosing and awarding livelihood projects
   e. Have beneficiaries been involved in sourcing materials?

In part because funding constraints do not allow for grassroots LCSC representatives at the community level, we are also recommending that the Trust scale back their livelihood project activities and focus on projects with broader impact that can include communities in decision-making. Those that still impact household livelihoods might include trade schools, savings and loans trainings, and agricultural/animal husbandry trainings.

Conclusion

The principles of good governance are the foundation for ICD and must be embedded within the operations and activities of ICD practitioners. However monitoring and evaluation efforts tend to focus on conservation and rural development impacts of ICD, omitting governance. This typically involves evaluating whether the ICD approach has reduced unauthorised resource use or improved the socio-economic wellbeing of local beneficiaries. The lack of monitoring on governance issues limits our understanding of successes and failures of ICD with the result often being recommendations that ICD projects need to be better targeted towards the poor and marginalised. While improving ICD targeting is important, ensuring that local stakeholders are engaged in the decision-making process and feel a sense of ownership of projects is vital for the long-term success of ICD.

For ICD practitioners, establishing a strategic direction on governance is the first step towards embedding good governance within operational activities and projects. As a major ICD practitioner of Uganda's mountain gorilla national parks, BMCT has established good governance principles within its policies and now, after 15 years of operations, seeks to determine whether these principles have been achieved. As well as providing an essential knowledge-base from which to assess BMCT impacts on national park conservation and poverty, assessing governance aspects of BMCT projects will indicate how well BMCT is performing as an ICD practitioner.

This study showed that most local stakeholders perceived that they are involved in BMCT projects, which demonstrates that BMCT has achieved a good level of stakeholder participation and local ownership of BMCT projects. The study also showed that stakeholders placed a high value on their participation in BMCT projects, which indicates the importance of governance issues to BMCT project success. However the study identified a barrier

preventing villagers becoming involved with and benefiting from BMCT activities. Therefore BMCT delivers its principles of good governance when projects are funded although, before that stage when villagers are to propose projects for funding, the LCSC system needs improving to ensure that opportunities to benefit from BMCT projects are equal and that BMCT can have greater impacts on rural development and national park conservation by reaching the poorer villagers neighbouring the national parks.

Monitoring and evaluating governance can be difficult, particularly to understand power relations between stakeholders and how powers are exercised. This study employed attitude surveys to determine the perceptions of respondents on two aspects of governance – involvement with decision-making and project ownership. While attitude surveys are a starting point to more complex social research, this survey identified a key barrier to BMCT projects that can now be addressed and, in doing so, demonstrates the importance of assessing stakeholder perception on governance. Nonetheless, to fully understand governance within the context of ICD and national park conservation, there is a need to develop simple and robust measures for ICD practitioners to examine governance issues related to their operational performance and project implementation.

9. IMPROVING POLICY AND PRACTICE OF LINKING NATIONAL PARK CONSERVATION WITH POVERTY ALLEVIATION

Linkages between national park conservation and poverty alleviation are positive and negative. Positive linkages are the contribution that conservation efforts make towards poverty alleviation and the benefits that poverty alleviation activities generate for national parks. Negative linkages occur when the establishment and maintenance of national parks exacerbate poverty and when economic development activities contribute towards biodiversity loss (Roe and Elliott, 2005).

Establishing a Conservation-Poverty Alleviation Policy Framework

A starting point for achieving conservation though poverty alleviation is the policy change needed for conservation policy to take better account of poverty concerns, for development policy to take better account of biodiversity concerns and for both to pay attention to human rights. In this chapter, we described developments in Uganda's conservation policy framework. Uganda has established a framework for achieving convergence between conservation and poverty alleviation objectives, and has complemented its policies with laws and institutions to achieve the convergence. Furthermore, its policies define the government's aim to redress the inequitable distribution of costs and benefits of national park conservation and facilitate interventions to simultaneously pursue conservation and poverty alleviation objectives.

The Historic Context of Natural Resource Management

We assessed how the historical context of national resource management influences issues currently faced by national park managers. In Uganda these included community norms and individual beliefs regarding natural resource use, local expectations of assistance by authorities to reduce crop raiding by wild animals and local perceptions of ownership of the national park. Therefore, understanding historic relations between communities and authorities during different periods of natural resource governance, and how local people perceive their livelihood links to natural resources, will facilitate dialogue and learning on conservation-poverty linkage in order to promote best practice to policy-makers and practitioners.

Livelihoods and Wellbeing

Another consideration is that, while policies for national park conservation are changing to better articulate pro-poor approaches, the management of national parks remains founded on law enforcement regimes to reduce illegal activities. Overcoming this legacy of historic natural resource management by moving away from concepts of 'crime' and 'illegality' is vital for national parks such as Bwindi where the aim is to align conservation efforts with poverty alleviation activities. Our approach is to define unauthorized resource use as an indicator of the different needs and uses of a national park by people, and of the governance challenges and limitations of national park management to balance people's needs with biodiversity conservation.

Evaluating Governance

Finally, surveys of local attitudes towards national park conservation are useful to help gauge success of conservation efforts. Evaluating governance however, is vital to understand ICD success because whether poor people conserve or over-exploit biodiversity is dependent on specific circumstances and contexts – particularly the influence of governance (Roe and Elliott, 2005). Yet despite recognition of the need to engage local people in national park conservation, evaluations of whether good governance has been achieved are rare. This leaves conservation authorities with no benchmark to measure the governance aspects of their work, particularly on communications with local communities and the power relationships that dictate decision-making.

Summary

Therefore, there are many challenges to achieving conservation through poverty alleviation. ICD is an approach for national park management to link conservation action with poverty alleviation, particularly by addressing local people's needs while reducing the resource use behaviours that threaten conservation. In this chapter we described identified key

factors to overcome the challenges and illustrated these with case studies of Uganda and Bwindi. For efforts such as those in Uganda to continue improving the policy and practice of conservation through poverty alleviation, promoting dialogue and fostering learning on conservation-poverty linkages is more important than ever.

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