

# COMMUNITY CONSERVATION RESEARCH IN AFRICA Principles and Comparative Practice

## Working Papers

Paper No 10

### COMMUNITY CONSERVATION AT MGAHINGA GORILLA NATIONAL PARK, UGANDA

by

**W.M ADAMS AND MARK INFIELD**

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# **Community Conservation at Mgahinga Gorilla National Park, Uganda**

## **1. Introduction**

This paper is based on research at Mgahinga Gorilla National Park, in south-west Uganda, in March and April 1998 by Bill Adams Mark Infield. The paper discusses the fieldwork carried out, the impacts of evolving conservation policy on local people and the nature and impacts of community conservation initiatives.

Mgahinga Gorilla National Park was created in 1991. It contains a range of montane forest and non-forest vegetation, a range of animal species (including the Golden Monkey), and is visited frequently by groups of Mountain Gorillas, which cross the border from adjacent parks in the Democratic Republic of Congo (Parc National des Virunga) and Rwanda (Parc National des Volcans) (Butynski and Kalina 1993). The park consists of the Ugandan slopes of three inactive volcanoes (Muhavura, Gahinga and Sabinyo), which lie in a line from E-W along the Rwandan border. The slopes of these mountains below the park boundary are intensively cultivated and densely settled by Bufumbira people (plus a few rather beleaguered Batwa (Kingdon 1990)). Agriculture is intensive and permanent, and land is in short supply and very expensive to buy. The area now within the park has a complex history of boundary demarcation, and as a result a somewhat difficult history in terms of relations with local people (Wild and Mutebi 1996).

## **2. Aims of the Research**

The aims of the study were to consider:

- 1) the nature of the developmental and conservation problems which community conservation activities have sought to address;
- 2) the forms that community conservation initiatives have taken and the range and activities of the institutions involved;
- 3) the socio-economic impact of the creation of the park on surrounding communities;
- 4) the socio-economic impact of community conservation initiatives in surrounding communities;
- 5) the attitudes of people in surrounding communities to the park and the institutions involved in community conservation;
- 6) the effectiveness of community conservation initiatives.

### 3. Methods

A range of qualitative social survey techniques were used with local communities in Parishes surrounding the park, with local development institutions in these Parishes and in Kisoro, and other engaged institutions in Kabale and Kampala. The work was facilitated by the Chief Warden and Wardens of Mgahinga Gorilla National Park, but it was made clear to all interviewees that the research was separate from the work of the Park. All interviews were conducted by both researchers together, with one leading the interview and the other recording responses. Some interviews, and all work with local communities, were conducted through an interpreter, David Nkuriyigoma.

#### 3.1 Village Group Meetings

##### 3.1.1 Selection of Communities

Three Parishes (LCII) border the MGNP, Gisozi (Muramba Sub-County), and Rukonge and Gitendere (Nyarusiza Sub-County). These are the focus of the CARE ‘Development through Conservation ‘ (DTC) project, and the Park’s revenue-sharing programme. A further six Parishes in turn border these immediate neighbours (Bunagana, Muramba and Soko in Muramba Sub-County, Mabungo and Gasovu in Nyarusiza Sub-County and Rutare in Chahi Sub-county). These 9 parishes comprise the area on which the Mgahinga Bwindi Impenetrable Forest Conservation Trust (MBIFCT) targets its work.

Interviews were carried out in selected Local Councils (LCI’s; or ‘villages’) in five of these nine parishes, the three bordering the park and two of those neighbouring these ‘border parishes’. It was felt important to address the situation in these ‘outer-neighbours’ since it was clear that while community conservation activities were focused in those closest to the park, the impacts of park creation were more widespread. Indeed, the impacts of the creation of the park, in the form of through eviction and related issues of resource access, extended beyond the nine Parishes discussed here, although the scope of this study precluded work further afield.

LCI’s were chosen by selecting one LCI randomly from a list in each Parish, and choosing its immediate neighbours towards and away from the Park boundary. The following LCI meetings were held:

Gisozi Parish:	Kibande, Mugwata and Gishonderi LCI’s
Rukonge Parish:	Mugwata, Kabaya and Nyagihenge LCI’s
Gitenderi Parish:	Kabande, Mwanjari and Ruchantege LCIs
Soko Parish:	Mataba, Muora and Gasuri LCI’s
Mabungo Parish:	Burakeye, Gasenyi and Nshora LCI’s

In addition to these meetings, a further three group meetings were held:

Women’s’ group,	Rukonge Parish
Women’s’ group,	Gitendere Parish
Batwa people,	Rukonge and Gitendere Parish.

### 3.1.2 Procedure

The LCI meetings were preceded by meetings with each Parish (LCII) Chairman. During these meetings, the aims and scope of the research were explained, and the Chairman was himself interviewed about the history, development and problems of the Parish (see below). The Chairman was then asked to ‘mobilise’ the relevant LCI Chairmen to invite 10 people of mixed age and gender to a meeting 48 hours ahead. The meetings opened with an explanation of the reasons for calling the meeting (a research programme in several African countries by Manchester, Cambridge, Zimbabwe and AWF), an assertion of the independence of Bill and Mark from the MGNP, and the fact that the records of the meeting would be used for research purposes only and not passed on to government authorities.

The meetings themselves used methods informed by RRA/PRA/PLA techniques, including timelines, ranking exercises and Venn diagrams. The meetings should not be considered genuine PRA exercises, since they did not form part of a development process, and had no immediate outcome except the acquisition (and export) of knowledge. As issues were discussed, they were represented on a board (written on cards and large sheets of paper pinned to a board). The results of the research (ranking scores etc.) were therefore to some extent shared. The process might be called ‘interactive learning’, rather than PRA. The meetings generally took about 2 hours. Each meeting ended with thanks and an opportunity for questions.

### 3.1.3 Themes

The meetings concentrated on the following themes:

*1) History of the village:* A timeline was attempted using a line drawn horizontally along the top of the clean board. The position of Ugandan independence was established (1962), and an attempt was made to establish the origins of the community and major events before and after that time. This was the only part of the meeting that proved problematic, with people reluctant to identify dates and apparently uncomfortable about discussing the past (except for the recent Rwandan fighting and evictions from the National Park). We tried doing the timeline at a later stage in some meetings (thinking perhaps it was too obscure or awkward a beginning), but the problems remained. We did not establish exactly what the constraints on this historical work were, but we suspect the problem to be that some communities may have contained members that came from Rwanda during the past century and they feared repatriation. Perhaps they also feared that telling us when they arrived in their village and when forest clearance ended might reveal a short tenure and perhaps preface further evictions. Thus in Gitendere Parish, after discussion of ‘fighting’ in 1937/1940 the Parish Chairman enjoined participants to ‘tell the truth’; the facilitator reported that some people were talking of people coming from Rwanda while others denied this, fearing that ‘something might happen’. In later meetings we dropped the timeline.

*2) Livelihoods:* This work fell into two parts:

- Discussion to identify the main sources of subsistence or income, and a ‘bean-counting’ ranking. (Each source of livelihood was named and identified in a cartoon drawn on a card pinned to the board; this was then lifted down, and each

person had 10 beans to allocate between squares drawn on the board next to the cards). The beans were counted, and the resulting scores discussed or confirmed.

- Discussion of each source of livelihood in turn, in terms of the resources on which they depended, and any problems or constraints in obtaining them. Each of these was written and drawn on the board, thus building up a visual picture of livelihoods, resources and problems.

**3) *Institutions:*** The meetings was asked to identify who, or representatives of what organisations, came to the village to help them or work with them, and also who they went out to see. This took two forms. First, the importance of organisations was assessed. As organisations were mentioned, they were named and drawn on a card pinned on the board. Once the list was complete, their importance or usefulness to each person's household was assessed using the bean-ranking method. Bean piles were counted and discussed. Second, the accessibility of organisations was assessed. The group as a whole was asked how accessible each named organisation was, using an adapted Venn diagram method. The cards were removed and then pinned around a core card of the village with their distance away representing their availability to people or their frequency of visit. This usually worked quite well, if somewhat noisily.

**4) *Use of forest resources before the creation of the National Park:*** Those at the meeting were asked to cast their minds back to the time when they had access to the resources of the forest, and to itemise these resources. It is likely that they interpreted this to mean the area of the National Park from which they were evicted in 1992. Once identified, each resource was written and drawn on a card and pinned on the board in between a card for the village and for the forest. These were then ranked using beans, counted and discussed. For each resource, the meeting as a whole was asked where they obtained it, or a substitute for it, now.

**5) *Benefits and costs of the National Park:*** The symbol of the forest was overlain by one for the park, and people were asked to identify first the problems created by the park (drawn on cards and pinned up) and then the benefits of the park (drawn on cards and pinned up). The meeting as a whole was asked to identify the most important problem.

#### **3.1.4 Language and Interpretation**

Our interpreter was skilled and careful. He is a man of considerable personal authority in the area, but is not a neutral figure. He was LCII Chairman in Rukonge for more than 10 years (and had recently sought election for LCIII Chairman), and was a member of the MGNP Park Management Advisory Committee (PMAC). Respect for his position might have affected what people said at the meetings.

However, it is unlikely that this added to the more general problem that these communities have been very extensively engaged by conservation and development organisations using PRA methods in recent years. Village groups showed themselves remarkably aware of the issues being researched, and coherent (even organised?) in presenting a story. Questions to the researchers showed considerable awareness of possible implications of the knowledge being acquired (either positively, e.g. pleas about compensation, or negatively, in fears that our survey might be connected in

some vague way with further evictions or loss of resources). Of course, we took every opportunity to seek to allay such fears, but they may have significance for the research. There are no data with which to assess this significance.

### **3.2 Key Actor Interviews**

Interviews were also held with the following people:

*a) Local Community*

LCII Chairman, Rukonge Parish, 17 March

LCII Chairman, Gitendere Parish, 17 March

LCII Chairman, Muramba Parish, 20 March

LCII Chairman, Soko Parish, 20th March

Committee of Amajambere Iwacu Community Campground, Ntebeko, Gisozi Parish, 28 March

*b) National Park*

Chief Warden and Community Warden, MGNP 16 March

Law Enforcement Warden, MGNP, various times 20-27 March

Ranger Guides and Trackers (4), 18 March

Community Conservation Rangers (2) 19 March

Law Enforcement Rangers (4) 27 March

*c) Other Organisations*

Director and Assistant Director, CARE 'Development Through Conservation' Project, Kabale, 23 March

CARE DTC Field Officer (Mgahinga Community Training Centre, Rukonge) 24 March

District Population Officer, Kisoro, 18 March

District Agricultural Officer, Kisoro 25 March

Administrator and Deputy Administrator, Mgahinga Bwindi Impenetrable Forest Conservation Trust 23 March

Coordinator, International Gorilla Conservation Project, Kampala, 28 March

## **4. The Mgahinga Gorilla National Park**

### **4.1 Environment and Conservation Value**

The residual forests of Mgahinga Gorilla National Park (MGNP) form part of once continuous forest cover, identified by ecologists as the Albertine Rift Afromontane Region Forests, across what is now SW Uganda, the western parts of Rwanda and Burundi and eastern Zaire. In recent centuries, clearance of these forests for agriculture has been extensive (Hamilton 1984, Butynski and Kalina 1993). During the twentieth century the rate of deforestation has been rapid, and the area within MGNP now represents one of a small number of remaining fragments of forest.

MGNP covers 3,400 ha, and abuts the much larger Parc National des Virunga in the Democratic Republic of Congo and Parc National des Volcans in Rwanda (Butynski and Kalina 1993). The vegetation follows broadly altitudinal zones, with an alpine zone (with giant *Senecio* and lobelia) above a subalpine or Ericaceous belt (moorland and tree heather forest) at the top of the mountains, with montane forest (*Hagenia - Hypericum*) and extensive bamboo forest (*Arundinaria alpina*) below it. The vegetation belts are variable on the three mountains, with Muhavura having an extensive area of subalpine grassland. Below the bamboo zone, evergreen forest zone would once have occurred extensively, but this has been largely cleared for agriculture (Uganda National Parks 1996). The plant species list for MGNP stands at 276 species (Uganda National Parks 1996).

It is believed that the MGNP forests served as a faunal refuge during the late Pleistocene arid phase. Its species diversity is thought to be high, although recording is incomplete. Some 39 species of mammal have been recorded, and over 89 are suspected to occur (Uganda National Parks 1996). These include eleven primate species, most notably the mountain gorilla (*Gorilla gorilla beringei*) and the golden monkey (*Cercopithecus mitis* sp.). Werikhe (1991) found 8 groups of gorillas, totalling 42 animals. They mainly used the bamboo zone, particularly in the months February-April and September-December.

### **4.2 History of Conservation Activity in the Mgahinga Forests**

#### **4.2.1 Boundaries**

The present boundaries of Mgahinga Gorilla National Park are aligned on previous Forest Reserve and Game Reserve boundaries. The history of boundary changes is complex. A Game Sanctuary was Gazetted in 1930 (3,370 ha), and a Forest Reserve was superimposed (with the same boundaries) in 1939. There was thus dual authority in the reserved area. However, communication and collaboration between the Game and Forest Departments was very limited, and effective conservation efforts within or outside the forest boundary was slight until the 1980s, when international interest in the mountain gorillas in this location developed.

In 1951 the Forest Reserve was reduced in size from 3370 hectares to 2330 hectares and re-gazetted, to meet growing demand by the local people for more land for cultivation (Werikhe 1991, p. 5). Settlement of the excised area followed, and was not opposed by the Game Department. There was a small extension to the Forest

Reserve in 1963 to 2450 ha, with the inclusion of a small District Council Forest. The Game Sanctuary was re-gazetted as a Game Reserve in 1964, and its boundary was extended approximately to the 2,280m contour, to give a total area of 4,750 ha, . This included an area 'largely cultivated and settled' (Werikhe 1991, p. 4). However this new boundary was not demarcated on the ground, and residents were not informed or evicted (Uganda National Parks 1996). Given that this area was already so extensively converted for agriculture, it is not clear why it was designated.

Accounts of the creation and management of the park and its predecessor protected areas refer to three zones. Zone 1 comprises the area never extensively cleared for agriculture or settled (notionally the 1951 Forest Reserve boundary); Zone 2 comprises the area cleared and settled after 1951 (i.e. land removed from the Forest Reserve in 1951). This Zone was cleared of settlement and agricultural use was stopped on declaration of the National Park in 1991. Zone 3 comprises the land within the extended 1964 boundaries of the Game Reserve; this land has long been settled, and settlement here has at no time been challenged.

The 1954 Forest Act, and 1967 working plan for the Forest Reserve, allowed consumptive use of resources within the Reserve for domestic use only. Such use included harvesting of non-planted trees (for timber, bark, charcoal, fruits, seeds), and harvesting of honey, grass, litter, soil, stone and gravel (Werikhe 1991). There were also 80 bamboo licenses (each to cut 900 bamboo stems). However, fires, agriculture and livestock grazing were illegal. In practice there was little state control over any form of human use except for reserved and planted trees and bamboo cutting in agreed coupes (see below).

The Game (Preservation and Control) Act 1964 stipulated that nobody should reside, cultivate land or graze in a Game Reserve except by permission of the Chief Game Warden. No hunting was allowed without a special permit (Werikhe 1991). In practice these activities were not strictly controlled in Mgahinga Gorilla Game Reserve. When the Forest Reserve was reduced in area in 1951, 'no apparent consideration was made of the fact that Zone 2 was part of the Gorilla Sanctuary since 1930' (Werikhe 1991, p. 156-7).

Until the 1980s, there was a long history of lax controls on resource use within the forest, and of non-cooperation between Game and Forest Departments. However, in the 1980s there was growing international engagement with the threat of forest clearance to the mountain gorilla. At Mgahinga, Berggorilla & Regenwald Directlive e.V. supported a Warden, who began to tighten control of human activities within the Park. When the National Park was gazetted, all human use of resources within the park became illegal.

#### **4.2.2 Evictions from the Mgahinga Gorilla National Park**

When the National Park was gazetted, there was extensive settlement (over 200 resident households, plus many more farms) within its boundaries, which ran along the original Game Sanctuary/Forest Reserve boundaries. There was also extensive use of the park's forests by local people. Although a variety of local uses of resources are recognised, three had particular importance: the collection of bamboo for bean poles, the collection of water in the dry season (from swamps high on the Rwanda border),

and grazing. In addition, the park was traversed by numerous heavily-used paths to Rwanda (Werikhe n.d., 1991).

Werikhe identified 12 major footpaths through the forest, affecting 85% of the reserve (Werikhe 1991)<sup>1</sup>. He estimated that over 17,000 people travelled through the reserve between January 1989 and January 1990 (3.6 per day per path), including smugglers, people visiting relatives, sick people going for treatment and labourers seeking work in Rwanda. Most were smugglers. Poaching equipment was found in 17 blocks (63%), and beehives and livestock in 8 blocks (30%). Livestock were confined to the lower edge of the reserve, where the forest had been cleared. Werikhe (1991) estimated that 34,000 bamboo stems were being cut (illegally; although this was less than the Forest Department licenses had formerly allowed to be cut) each year, and he also recorded evidence of tree cutting (although not pit-sawing at the time of his survey), fires and firewood collection.

More seriously from the point of view of gorilla conservation, Werikhe's survey also showed agricultural encroachment on 3 sq. km. of the lower part of the reserve, most of it at Nyakagezi. Here the encroachment had continued since 1977. Eviction notices had been served by the Forest and Game departments, but not followed up, and people had remained. Werikhe himself facilitated the removal of these 'encroachers' in 1991. Despite the existence of staff on the ground (1 Forest Officer, 1 Forest Guard, 5 Forest Patrolmen, a Game Warden and 13 Game Guards) there was effectively open access to Zone 1, and a 'lack of control' (Werikhe 1991, p. 137). Illegal acts were condoned, and bribes were offered and accepted for smuggling and grazing.

Werikhe's original survey showed 1500 people in 272 households lived in Zone 2 in 1991<sup>2</sup>. Three household had lived in this area before it became a Gorilla Sanctuary. Some 26% of respondents surveyed had been given land by the Forest Department between 1920 and 1979, but 71% claimed to have inherited land, presumably from pre-existing residents. People in Zone 2 started buying land in 1950 (Werikhe 1991). 58% of residents in Zone 2 had been born there. Werikhe suggested that this 'persistent encroachment' on Zone 2 was the result of 'lack of adequate law enforcement by the Game Department' (Werikhe 1991, p. 172-3). He argued that those utilising the encroached area of Zone 2 were 'aware of their status', and 'could be relocated if somewhere suitable could be found' (Werikhe 1991, p. 176). Werikhe suggested that a National Park should be created, and Zone 2 reclaimed to increase the numbers of gorillas using the Park, and their length of residence.

The Uganda National Resistance Council proclaimed the Mgahinga Gorilla National Park in May 1991. The EDF provided technical support to the Uganda Government for the creation of this and other parks (notably Bwindi Impenetrable). A planning team visited the area, and held a variety of consultations, before recommending establishment of the Mgahinga Gorilla National Park (Yeoman *et al.* 1990). It is estimated that 1773 people in 272 households were dwelling in Zone 2 at this time, with 680 people cultivating land in Zone 2 but living elsewhere (Werikhe n.d.). A population of 4020 non-resident people from 6 parishes and Kisoro and Kabale towns were partially supported by land in Zone 2 (Werikhe n.d.). There were 113 houses, 2 bars, 4 stores and a church within the zone (Werikhe n.d.).

Unsurprisingly, the creation of the park with this boundary was not popular locally, either with residents or their political leaders. A Memorandum of Agreement was signed in June 1992 following hostility on the part of local people, and political action by important local figures. It was agreed that all farmers and residents would leave the park, and in return that Uganda National Parks would work out some kind of scheme for paying 'compensation', would seek donor support to improve agricultural self-reliance in Zone 3, construct a road, and build an air strip<sup>3</sup>. A payment scheme was agreed and the park was cleared of people and all resource use (and access) was stopped. Accounts of the compensation process suggest that 158m Ug. Sh. was paid out in compensation<sup>4</sup>. Average compensation was US\$27 per person, ranging from US\$1200 to US\$6 (Cunningham *et al.* 1993). Compensation was paid for physical structures and permanent crops and trees, but not for land.

Clearly, some residents and land users in Zone 2 at the time of eviction were relatively recent arrivals. Equally, some had inherited their land there, and had been resident for a long time (at least since 1951, and some before). The legal position seems to be that once the land had been declared a Game Reserve, *all* those resident there were legally 'encroachers', however long they had resided there and whatever the basis for their land claim. They were all 'untitled' land holders, and traditional tenure was not recognised under the law. The new owners (initially the Game Department, latterly Uganda National Parks) only had a legal requirement to offer compensation for fixed structures and improvements, and not for the land itself (since legally the people had no right to be there). Furthermore, apparently the law simply requires that an offer of compensation is made and accepted, not that this compensation is 'adequate'. The *de-jure* situation, therefore, is that people in Zone 2 were 'encroachers', and were compensated for improvements. The local perception is that they had acquired the land properly and had a right to it (which, *de facto*, they had been allowed to enjoy for many years by the state), and that the compensation was inadequate, especially in that it was insufficient to allow replacement land to be acquired. A possible further complication is the possible existence of larger land-holders not themselves resident in Zone 2, but with clients farming land within it. It is not clear whether such land tenure arrangements existed (although they would not be unusual of post-independence Kigezi (Carswell 1997)), and if so, who received whatever compensation was paid.

## 5. Community Conservation at Mgahinga Gorilla National Park

### 5.1 Community Conservation Organisations

Community Conservation initiatives at Mgahinga have been developed by a series of organisations.

#### 5.1.1 CARE DTC

An international NGO, CARE Uganda, has included Mgahinga in its 'Development through Conservation' (DTC) Project. The Mgahinga work forms an adjunct to a much larger programme in the much larger number of parishes neighbouring Bwindi Impenetrable Forest National Park further north, and is similar to CARE International's Integrated Conservation and Development Projects elsewhere, for example in Madagascar (Kauck 1997). The DTC Project began in 1988 at Bwindi, but at Mgahinga only in November 1992, at the time of the evictions from the newly-created National Park. The Project was funded to 1998 by USAID.

CARE's work has proceeded through a programme of 'Participatory Needs Assessment' in local communities. Initially its work focused solely on the park-boundary parishes, but in 1993 it began to work also with the Park itself, developing institutional capacity. A Technical Officer was appointed to serve both parks, and the 1995 Mgahinga Gorilla National Park Management Plan was prepared with CARE support.

In 1994 it was decided to appoint a field assistant in 'Mgahinga Zone' (one fifth of the overall DTC Project), to free the Community Conservation Rangers from having to do agricultural and forestry extension work. The Mgahinga Community Training Centre was built in 1995 in Rukonge Parish to serve the whole DTC 'Zone' of three park-boundary parishes. One field assistant and three field workers work from it. The main focus is on agriculture (with extension work on cabbages, Irish potatoes, climbing beans and passion fruit), tree planting (*Grevillea*, *Casuarina*, *Pinus patula*) and agroforestry (*Sesbania*, *Calliandra*). Particular projects include development of a potato store suitable for household use, promotion of composting and seed multiplication work with farmers' groups.

CARE has also been a leader in promoting 'multiple use' at Bwindi and Mgahinga, i.e. consumptive use by local people of renewable resources within the park (Cunningham *et al.* 1993, Wild and Mutebi 1996, 1997). At Mgahinga, farmers have been allowed in on several occasions to collect bamboo rhizomes, and plans are advanced to allow bee hives to be re-established in the forest (see Section 5.2 below). 'Multiple use' has developed further at Bwindi. Such arrangements for use are controversial. Some international gorilla conservation organisations are firmly opposed to allowing access for local people (while not necessarily rejecting a controlled harvest and programmes of product substitution and compensation). DTC staff report a markedly greater enthusiasm for local access for consumptive use within UWA among conservation Wardens and Rangers than among Enforcement Wardens and Rangers.

CARE has invested in Mgahinga and its surrounding communities in a number of other ways. One is in funding the construction of the 'Buffalo Wall' to prevent crop raiding by park animals (see Section 5.2 below); another providing funds for the rehabilitation of the road to the park gate. However, the vision of the current programme is to relate the specific initiatives to a wider commitment to regional sustainability. New ideas include suggestions for an institutional framework to coordinate the planning and management of all natural resources at district and regional level in Uganda (Stakeholders Working Group 1997).

DTC has made quite heavy investment in rehabilitation and new construction of a piped water scheme to bring water from a swamp within the park and distribute it through the settlements of adjoining parishes (and hence obviate the need for people to penetrate the park in the depths of the dry season). Water supply problems have consistently been rated as important in CARE's Participatory Needs Assessment work with communities, and is seen as having real conservation potential by providing a tangible benefit to justify creation of the park. This water supply scheme is discussed further in Section 5.2.

### **5.1.2 Uganda Wildlife Authority (UWA)**

The Uganda Wildlife Authority (UWA) has an office in Kisoro, staffed by a Chief Warden, and Wardens for Community Conservation, Law Enforcement and Tourism. The Community Conservation Warden directs three Community Rangers, one allocated to each Parish immediately adjoining the Ugandan Park boundary. These rangers are recruited from the boundary parishes. They do various kinds of work, mobilising people with and for CARE DTC, and offering improving lectures and exhortations of many kinds. The National Park Staff take the lead in organising the PMAC and the revenue sharing and extractive use programmes, and organised the creation of the buffalo wall (see Section 5.2).

### **5.1.3 Park Management Advisory Committee (PMAC) and Park Parish Committee (PPC)**

UWA has established a Park Management Advisory Committee (PMAC), which brings together various governmental, non-governmental and local interests to discuss major issues from time to time. The MGNP PMAC has seven members, two from each Parish and the Senior Warden. Other interested parties (including all development NGOs, researchers and local government officials) are ex-Officio members. The cost of PMAC meetings is considerable (500,000 Sh.Ug. per meeting, to cover accommodation, transport and 'lunch'). This expenditure is not covered by revenue sharing funds, but from the Park's own budget, or more generally from project funds. In theory the PMAC meets quarterly. In practice meetings occur when external donors (particularly CARE) manage to make them happen.

Each Parish adjoining the Park has a Park Parish Committee, whose Chair is a member of the PMAC. The PPC should also meet Quarterly. In theory, it approves revenue-sharing projects, and then sets up a Project Committee to oversee them. In practice, there is currently only one project in each Parish.

#### **5.1.4 Bwindi Trust**

The Mgahinga Bwindi Impenetrable Forest Conservation Trust (MBIFCT) is an independent Trust set up with capital (US\$4m) from the Global Environmental Facility now invested offshore (and worth US\$5.4m in March 1998). The Board of Trustees include three local people, and representatives from national and international organisations. The Board meets 3 to 4 times a year. The Trust's aim is to accumulate sufficient capital so that it can provide long-term funds for community projects around the two parks. If the funds are allowed to accumulate unspent until 2002, there will be enough capital to provide US\$ 0.4m per year for projects in perpetuity.

Sixty per cent of MBIFCT funds support local projects, 20% support the work of the two Parks administrations (e.g. paying for a photocopier and rangers' clothing at Mgahinga) and 20% for research (through the Institute for Tropical Forest Conservation).

The Trust works in parishes two-deep around the borders of the two parks. The greater size of Bwindi means that only eight of the 37 parishes that are potential targets for their funds lie around MGNP. To date the Trust has about 30 ongoing projects, one in each of five Mgahinga Parishes (plus most of those at Bwindi), which it runs through local committees. The Trust has a permanent technical staff based in Kabale, its operations funded by USAID (1995-7) and the Dutch Government (1997-2002). There are two Community Project Officers. As an initial exercise to spread news of the Trust, 3000 questionnaires were sent out, and 4700 replies proposing projects were received. From these a short-list of 150 were drawn up and the 50 best were selected by the local community steering committee. On the ground, MBIFCT establishes a Local Community Steering Committee to oversee projects. Grants range from Ug. Sh. 0.5m to 5m. Projects include community projects such as schools and clinics, groups projects (e.g. cement water catchments) and business projects (e.g. bee-keeping).

#### **5.1.5 Other Donors**

The European Development Fund has been a major development donor around Mgahinga. It has been involved in several projects, including the water scheme (Section 5.2) and construction of a Health Centre. Efforts were made to link these projects to the national park in the minds of local communities.

#### **5.1.6 International Gorilla Conservation Programme (IGCP)**

The IGCP is a collaboration of Fauna and Flora International, the African Wildlife Foundation and the Worldwide Fund for Nature, and coordinates work throughout the range of the Mountain Gorilla, in Uganda, Democratic Republic of Congo and Rwanda. IGCP has been a leading actor in the development of gorilla tourism, and has been involved in the development of the Ugandan gorilla parks and the creation of MBIFCT. It has had an active programme in Uganda since 1992, and holds quarterly regional meetings for Wardens of the four gorilla parks. Gorilla tracking began formally in 1993 at Bwindi and in 1994 at Mgahinga. The notion to begin came from the Ugandan government; IGCP's role has been a technical input to identify and habituate gorilla groups, and train trackers.

## 5.2 Community Conservation Action

### 5.2.1 Extractive Use

The idea of allowing local consumptive use of resources (particularly plant resources) from Ugandan forest National Parks is now well established (Wild and Mutebi 1996, 1997; Cunningham 1996). At Mgahinga, a range of kinds of use have been considered:

Extractive use of bamboo has taken place legally from the land now within the MGNP in the past. Bamboo cutting was unrestricted in either the Forest Reserve or the Game Reserve before 1951 (Cunningham *et al.* 1993a). Cutting was stopped between January 1950 and January 1955, to stop 'overcutting' and encourage the establishment of bamboo clumps on farms. In June 1955 a series of four extractive coupes were designated with view to their being cut in rotation every four years, and 80 basket-makers were registered by the Forest Department. In 1960 the Game Department instigated a shift from the four coupes on Mgahinga to four on Sabinyo (Cunningham *et al.* 1993a). All cutting of bamboo was stopped on the creation of the MGNP.

The 1996 MGNP Management Plan proposed establishment of a multiple-use programme for resources within the National Park. A 'multiple use zone' was identified, stretching 500m within the park boundary (20% of the total area of the park). This followed extensive participatory research on the demand for, and probably environmental impacts of, such use (Cunningham *et al.* 1993; Uganda National Parks 1996). It was proposed that the programme should include provision of bamboo rhizomes, harvesting of water from the park through a water scheme, beekeeping, harvesting of medicinal plants and collection of spear grass (Uganda National Parks 1996). In response MGNP staff have begun to develop a programme of controlled access to the park by farmers from adjoining parishes for the collection of bamboo rhizomes for planting on farms. Plans for more extensive resource-sharing programmes, for example the extraction of materials for making string and medicinal plants, and the placing of honey barrels (Cunningham *et al.* 1993) are less well advanced. Progress with extractive use has been slower at Mgahinga than at Bwindi.

- **Bamboo Rhizomes:** An ethnobotanical survey of the MGNP was carried out in 1993 (Cunningham *et al.* 1993). In late July 1993, a request was made to the Director of Uganda National Parks for 600 rhizomes for farmers in the three neighbouring parishes<sup>5</sup>. In November and December 1993, 111 farmers collected 284 rhizomes from the Park on seven days<sup>6</sup>. This was followed up by the Community Rangers, and by the Multiple Use Team. A further collection in November 1984 yielded 219 rhizomes for 64 farmers<sup>7</sup>. By 1998, over 200 homesteads had been supplied with rhizomes, and bamboo clumps are springing up on farms (Hammett 1998). Some 2000 rhizomes had been supplied<sup>8</sup>. The 1996 Management Plan allowed harvesting only until 1997 (i.e. 1993-7), but the slow growth of stands on farms may restrict farmers' ability to supply further rhizomes from this source. In 1998, farmers still wanted rhizomes from the park, particularly in Gitenderi (the Parish most affected by the disturbances in Rwanda, and where farmers had been least organised to take advantage of the availability of

rhizomes). The Management Plan revision noted that the programme to monitor the impacts of the harvest was not well organised (Hammett 1998).

- **Honey:** A 'Mgahinga Beekeepers Cooperative' met on 10 January 1997, and resolved to place hives in three agreed spots within the 500m 'multiple use' zone, to identify members to supervise the hives, and to make visits together, to minimise human presence in the park, and to report all illegal use of the park. It was agreed that the number of hives placed would be equivalent to the number at present (about 120)<sup>9</sup>.
- **Spear Grass and Medicinal Plants:** The Management Plan envisages organised arrangements for access to the 'multiple use' zone for collection of spear grass and medicinal plants, but this has not progressed. The Chief Warden is waiting and watching experience at Bwindi, where despite positive assessments of the potential (e.g. Wild and Mutebi 1996), experience suggests that extraction of vines is greater than agreed limits, and hard to monitor in terms of who enters the park and for how long. Fear of the presence of *interahamwe*<sup>10</sup> within the park is restricting demand for access for consumptive use.

### 5.2.2 Buffalo Wall

A lava-block wall has been constructed along the northern two thirds of the Park boundary (approximately 9 km) as a protection for park neighbours against crop raiding. Crop raiding was identified as a problem for farmers adjacent to the park boundary at an early stage, particularly as buffalo numbers rose as they re-colonised the abandoned farmland in Zone 2. The wall was built by local people using local materials, on payment of money for 'lunch' (250 Ug. Sh per metre for supervision by the LCI Chairmen, and 1500 Ug.Sh. per metre for the builders). The wall was funded by CARE. The wall serves both to demarcate the park boundary, and to stop buffalo from raiding crops (which it does successfully, although it is no barrier to porcupines; or indeed people). The final 2km was not built because the money ran out, but in this sector the problem of buffalo is small, because gullies prevent buffalo gaining access from the forested area. Completion of the wall would cost Ug. Sh 3m.

### 5.2.3 Water Supply

The Mgahinga area has a seasonal rainfall, with rainy periods approximately in March/April and October-December. June and July is dry. Average rainfall is about 1650mm per year (Werikhe 1991), but there is considerable inter-year variability. The deep porous volcanic soils do not retain water through the dry season<sup>11</sup>. There is therefore no water table at a depth accessible for hand-dug wells (or apparently tubewells), and apart from one or two springs in Gisozi Parish, water in parishes adjoining the Park is obtained from streams draining from the Park. These, however, do not run throughout the year. In the dry season, it has long been necessary to collect water from swamps within the park (Kazibake, Nkanda, Kashinge, Rwamise, Kavumu and Nyagiheta). Declaration of the park ended access to these, and necessitated an arduous trek to a lake below Kisoro town<sup>12</sup>.

An attempt was made in 1940 to extract water from Kabiranyuma Swamp (on the ridge West of Mt. Muhavura, on the Rwanda border) using a system of ditches, but it was ineffective because of infiltration. In 1949 a concrete channel was constructed, but washed out (CARE 1997). In the 1950s the Kabiranyuma Water Scheme was developed to bring water in ditches and pipes from Kabiranyuma Swamp to a large

tank in Rukonge Parish, but it fell into disrepair as maintenance declined (the number of maintenance workers falling from 15 to 3 in the 1970s). An important objective of the Park Management Plan was therefore to re-establish secure water supplies for villages below the park, with minimal environmental disruption.

In 1958 a small supply was installed from a spring at Chuho (outside what is now the park). In 1987 the Chuho spring was connected to the old Kabiranyuma tank, allowing local people to obtain water. However, by 1998 access was hazardous, demanding a climb of 10m up the outside of the raised tank and dipping water through a hole in its roof. In 1994 the CARE-DTC project and UNP installed a small water scheme to serve Gisozi Parish (the Nyakagezi Water Scheme, Uganda National Parks 1996). A larger project, to rebuild the Kabiranyuma Water Scheme, is now being developed, using 41.6 km of pipes, nine reservoir tanks, 11 break pressure tanks and 60 tap stands (CARE 1997). CARE are implementing the project, with funding is from UNICEF and EDF. By April 1998, the supply system through the park was complete, but the distribution system was behind schedule and not built.

#### **5.2.4 Road Construction**

Two roads serve the MGNP, the road from Kisoro to the Park Entrance at Ntebeko, and a second from Kabindi (on the Kisoro-Ntebeko Road) to Kabyiranuma (Muhavura Camp). The rehabilitation of these roads was an element in the MGNP Management Plan, and a budget of 41m Ug. Sh. was identified in 1995 (replacing a 1992 budget of 14m Ug.Sh.)<sup>13</sup>. The District recognised the development value of these roads (as indeed did the farmers: ‘opening of these roads will not only promote tourism in the area but will also offer farmers easy access to marketing areas for their produce’<sup>14</sup>). Construction used District plant and local labour to break rock and clear bush. By 1996, lack of a rock layer to stabilise the road was becoming apparent. By 1998, access after rain even in a 4-wheel drive vehicle was precarious.

#### **5.2.5 Revenue Sharing Programme**

UWA has a revenue sharing programme. From 1993-4 20% of gorilla trekking permit fees were allocated to revenue sharing in the two ‘gorilla’ parks. From 1995, 12% of all visitor-derived revenues from the gorilla parks were placed into a revenue sharing fund. However, MPs inserted a clause in the Act setting up UWA (formed by a merger of National Parks and Game Department) stipulating that all parks should share 20% of gate receipts. For the gorilla parks, gate receipts represent a small fraction of overall income from visitors (\$12 for park entry compared to \$150 for a gorilla trekking permit), and a decline in the amount of visitor income to be allocated to revenue sharing has resulted (from approximately \$20 to \$2 per tourist in March 1998).

In theory, park gate revenues must be sent back to Kampala, and can then be re-allocated. Owing to institutional problems following the problematic restructuring of UWA, provision of funds from Kampala is currently unpredictable. In practice, therefore the Park currently retains all visitor takings, only sending to Kampala any surplus on its agreed budget income (up to 9 m Sh.Ug. per month). Equally, 4 of the 6 Mgahinga Gorilla Tracking Permits may be booked in Kampala, and are usually quickly snapped up by tour companies and foreign Kampala residents. This money does not reach the Park.

However, the Park (and hence the PMAC) does not have access to much of the money collected between 1993/4 and the creation of UWA, since it went to Kampala and never returned. In theory a sum of about Sh.Ug.20m should have accumulated for revenue sharing projects, but in fact the current sum in view is Sh.Ug.12m, and less than Sh.Ug. 5m has actually been spent. The first disbursement of Sh.Ug. 7m was made on 23 October 1997 (an event attended by the then UWA Executive Director).

Revenue sharing money is supporting the construction of a classroom block in a Primary School in each of the three Parishes immediately bordering the park. The plan is for a total of 12 million Uganda Shillings to be found for these community projects. To date, Sh.Ug. 2.312m has been allocated to Rurembe Primary School, Sh.Ug. 0.87m to Rukongi Primary School and Sh.Ug. 1.92m to Gisozi Primary School<sup>15</sup>. This is popular and seen to be significant by local people. There seems to be no local perception yet that revenues on this scale may not be available in the future, and hence that this level of investment may not be sustainable.

## 6. Conservation and the Local Economy

### 6.1 Historical Context

There is no doubt about the scarcity of and consequent demand for land in Kisoro District at the end of the twentieth Century. This pressure reflects the long-standing process of forest clearance for land in this part of what is now Uganda, and in particular the rapid clearance of land during the Twentieth Century in Kigezi (Carswell 1997). Early in the C20th, Kigezi people were producing a surplus, and selling it outside the area, usually illegally: beans, peas, beer, were all exported. The chief feature of colonial policy at this period, and its chief failing, was an obsession with 'economic' or 'cash' crops. Of course, as Carswell observes, in Kigezi food crops *were* cash crops, but the colonial government either did not notice, or saw in this a perverse failure to engage in a sensible formal commodity economy that they could identify with; they certainly did not measure what was grown or sold. Government attempts to introduce coffee, tobacco, flax, black wattle and cereals failed. The search was for a crop that 'would cover the cost of transport' (p. 58). The foods traded on the informal economy did that, of course, but they did not count.

From the 1930s, the other great concern of the colonial state was soil conservation. In Kigezi, there were relatively well-developed indigenous soil conservation practices, involving fields along the contour, brush lines, cultivation of legumes and simple terrace formation: as Carswell remarks, 'at the time of the arrival of the British the Bakiga agricultural system was highly adapted, suited to local conditions and sustainable' (p. 77). In place of the resistance to state-imposed soil conservation programmes familiar elsewhere in East Africa, there was a considerable measure of agreement between the strictures of the District Agricultural Officers (DAO) and local practice. Nonetheless, colonial commentators in the 1930s predicted dire consequences for the future due to overpopulation and soil erosion. The success of the resulting programmes is attributed to the indigenous base of conservation methods, the gradual introduction of new ideas (and the comparatively open mind of the DAO, Purseglove 1944-53), the emphasis on incentives and propaganda, and the way in which the Chiefs were involved in organising and leading the Kigezi scheme (Carswell 1997, p. 130). By the later 1940s 'most of the soil conservation work was a matter of routine' (Carswell 1997, p. 105).

Attempts to obtain historical information from group meetings in the field were not successful (see methods above), but some information was obtained. The agricultural frontier seems to have closed in the parishes adjacent to the park before the Second World War. Settlement was said to have begun in Gitendere in the 1870s, with scattered homesteads by 1900. Rukonge Parish was said to be open grazing with scattered trees in 1933, but by the end of the 1930s was extensively cultivated. People stopped immigrating from Rwanda at this time, and the government recommended people with too little land to emigrate to other districts. In 1941-45, the County Chief requested more land for agriculture because of this emigration. In Gitendere there was said to be fighting between Batwa and Bahutu in the early 1940s. By 1960s all forest in Gitendere was cleared, and by 1962 people had begun farming above the village

(i.e. Zone 2, within what is now the MGNP); land shortage was reported at the same date in Rukonge. There were famines in 1942-3, 1962 and 1984<sup>16</sup>.

## 6.2 Population

The population of Kisoro District in 1991 was 186,681. The growth rate was estimated to be 3.53%, giving a population of some 228,000 in 1997 (Data from 1991 Census). The populations of the parishes adjacent to the park are given in Table 6.2.1. They show a disproportionate number of women, reflecting male outmigration to find work, to Kisoro town, to other rural destinations and (most importantly) to Kampala. Population densities in the Parishes around Kisoro are about 301 people per sq. km; those in the parishes bordering the park are 369 people per sq. km<sup>17</sup>.

**Table 6.2.1 Population by Parish, 1991**

	Parish (Sub-County)	Males	Females	Total 1991
Inner Parishes	Rukonge (Nyarusiza)	2181	2570	4751
	Gitenderi (Nyarusiza)	2263	2771	5034
	Gisozi (Muramba)	2791	3530	6321
Outer Parishes	Mabungo (Nyarusiza)	2136	2435	4571
	Gasovu (Nyarusiza)	1935	2290	4225
	Rutare (Chahi)	2252	2631	4883
	Muramba (Muramba)	3505	4554	8059
	Soko (Muramba)	2392	3004	5396
	Bunagana (Muramba)	1937	2469	4406

## 6.3 Livelihoods

Agriculture was indicated by the groups interviewed as the dominant source of income in all parishes (Tables 6.3.1. and 6.3.2). In the inner parishes (Table 6.3.1) it was followed in importance by livestock, paid employment, and trading/marketing. In the outer parishes lack of grazing land means that livestock keeping was less important.

**Table 6.3.1 Livelihoods in Inner Parishes**

Livelihoods	Rukonge %	Gitendere %	Gisozi %	Average %
Agriculture	61	58	59	60
Trade	11	14	3	10
Livestock	11	12	20	15
Employment	9	15	18	14
Marketing	7		0	2
Craft Work			0	0
Poultry			3	3

**Table 6.3.2 Livelihoods in Outer Parishes**

Livelihoods	Soko %	Mabungo %	AV %
Agriculture	82	56	69
Trading	14	15	15
Livestock	4	9	6
Employment	0	8	4
Marketing	0		0
Craftwork		3	2
Coops/Credit and Savings		8	4

Women's views of livelihood options were somewhat different (Table 6.3.3). Agriculture was still seen to be the most important, although less dominantly so. A wider range of activities were important, including craftwork and participation in the credit and savings cooperative (of which all respondents were members).

**Table 6.3.3 Women's' Livelihoods**

Livelihoods	Rukonge women's group %	Gitendere women's group %	Av %
Agriculture	34	44	39
Trading	14	8	11
Livestock	8	12	10
Employment	0	2	1
Marketing	0		0
Beekeeping			0
Craftwork (mats)	26	9	18
Coops/Credit and Savings	18	19	18
Traditional Healers		6	3

## 6.4 Agriculture

Agriculture around Mgahinga is diverse and intensive. Beans, sorghum, maize, Irish potatoes and sweet potatoes are the main crops on lower ground, with Irish potatoes and wheat up nearer the park boundary. Bananas are grown, and are expanding, particularly at lower altitude. Rain falls in every month, but particularly in the period April-May and October- January.

Crops are grown on large mounds, and crop residues are incorporated to act as compost. Crops are rotated, and several crops are grown a year. Yields are locally said to be falling: estimates of Parish Chairmen suggested that yields had fallen by a quarter over 20 years. Nonetheless, data from the District Agriculture Office Kisoro suggest yields are still reasonable compared to other regions (Table 6.4.1).

**Table 6.4.1 Recorded Yields, Kisoro District 1995**

Crop	Area (ha)	Yield (tonnes per ha)
Beans	6800	1.0
Field Peas	550	0.5
Maize	4700	2.0
Sorghum	5600	1.2
Wheat	600	2.0
Irish Potatoes	5000	7.5
Sweet Potatoes	2800	5.0
Bananas	2000	40.0
Cabbages	450	20.0
Tomatoes	300	25.0
Onions	170	1.2
Total	28,970	

Source: Food and Agriculture Statistics in Kisoro District, Department of Agriculture, Kisoro District, 26/9/96

Ranking of importance of the requirements for and constraints to agriculture placed the supply of land first, followed by tools, seed, knowledge and capital (ranked 2), then labour, manure, availability of markets and technical support (ranked 3). These were followed in order by fertiliser, stores (bamboo stores being virtually unobtainable following the end of the bamboo harvest in the forest) and insecticide.

Particular agricultural problems included the following:

- Land Shortage (NB this was vociferously cited as the main problem everywhere, although in Gisozi some people ranked 'lack of capital' as high, reflecting the fact that with money more land can be acquired).
- continuous cultivation is causing reduced fertility (shortage of land forced continuous cultivation).
- too much or too little rain
- theft of crops from the field
- Storage: no money to buy stores; need bags for storage; problem of theft from grainstores, hence need to store in bags in huts.
- Pests - insects destroying crops and no money to buy pesticide
- Seeds: lack of improved seed varieties; harvesting beans before they are dry means no seed crop for next year
- Tools - are expensive and of poor quality (they break)
- lack of knowledge: Ministry of Agriculture is not effective
- Fertiliser - no money to buy it (young man at Gisozi said in English 'In my opinion fertiliser is there but too expensive, and again they do not know how to apply them')
- Manure - not able to make enough manure for all fields
  - Land is fragmented; some fields are distant and so it is difficult to carry fertiliser
  - Poverty means there are few livestock and hence no manure
  - Not enough time to leave manure on fields for it to be effective (fallow needed)
  - Gitendere reported lack of knowledge of making manure
- Mulching grass not available because of grazing; heavy rains wash away soil and manure
- Labour: poverty prevents them employing people, although they are there; only some elderly people use wage labour
- Capital: 'no money' (Gisozi, in English)
- Markets: big markets exist but hard to get transport to sell large quantities

## 6.5 Other Sources of Income

- **Grazing** was reported to be constrained in all villages by lack of grazing areas, and by lack of money with which to buy stock. Every meeting claimed that loss of access to grazing in the park was a key problem. One progressive farmer was experimenting with penned pigs, but clearly the keeping of all livestock (especially cattle) had declined. The cost of veterinary drugs was a problem, as was access to water in the dry season.
- **Paid Employment** opportunities were constrained by lack of jobs, contacts to find jobs, and the cost of transport to reach urban areas. Local labouring work was limited because of the poverty of potential employers. It should be noted that a significant source of food for the Batwa is in payment for field labour for local farmers, particularly by women for women.
- **Trading** (chiefly in agricultural produce) was limited by lack of capital, and poor access to larger markets. Few motor vehicles serve the villages further from Kisoro and nearer the Park, and without them it is impossible to buy produce locally and take it in larger quantities to sell in Kisoro. Women's brewing of beer is constrained by lack of water in the dry season.
- **Craft work** requires raw materials that are harder to get now that access to the Park is prevented. Men need bamboo for making baskets and granaries, and this can now only be obtained by those few people with farm bamboo clumps, or from Echuya Forest Reserve, some 50Km away on the Kabale road. Women similarly now cannot obtain grasses from swamps in the Park, and have to buy them from Kisoro.

## 6.6 Use of Forest Resources

Questions were asked about the products drawn from the forest in the days before the creation of the Park (Tables 6.6.1, 6.6.2 and 6.6.3). The most important resource in almost every case was 'food' (*ubuhinzi*), i.e. agricultural produce (Table 6.1.1). In the Inner Parishes, this was followed by bamboo, grazing and water, and in the Outer Parishes by homes, water, bamboo and firewood. Women saw water, bamboo, grazing and firewood as the most significant following agriculture. Water was obtained from swamps within the Park, and there was widespread hope for the new water scheme to provide a decent local supply. Until that arrived, most villages faced a huge trek for domestic water in the dry season. It is worth noting that in Mabungo there are few stones, so they needed to go higher on the mountain to find stones for building.

The number of people affected by the shortage of forest resources was assessed at Soko Parish (crudely, through a show of hands). All those participants in the meeting had lost land and suffered from lack of water and firewood, half had suffered from lost grazing and access through the mountains to Rwanda. One man had collected bamboo, medicinal plants and meat. Nobody present had actually lost their homes (Table 6.6.2). Clearly in several instances people were reporting general usage of resources rather than their own household consumption. In Mabungo everyone who was able to go to the forest went to cut bamboo.

**Table 6.6.1 Importance of Different Forest Resources, Inner Parishes**

	Rukonge %	Gitendere %	Gisozi %	Av. %
Food	46	73	54	57
Grazing	20	11	5	12
Water	18	11	2	10
Bamboo	8	0	31	13
Firewood	4	2	3	3
Thatching	2	0	0	1
Beekeeping	2	2	4	3
Med. Plants	0	1	0	0
Homes	0			0
Stones		0		0
Meat			2	1
Grass for Mats			0	0
Paths through the mountains			0	0

**Table 6.6.2 Importance of Different Forest Resources, Outer Parishes**

	Soko %	Soko: how many?	Mabungo %	Av %
Agric/Food	81	all	63	72
Grazing	0	half	1	0
Water	0	all	17	9
Bamboo	0	1 man	8	4
Firewood	0	all	7	4
Thatching				0
Beekeeping	0	none	0	0
Med. Plants	0	1 man		0
Homes	19	nobody		10
Stones			0	0
Meat		1 man	3	2
Grass for Mats		all women	1	0
Paths through mountains		half		0

**Table 6.6.3 Importance of Different Forest Resources, Women's' Groups**

	Rukonge Women's' Group %	Gitendere Women's' Group %	Womens' Av %
Agric/Food	51	48	71
Grazing	17	8	17
Water	16	21	28
Bamboo	8	13	16
Firewood	8	11	14
Grass for Thatch	0	0	0
Beekeeping	0	0	0
Med. Plants		0	0
Homes		0	0
Stones			0
Meat		0	0
Grass for Mats	0	0	0

Substitutes are not readily available for resources formerly derived from the forest now in the National Park. Bamboo is now bought from Echuya Forest or Kisoro, or elephant grass is used as a substitute. Firewood is obtained from planted eucalyptus or sorghum stalks. In Gisozi those without enough land for trees (i.e. without rocky land not better used for crops) are forced to buy charcoal in Kisoro. Medicinal plants are now unavailable. Grass for mats is now available only from Kisoro Market. Food can be stored in sleeping huts, but this is no substitute for a proper bamboo grain store.

The Batwa people relied almost exclusively on forest resources for subsistence, and as the agricultural frontier rose up the mountain, they drew these resources from the area within what became the Park. An important part of their subsistence is (and was) in the form of food from non-Batwa farmers in return for labour. In addition they depended on hunting meat to eat and sell, cutting firewood and making string and other products from forest plants (Table 6.6.4). The most important products of the forest for money were meat, honey and firewood.

**Table 6.6.4 Forest Products, Batwa Groups**

- string (*emise*) and firewood to sell (women's work)
- building poles to sell
- wild honey
- meat (*ifumbe*) to sell and as a basic food, especially *ipongo* [bushbuck]; used spears for buffalo; also bows and arrows, and hunting dogs with bells.
- mushrooms
- bamboo (for building and string)
- grass for mats (women's work)
- spear grass for thatching
- livestock - sheep, goats, chickens; sold for money; animals given to a new child; also slaughtered for the ancestors.

There were clear patterns of forest resource use by gender in the Batwa community. Cultivation was predominantly done by women, as was making and selling mats and collecting fungi. Collecting honey and hunting for meat were men's work, as was building houses (bamboo and thatching grass). Both men and women cut firewood, men brought string when returning from hunting but making string was women's work, while men cut poles and women carried them (Table 6.6.5).

**Table 6.6.5 Importance of Different Forest Resources, Batwa Group**

Resource	Men	Men %	Women	Women %	Total
Food	10	12	16	18	26
Firewood	8	9	11	12	19
String	5	6	12	13	17
Poles	7	8	6	7	13
Honey	15	18	1	1	16
Meat	13	15	7	8	20
Mat grass	2	2	37	41	39
Bamboo	16	19	1	1	17
Thatching	9	11	0	0	9
	85		91		176

## 6.7 The Impact of the Park on Resource Use

### 6.7.1 Problems of the Park

The problems caused by the creation of the Park led people to draw out from the resource uses of the past the issues that had impacted upon them most severely (Table 6.7.1, 6.7.2, 6.7.3). Categories were suggested by the groups themselves, leading to a number of overlapping categories between groups and even within groups, as different people used different terms to express similar losses. No attempt was made to standardise the ways in which impacts were recorded. In the Inner Parishes, the largest impacts were seen to be eviction for the land (28%) and the inadequacy of compensation (26%), the resulting poverty (16%) and hunger (14%). In Gisozi, 5-6 people out of the 20 present claimed to have had houses within the Park, while 12 had land. Compensation was not enough, and people left to Bunyoro or elsewhere. ‘Those not capable of migrating are left with small plots that may not even be productive’ (old Man, in English). Other problems were mentioned, including ‘harassment by Rangers’, which appeared to be that they prevented people from entering the Park (as indeed their jobs required them to do)<sup>18</sup>.

**Table 6.7.1 Problems of the Park, Inner Parishes**

	Rukonge %	Gitendere %	Gisozi %	Av %
Poverty	49	0		16
Crop Raiding	8	4		4
Eviction/famine	8	35		14
Compensation	35	42	0	26
Harassment by Rangers			4	1
Interahamwe		15		5
Famine			0	0
No resources			0	0
Eviction from land			83	28
Eviction from homes			17	6

In the Outer Parishes, and in the Women’s Groups, similar responses were obtained, reflecting lack of the resources previously enjoyed, and resulting poverty and hunger. Both Soko and Mabungo also claimed that ‘*interahamwe*’ hiding in the Park were a threat, stealing things at night<sup>19</sup>.

In Soko Parish, some people were said to have got too little compensation money, while others got nothing. It was claimed that those that carried out the exercise were not fair because they gave to some and not to others. People were told the money was finished and they would go for more, but they never came back. Payment was Sh.Ug. 7000. per acre, which was not enough. Only half of those with land got some compensation; half got nothing.

In Mabungo Parish, most people had land in Zone 2 (allocated by Chiefs), but nobody resided in Zone 2.

**Table 6.7.2 Problems of the Park, Outer Parishes**

	Soko %	Mabungo %	Av %
Poverty		0	0
Crop Raiding	0	6	3
Compensation	3		2
Interahamwe	9	16	13
Famine	85	50	67
No resources		15	7
Emigration (and death)	3		2
Grazing Area lost	0	0	0
Shortage of Land		0	0
No water		13	7

**Table 6.7.3 Problems of the Park, Women's' Groups**

	Rukonge Women's group %	Gitendere Women's Group %	All women %
Poverty		21	10
Crop Raiding		0	0
Compensation		29	15
Interahamwe			0
Famine	41	22	32
No resources		0	0
Eviction from homes		0	0
Eviction from land		0	0
Grazing Area lost	13	0	7
No water			0
Shortage of land	40	28	34
No firewood	6		3

The Batwa group had suffered a perhaps predictable series of losses following closure of the Park to resource use (Table 6.7.4).

**Table 6.7.4 Problems Brought by the Park, Batwa Group**

- no firewood
- no string
- no honey
- no bamboo
- no meat
- no food
- no grass for mats (if money this can be bought in the market)
- loss of houses in the forest - this was the largest problem (strong response)
- no land for cultivation
- Biggest problem is shortage of land - nowhere to build and nowhere to plant crops.

## 7. The Impact of Community Conservation at Mgahinga

### 7.1 Benefits of the Park

#### 7.1.1 Institutions and who comes to the village

Groups of respondents recognised most of the known organisations in the area (Table 7.1.1, 7.1.2, 7.1.3). Scores reflected both the visibility of the organisations, and their perceived contribution. In the Inner Parishes, CARE received the highest score, followed by the Ministry of Health and the Water Development Department (reflecting the perceived importance of the Kabiranyuma Water Scheme). The organisations connected specifically with the Park (Park, PMAC, PPC) did not score particularly highly, although when probed they were recognised and the availability of the Community Rangers was acknowledged<sup>20</sup>.

Venn Diagrams were used to attempt to separate out the accessibility of different organisations. This was most interesting for what it revealed about the Park Parish Committees (PPCs) and the Park Management Advisory Committees (PMACs). In Rukonge the PPC was placed in the group of organisations closest to the village, while the PMAC and Park fell in the second group. In Gitendere the PMAC (with CARE DTC) were listed in the second group of organisations, with the Park in group 3 (its appearance at all on a diagram of organisations ‘helping’ the village being vocally disputed). In Gisozi, the Park was recognised, but placed as far away as possible from the village (although this Parish’s contacts with the Rangers were frequent), reflecting the loss of land to the Park. MBIFCT was only recognised in Rukonge Parish “because we see their vehicles passing by”, and then only following prompting.

**Table 7.1.1 Institutions, Inner Parishes**

Institutions	Rukonge %	Gitendere %	Gisozi %	Av %
CARE	27	7	42	25
PMAC	26	0		9
PPC	16	0		5
Researchers	12	10	4	9
Tourists	6	0	6	4
EDF	5	0	3	3
Min Health	5	34	13	17
Park	3	3	0	2
Vet	0	0	1	0
Min Agriculture	0	0	16	5
RDC		12		4
Local Defence Unit		4	2	1
Water Dev Dept	50	35	14	12
Min Education		14		5

In the outer parishes, none of the Park institutions were noted (Table 7.1.2). Respondents chose to focus on the work of the Ministry of Health (immunisation, family planning, health/sanitation advice) and the Ministry of Education (free primary schooling). MBIFCT vehicles had driven through Mabungo, and tourists “just waving good morning.”

**Table 7.1.2 Institutions, Outer Parishes**

	Soko %	Mabungo %	Av %
CARE		5	2
Tourists	0		0
EDF			0
Min Health	75	20	48
Vet	0	0	0
Min Agric	0		0
Min Ed	22	55	38
Water Dev Dept.		16	8
Local Government	3		2
UNFA		4	2

The ideas of the two womens' groups about important institutions is interesting (Table 7.1.3). They were enthusiastic about the Ministry of Agriculture (seeds and advice), Muhavura Diocese (loans) and about the prospects of the 'Entandikwa' Ministry of Finance Loans scheme (from which they had not yet received money). This recognition of the importance of organisations giving loans reflects the fact that both women's groups were drawn from 'savings and loans' groups, and also perhaps the importance of access to cash loans for women, whose access to land and cash from farming is limited.

**Table 7.1.3 Institutions, Women's' Groups**

	Rukonge women's group %	Gitendere women's group %	Av %
CARE	14	3	9
PMAC			0
Researchers		0	0
Min Health	1	16	9
Park		0	0
Min Agric	30	44	37
UNFA	1		1
Muhavura Diocese	21		11
Entandikwa	32	38	35

## 7.2 Perceived Benefits of the Park

In Rukonge Parish, participants were initially reluctant to identify any benefits from the Park. After much loud debate it was agreed that roads and, more important, 'building schools' were significant. In Gitenderi Parish, it was claimed that the Park brought no benefits, but following prompting, it was agreed that revenue sharing had brought some benefit: some agreed that this was a benefit while others disagreed (strongly), saying that to agree would be 'to defend the Park'. Tourists had apparently brought no benefits. Gisozi Parish identified the value of the road constructed to the Park, revenue sharing (schools) and the water flowing from the Park in the Ntebeko stream.

Women in Rukonge perceived no benefits from the Park (although they knew of the revenue sharing classrooms, when prompted). In Gitendere the Group Chairwoman said 'revenue sharing'; she had a good understanding of the argument that tourists bring money, of which a percentage is taken and used for classrooms. The rest said the Park bought "no benefits".

Of the Outer Parishes, a number of benefits of the Park were listed in Soko Parish. First, because land is no longer cultivated in the Park the gullies draining Mt. Muhavura no longer deposit stones on the land and sweep people away; second one person was benefiting from employment; third, the road to the Park gate goes through the parish, and tourists buy from shops in Chibugu Market (food etc.). In Mabungo Parish, people said “only the nation benefits, the people do not”; noting that “tourists pay a fee to government, but nothing to the people here”.

The Batwa Group identified two benefits of the Park, first the creation of their two ‘schools’ (open air teaching by two teachers funded by the Adventist Alliance Development Association), and secondly the availability of tips from tourists for those who live near the park gates at Ntebeko.

### **7.3 Relations between Park and Local People**

The chief channel of communications between Park and local communities is through the Community Conservation Rangers. These are drawn from park boundary parishes, and in interviews suggested that the benefits of the revenue sharing (i.e. the construction of school buildings) were beginning to be reflected in the attitudes of local people. They hold regular meetings with people in the three park-boundary parishes, to mobilise them (chiefly to work on the schools), to inform them about aspect of the Park’s environment or activities, and to listen to their problems. They report problems back to the Conservation Warden, who if necessary takes them on to the PMAC. The Rangers also discuss any problems with the LCI and LCII Chairmen.

The Community Conservation Rangers are also responsible for organising access for local people to the park to collect bamboo rhizomes, and have been involved in selecting an area for the placement of beehives. They have also been involved personally in the development of the Amajambere Iwacu Community Campground in Gisozi Parish, and hence in the capture of tourist revenue for local people.

Enforcement of regulations in the Park is done by the Law Enforcement Warden and Rangers. They report much reduced levels of illegal entry and resource use by local Ugandan communities since the community programme developed. However, regular patrols were continued, particularly because of the international borders. In March 1998 Army units were also active within the National Park to safeguard the border.

Evidence on the problem of illegal activity and law enforcement within the Park were obtained from the Park’s Monthly Reports for the years 1991 to 1997. Data was collected on the level of law enforcement activity (number of patrols) and of illegal activity (number of people arrested, number of snares removed, and number of cattle or goats found in the park). It is difficult to draw any strong conclusions from this material as there were several gaps of three or four months in the reports and a lack of consistency in what was recorded and how the information was presented.

Table 7.4 does, however, indicate that there may have been a decline in the level of illegal activities in the park over time. The levels of arrests and snares removed during the years of 1996 and 1997 are low by any standards, and the reports suggest that many of these illegal activities were emanating from across the borders in Zaire

(now the Democratic Republic of Congo) and Rwanda, where civil disturbance was, and continues to be, high. The level of illegal use of the park by residents of the parishes around the park, then, would seem to have been low. It is not clear whether this is the result of the park's law enforcement programme, or of the various CC programmes. It is not even clear, unfortunately, whether these figures truly indicate the reality of illegal activities 'on the ground'. Dramatic changes in the levels of both illegal activities and patrols between months coincide with changes in park personnel, notably the chief warden, and may reflect changes in park management rather than changes in the behaviour of local communities.

Reported declines in the morale amongst park staff, resulting from removal of project paid bonuses or support or failure of UWA to pay salaries on a regular basis, may be expected to cause changes in the frequency and diligence with which patrols are carried out by park rangers. Such changes might explain changes in the level of illegal activities reported. Locating snares in the park, for example, requires a high degree of effort by rangers, and the numbers of snares found and removed might well be expected to fluctuate with the level of staff commitment.

The level of other illegal activities recorded in the monthly reports was also surprisingly low given the importance of certain park resources suggested by interviews with both communities and park staff. Attempts to collect water by community members were indicated in the reports by occasional entries recording the confiscation of jerry cans for carrying water. Reports, confined to the dry season, suggest that quite large numbers of people would enter the park together, sometimes over one hundred, but only a total of 8 reports were made. Only 7 reports were made of bamboo cutting (just over 1 a year on average), which is particularly surprising as community members reported that the restrictions of access to bamboo caused serious problems for them. Only one incidence of cultivation within the park was reported during the 6 years for which reports were available.

Despite problems of interpretation, the monthly reports seem to suggest a growing acceptance over the years of the restrictions imposed by the park authorities on community access to resources. This tends to confirm the effectiveness of the CC programme in helping to defuse tensions and persuading the communities to accept the existence of the park. It also suggests that the concentration of DTC's work on the provision of water and bamboo is appropriate.

**Table 7.4 Annual Statistics for Illegal Activity and Enforcement, Mgahinga Gorilla National Park**

	Patrols	Cows	Goats	Snares	Arrests
1992	-	452	905	1,757	49
1993	275	220	34	2,483	15
1994	363	49	37	453	2
1995	255	18	142	120	16
1996	191	1	0	87	7
1997	627	155	33	60	4

## 8. Discussion

### 8.1 Sustainability of Conservation Institutions

#### 8.1.1 Local Economic Benefits of the Creation of the Park

At Mgahinga, conservation faces a major challenge stemming from poverty, land hunger and the low-level resentment and sense of injustice of local people. A 'community conservation' approach has been developed to tackle this challenge. The potential negative impact of these problems on the legitimacy of the park (particularly local peoples' willingness to tolerate its imposition) are being kept at bay by spending money, through the community conservation programme. Some of this money is spent directly on community projects, some on maintaining the programme.

The benefits of the creation of the Park are enjoyed internationally, nationally and locally.

- 1) The international benefit stream arising from Park's contribution to the maintenance of the existence value of the gorillas (and potentially other species such as birds); this benefit is not captured to any extent in the form of money.
- 2) The national benefit stream arising from the non-consumptive use of gorillas through gorilla tourism. The financial benefits are enjoyed principally by the tour companies (whom the tourists pay) and the Uganda Wildlife Authority (who are paid for permits), although secondary benefits are shared by the government of Uganda (who gain foreign exchange from this prestige tourist activity), the citizens of Uganda (who presumably benefit from the government's income), and the many other businesses that are involved in tourism (from tour companies to photographic film processors).
- 3) Local benefits include:
  - money directed by the Uganda Wildlife Authority to 'revenue sharing'
  - employment for a few local people as Park Rangers, and others as 'porters' (i.e. labourers)
  - benefits for those able to profit from local tourist facilities (especially the members of the Amajambere Iwacu Community Campground).
  - the road from Kisoro to the Park Entrance in Gisozi Parish

The key element in local benefits from the park lies in the fees paid by tourists to UWA. Several activities are available to visitors to MGNP: a free evening birdwatching tour, and four walks and gorilla tracking for which they must pay (Table 8.1). Almost all visitors are foreign nationals, the majority non-resident. Almost all wish to see gorillas, and relatively few choose to undertake walks. The importance of the high gorilla tracking fees is clear. There is one group of habituated gorillas at Mgahinga, although they frequently depart to Zaire for extended periods. Six people can track them per day. If all those were non-resident foreign nationals, this would give a potential income of Sh.Ug. 810,000 per day, or (assuming 20 days with resident gorillas a month), Sh.Ug.16.2 m per month or Sh.Ug.194m per year. This is the equivalent of \$US 704 per day, or \$US16,900 per month<sup>21</sup>. This substantial sum is put into some kind of context by the salaries of Wardens' (US\$80-100 per month) and Rangers (US\$40-50 per month).

**Table 8.1 Activity Fees, MGNP, 26 March 1998**

	Foreign Non-Residents	Foreign Residents	Uganda Citizens	Local Residents
Gorge Trail	22,000	17,000	4,000	3,000
Congo Border	28,000	21,000	5000	3500
Volcano Climbing	57,000	48,000	20,000	17,000
Caving	28,000	22,000	6000	4000
Gorilla Tracking	135,000	100,000	26,000	13,000

### **8.1.2 Local Economic Costs of the Creation of the Park**

The creation of the Park must have involved setting-up costs for the government in the form of consultancy, planning, legal and logistic activities. These costs are unknown. Unknown, too, is the annual running cost of the park, although it is clear that this is less than the revenue generated by tourist fees. The Senior Warden has negotiated a monthly budget of Sh.Ug. 9m.

The main costs of the park, however, have fallen on local people, in the form of:

1. loss of productive farmland (compensation was paid to the 'owner' - not necessarily also the occupier - at 10% of value)<sup>22</sup>
2. loss of property (houses and other improvements: compensation was apparently paid for these)
3. loss of grazing area
4. loss of flows of commonly used resources (bamboo, water, thatching grass)
5. loss of specialised resources (medicinal plants, sites for beehives).

### **8.3 The Sustainability of Conservation Investment**

Money for community conservation is coming from two sources, donor support and revenue from tourists. Donor investment reflects the current (post-Rio) international priority placed upon biodiversity conservation, and the huge symbolic importance attached to the mountain gorilla. Much of the investment (especially that of CARE) is addressed at tackling problems of poverty and low agricultural productivity that are common across Uganda, and appear to be achieving productivity/welfare gains commensurate with such projects. However, CARE's investment around Mgahinga is obviously linked to the existence of the park. This link is made directly and explicitly in all project documents and in communications with communities. Other donor investment in the area is also linked in this way. Revenue-sharing investment (e.g. in school buildings) has a less immediate economic benefit, although these are (perhaps quite rightly) valued extremely highly locally. The sums involved are small, but probably bigger than most other sources of community support, especially from government.

Community support for the park is therefore being bought through continuous investment in the community conservation programme, at a fairly steep price. The goodwill that all outside investment buys is directly related to the sustainability of the flow of revenue. This is dependent on two things. The first is the continued interest of donors (and the First World public whose expressed concerns they seek to respond to) in the 'biodiversity agenda', and especially forests and rare species such as mountain gorillas. The second is the buoyancy of the tourist economy.

The sustainability of tourist revenues as a source of income for both Park and local people at Mgahinga should not be taken for granted. Problems include the following:

- Tourist fee income is subject to powerful claims from UWA centrally to meet urgent institutional needs (or wants). Gorillas are seen as a 'cash cow' within UWA for its own institutional survival, and also to subsidise biodiversity conservation elsewhere (i.e. meeting UWA's national mandate). Gorilla tourism is also viewed more widely by the Government of Uganda as the first fruits of a much larger programme of tourist revenue generation.
- Tourist numbers are dependent on political stability in the region. Recently, regional instability has worked in Uganda's favour, because Rwandan Parks are closed, and the Congo border is intermittently closed. However, tourist arrivals nationally are not growing as planned, partly because of the regional picture. Moreover, Mgahinga lacks resident mountain gorillas, and would hence take a lower place in tour companies' priorities (particularly the elite end of the market) if a choice of 'gorilla trekking' destinations beyond Uganda were restored.

Community conservation at Mgahinga is therefore far from self-sustaining. It has achieved a remarkable job of finessing the controversial park boundaries, and buying time for the development of institutional mechanisms that can meet legitimate local economic needs and conservation goals. It is not clear how those institutions might be structured, nor who might be persuaded to consider what form they might take.

## **8.2 Local and National Communities**

This research suggests that there is poverty and land hunger (and also a *sense* of the threat of poverty and land hunger) in settlements close to the borders of MGNP. Hardship in many households is directly related to the loss of the park as a source of land for food production and (to a lesser extent) as a place of residence. It is also related to the inadequacy and/or inaccuracy of the 'compensation' paid (and, more widely, resentment at this loss and the inadequacy of compensation). All these represent considerable challenges to the legitimacy of the National Park in local eyes.

On the other hand, local people recognise the park's boundaries, aims and objectives, and know the identity of all the various actors involved in community conservation programmes. They recognise the potential economic benefits of the gorilla-related tourist industry, although also recognise that these benefits are focused on the main access road, and mostly captured by those with investments in infrastructure. Local people also recognise the value of the benefits of 'revenue sharing' in the form of investment in classrooms, and appreciate other investments (for example in the road and water schemes) and the value of the DTC agricultural advice.

However, none of these benefits are seen to fully compensate for the real and perceived economic costs of actual and prospective resource use within the Park area. Furthermore, all community conservation efforts are focused either on those parishes immediately adjoining the park boundary or those two-deep from the boundary, although it is likely that the negative economic impacts of the park's creation are felt more widely than this.

The experience of the engagement between conservation and local people at Mgahinga reveals a problem that has both theoretical and practical implications: how large is the community which a 'community conservation' programme like that at Mgahinga should serve? The land in the Mgahinga Gorilla National Park is now legally nationalised, and one argument would suggest that any revenues should be seen as national revenues, to be shared out at that level. Why should the people of Mgahinga benefit from the large gorilla-related revenues when many other equally poor communities around parks elsewhere cannot? At the same time, there is a view that the park's land morally still belongs to local people, as the continuation of the forest that they have been clearing for some generations. On this basis, local people need help (and arguably deserve compensation), so any revenues should be used for the local community. This is the conventional basis for many 'park-outreach' types of community conservation projects.

But who is in this 'local community'? In a region of reasonably recent agricultural settlement, and significant population shifts in and out in recent years associated with warfare, whose *de facto* or *de jure* property rights in the park's land, its wood and other resources should be recognised? If there are large and sustainable revenues to be derived from gorilla trekking, among whom should they be shared? There are many possibilities (Table 8.2), and each threatens to raise a political hailstorm of questions about fairness, justice, and need.

**Table 8.2**      **Who is the community?**

- the people of immediately adjoining parishes?
- people who can prove they once held land or other property within the Park, or everybody within these parishes?
- the destitute and landless Batwa or the merely poor Bufumbira land-holders?
- the whole of Kisoro District?
- UWA's less favoured national parks nationally?
- the central government Exchequer?
- the National Parks (or the people living around the parks) in Rwanda and Congo where the 'Mgahinga' gorilla groups were originally habituated?

Turning gorillas into a resource capable of yielding US dollars in quite large quantities<sup>23</sup> is not a magic solution to conservation or local development problems; it creates its own dynamic of competition for the resulting revenue streams.

The community conservation programme at Mgahinga has not yet begun to address these kinds of issues, or imagine the political institutions necessary to do so. To use a medical analogy, the Mgahinga projects are working at the level of emergency treatment to staunch arterial flows of resentment. The patient is stabilised, but the harder tasks, of surgery and post-operative recovery, still lie ahead.

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## Notes

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- <sup>1</sup> The reserve was divided into 27 1 sq.km blocks for this survey, (Werikhe 1991)
- <sup>2</sup> He notes that people were 'initially unwilling to present themselves for interview', 'regardless of all efforts to explain the intentions of the survey, they were strongly suspicious of falling victims of displacement' p. 153.
- <sup>3</sup> Werikhe notes that strictly these payments did not comprise compensation, since illegal occupancy (in the terms of the Game Act) could not be compensated for, and USAID was unwilling to pay formal 'compensation'; furthermore, payments did not relate to established government rates. Payments were intended to help people resettle. (Interview 1 April, 1998)
- <sup>4</sup> Interview Chief Warden 16 March 1998.
- <sup>5</sup> MGNP HQ Kisoro, File DTC/014 'Multiple Use'.
- <sup>6</sup> MGNP HQ Kisoro, File DTC/014 'Multiple Use'. The vast majority of the farmers on these occasions came from Gisozi. The rhizomes were collected from named areas within the Park, Umbikole, Ntebe, Kaniche, Gashenyi and Bwara.
- <sup>7</sup> MGNP HQ Kisoro, File DTC/014 'Multiple Use'; 7 of these farmers came from Gitendere, 11 from Rukongi and 46 from Gisozi.
- <sup>8</sup> Interview, Chief Warden 16 March 1998
- <sup>9</sup> MGNP HQ Kisoro, File DTC/014 'Multiple Use'.
- <sup>10</sup> A word deriving from the civil war in Uganda and subsequent troubles in Rwanda, referring to armed bandits or fighters of various kinds. Because of the believed presence of these people in the park, the Ugandan army are also present. The combination is enough to deter most local people. Local people in official positions are keen to emphasise that all is peaceful, which indeed seemed to be the case during our fieldwork.

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- <sup>11</sup> Kisoro has an annual rainfall of 1487mm.
- <sup>12</sup> There is now an Austrain aid scheme to supply water to Kisoro Town; in the dry season, a jerry can of water can cost 500 Ug.Sh.
- <sup>13</sup> Memo from Jaap Schoorl, DTC Park Management Technical Adviser to CARE Uganda Director and Assistant Director, not dated; MGNP Files.
- <sup>14</sup> District Executive Secretary Kisoro to Project Coordinator South West Agricultural Rehabilitation Project 14 August 1995; MGNP Files.
- <sup>15</sup> Interview, Chief Warden 16 March 1998
- <sup>16</sup> Cunningham *et al.* (1993) established a more complete (and in places different) set of historical events (e.g. a 1941 famine); the reliability of our historical information is uncertain (see Section 3).
- <sup>17</sup> Interview, Chief Warden 16 March 1998, quoting 1991 census. MBIFCT data suggest the population density in parishes adjacent to Mgahinga is 300-499 people per sq.km.
- <sup>18</sup> There was an implication, sometimes stated, that this policing was irregular or unfair, but there is no clear evidence on this.
- <sup>19</sup> Several people in authority argued that 'Interahamwe' were being blamed for more ordinary thieving. In Soko Parish, The Chief and Chairman say this was a problem during the war when shelling took place. Some said it was still a problem, but Chief and Chairman disagreed.
- <sup>20</sup> In Rukonge the Community Warden and Ranger were identified by name, but then the Ranger was a spectator at the meeting!
- <sup>21</sup> Conversion at \$US 1 = 1150 Ug. Sh., the rate 13 March 1998.
- <sup>22</sup> Interview 23rd March 1998.
- <sup>23</sup> New rates were set in April 1998 at \$250 per visitor per gorilla viewing trek; in theory this includes \$20 for local communities and a further \$20 to tackle the problem of 'problem gorillas' (crop raiding; a problem at Bwindi Impenetrable National Park). With six trekkers per day, this gives a possible revenue of \$1500 per day at Mgahinga (perhaps \$200,000 - 500,000 per year).