



PERCEPTIONS AND ATTITUDES OF LOCAL COMMUNITIES TOWARDS KAFUE NATIONAL PARK, ZAMBIA

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ABSTRACT

A questionnaire was administered to residents in three chiefdoms of Mumbwa Game Management Area (GMA) in Zambia with the intention of determining levels of awareness and knowledge of some of the neighbouring Kafue National Park's attributes as well as perceptions and attitudes towards the park. Our findings suggest that the local communities in Mumbwa GMA were relatively unaware of the park's attributes, despite their approval of its proclamation. Even though the majority of respondents (65.6 per cent) enjoyed friendly relations with the park authority, the general perception towards the park was that it was government property and had little to do with them. This is corroborated by the number of respondents (68.4 per cent) that had no reason to visit the park or felt barred from entering the park. A number of reasons accounted for this apathy. One is that there were very few benefits accruing to the local community directly from the park. Another factor was the mutual suspicion between park staff and the community. This is exacerbated by land disputes between the three chiefs in the GMA. These disputes were the result of land policies during the colonial and pre-colonial eras that led to forced migrations and reallocation of land in the eastern GMA. When dealing with issues around the park and conservation in Mumbwa GMA, it would be prudent to deal first with the land disputes between the different stakeholders.

Key words: Zambia, Kafue National Park, Game Management Areas, chiefdoms, protected area attributes

INTRODUCTION

Kafue National Park (KNP) is Zambia's largest national park covering an area of approximately 22,480 km². The park was first proclaimed in 1950 and attained its full status in 1972 under the National Parks and Wildlife Act (ZAWA 2010). Today KNP is managed by the Zambia Wildlife Authority (ZAWA), a statutory body established under the Zambia Wildlife Act No. 12 of 1998. Surrounding KNP are nine Game Management Areas (GMAs) namely: Mumbwa, Namwala, Nkala, Sichifulo, Bbilili, Mulobezi, Mufunta, Kasonso Busanga and Lunga Luswishi.

GMAs are category VI protected areas according to IUCN's Protected Area Management Categories. They were set aside principally to serve as buffer zones around national parks. It is in the GMAs where Community Based Natural Resources Management (CBNRM) programmes are advocated with the view to co-manage the wildlife resources and enhance community participation and benefit streams from wildlife (ZAWA

Act No 12 of 1998). Thus, GMAs are not only important reservoirs of the wildlife resources but are also the cornerstone in the implementation of the various strategies in wildlife management.

The manner in which communities in GMAs perceive national parks (and their wildlife resources) and respond to conservation in general is the result of a multitude of factors that include livelihood strategies, benefits and costs of living adjacent to the park, relationships with wildlife, relationships with wildlife managers, historical connections to the park and knowledge and awareness of the importance of the park and wildlife resources (Adams & Hulme, 2001; Gadd, 2005; McClanahan et al., 2005; Neumann, 1998; Shibia, 2010). The relationship between the people of Mumbwa GMA and nature has evolved dramatically since pre-colonial times. As in many parts of Africa the colonial era saw the separation of indigenous peoples from their resources (Barrow & Fabricus, 2002; Chipungu, 1992; Gibson, 1999; Hutton et al., 2005; Neuman, 1998). Zambians were forbidden to hunt and

fish under new game laws and traditional institutions that had evolved over time were fundamentally changed (Chipungu, 1992; Gibson, 1999; Marks, 2005). This exclusionary approach denied indigenous peoples' rights to use wildlife which had up to that point been used to solidify economic and political associations (Gibson, 1999). It also culminated in the establishment of 'Protected' Areas such as KNP.

The establishment of KNP led to the displacement of at least five chiefdoms, among them, Chief Kabulwebulwe of the Nkoya. He was told that his chieftainship would no longer be recognized if he did not move out of the park (Mwima, 2001). He was first relocated to Chief Moono's area but after conflicts between their two peoples was resettled in Chief Mulendema's area in 1974/75. Currently the Chief's Palace is about 10 km from Nalusanga gate, one of the main entrances to the park. Chief Kabulwebulwe and his people were not the only ones to relocate into and/or within Mumbwa GMA. Oral history of the Mulendema and Chibuluma chiefdoms indicate that both were also relocated from areas along the eastern boundary of KNP further east into Mumbwa GMA. Their relocation was the result of an agreement made between the chiefs and the government of Zambia in order to set aside land for tourism and create a buffer zone around the park. Subjects of the chiefs mentioned above are today the main inhabitants of Mumbwa GMA.

Later, institutions called Community Resource Boards (CRB) were established that allowed communities to participate in the management of wildlife resources and obtain benefits in GMAs. These institutions were established by an Act of Parliament (No. 12 of 1998) that also provided for the declaration and continuation of GMAs and their settlements. In Mumbwa GMA, three CRBs exist namely: Chibuluma, Kabulwebulwe and Mulendema. Patrons for each of the three CRBs are the Chiefs that reside within the GMA. The lowest institutional organs within a GMA are Village Action Groups through which various activities are carried out.

The general management of a GMA is guided by the provisions of management plans described in Part V of the Zambia Wildlife Act of 1998. It is in these plans that communities together with other primary stakeholders prescribe various land use options, and set aside land for wildlife management where consumptive and non-consumptive tourism may be conducted. In Mumbwa GMA, land set aside for wildlife management included Mumbwa West & East hunting blocks (Figure 1). In both hunting blocks, a tourism concession with a hunting outfitter exists, and revenues generated are shared equally with ZAWA and the community through its CRB

office. The equal sharing of revenue is premised on the fact that ZAWA together with the communities co-manage wildlife in the GMAs.

Even though community participation and co-management strategies are being implemented in the GMAs, local cooperation in controlling poaching in the park has so far been lacking. In fact, there appears to be active and/or passive support for perpetrators of illegal activities who are often times members of communities living in the GMA (Siamudaala et al., 2009). It is against this background that a study to assess the perceptions and attitudes of local communities towards KNP in Mumbwa GMA was undertaken. Local perceptions, knowledge, participation and relations with the communities are important in defining management strategies and improving conservation outcomes (Gadd, 2005; McClanahan et al., 2005; Ostrom, 1999).

Mumbwa GMA was selected as the study site because it has 10 per cent of the population living adjacent to the park but still has the highest number of caught poachers in KNP, accounting for 39.3 per cent of poachers between 2000 and 2006 (Siamudaala et al., 2009). Mumbwa GMA is also closest to Lusaka, the nation's capital city, which is a big market for illegal wildlife products.

MATERIALS AND METHODS

Study area

Mumbwa GMA is situated in Mumbwa district and covers an area of approximately 3,370 km². It was proclaimed a GMA in 1972 and is referred to as GMA No. 5. It shares a boundary with the KNP in the north and has 15 Village Area Groups (VAGs) spread across Mumbwa East in Mulendema, Chibuluma and Kabulwebulwe Chiefdoms. Village Action Groups (VAGs) are administrative units of the Community Resource Board. Based on the land use options assigned by the community, the GMA is divided into five different zones where only specified activities are conducted. This is illustrated in Figure 2.

Mumbwa GMA is defined as a prime hunting area where highly valued trophy species such as buffalo, lion and leopard are abundant (ZAWA, 2004). In terms of revenue generation, the GMA is ranked fifth of the 21 GMAs country-wide where trophy hunting occurs (Lewis & Alpert, 1996). This makes it an important revenue generator for both the local communities and ZAWA who each get 50 per cent of the hunting revenue. The total population in Mumbwa GMA is estimated to be 25,712 with the adult population comprising up to 48.7 per cent, juveniles or youths 28.8 per cent and infants 22.4 per cent (Ministry of Health, 2010).

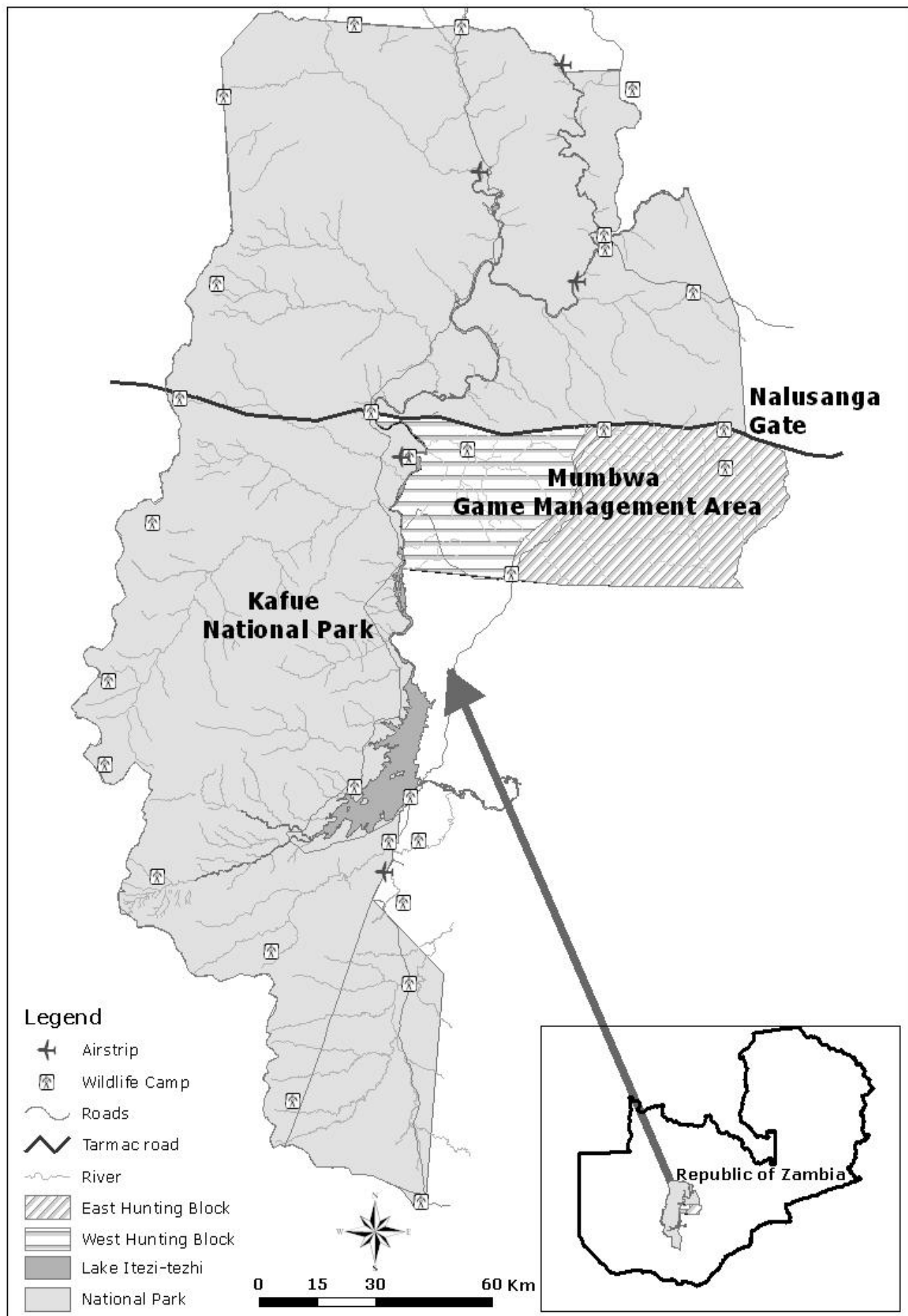


Figure 1: Map of Zambia showing Kafue National Park, Mumbwa GMA and its hunting blocks

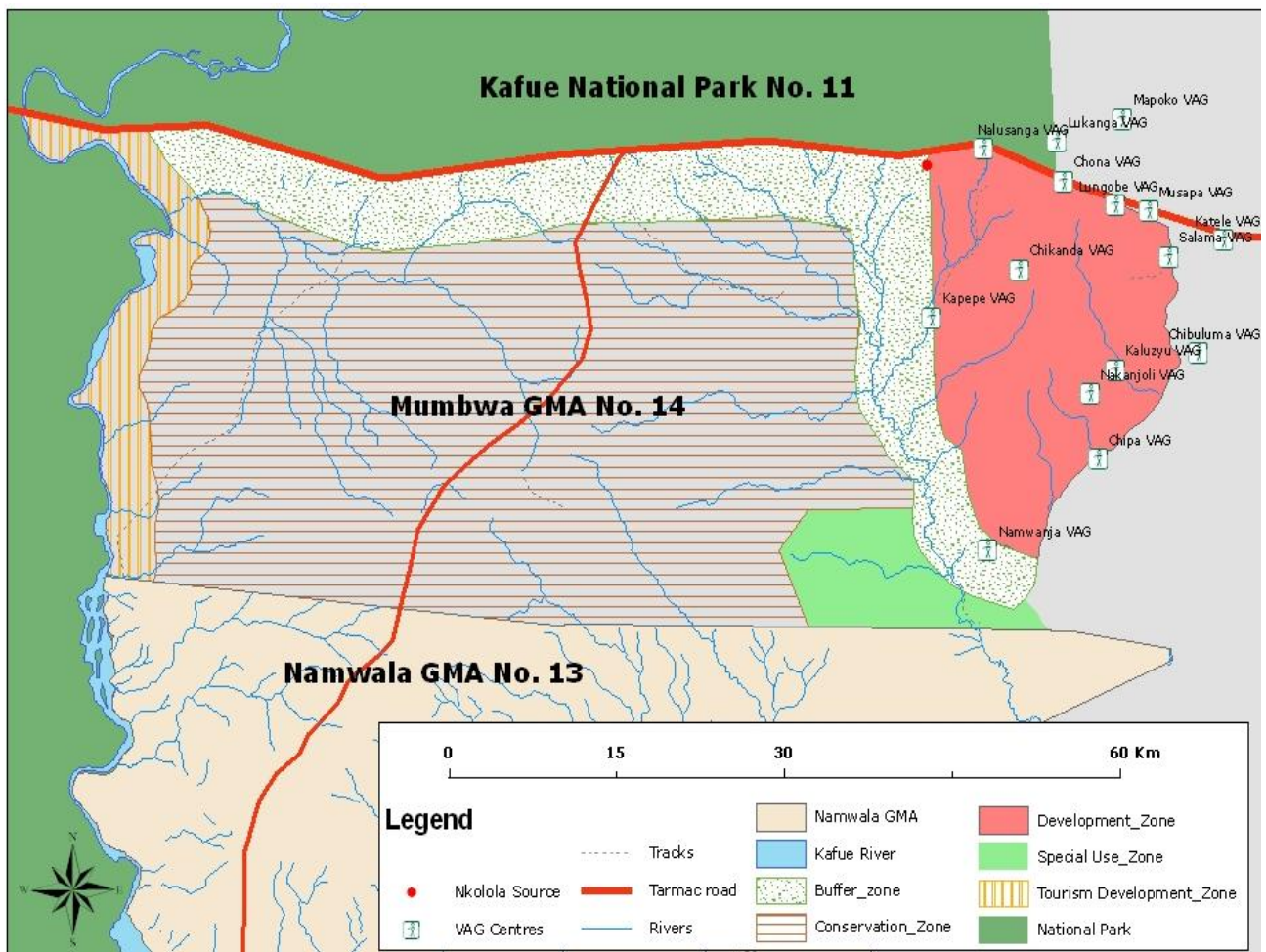


Figure 2: Spatial description of Mumbwa GMA, illustrating the location of VAG centres, land use zones and drainages. Source: ZAWA Maps, 2005

Data collection

We employed proportionate stratified sampling estimations described by Owen and Jones (1978) to determine sample sizes for each VAG. Samples were drawn according to the study's interest groups that were categorized as adults (female & male) and juveniles/youth. In total 288 respondents were interviewed in all the 15 VAGs. A structured questionnaire was used to capture respondent's socio-demographics looking at: their knowledge and awareness, perceptions (how individuals viewed issues) and attitudes (actions taken as a result of how they view issues) of KNP. The questionnaire included reliability questions that served to identify invalid or false responses.

Before data collection commenced the questionnaire was pre-tested. After the pre-test, some of the questions were rephrased to avoid distortion when translated into the local languages. Teachers from the local schools were employed as enumerators. Being fluent in Ila or Kaonde was a major requirement for all enumerators because these are the common languages spoken in this GMA. All the enumerators received a day of training on how to administer the questionnaire.

In addition to the questionnaire three focus group discussions with the youth, women and a mixed group of women and men were held at Chibuluma and Kabulwebulwe. This allowed interviewees to construct their own accounts of experiences to counter the limited explanatory power of structured questions. Each group comprised 7-10 individuals drawn from members of community clubs (women, youth, etc.) and institutions (church, schools, CRBs, etc.). Each discussion lasted for an hour and a half and discussions were premised on three major sections that sought to assess awareness/knowledge, perceptions and attitudes. Discussions were recorded on tape and were later transcribed onto data forms that categorized and grouped the responses. Responses were then compared considering the frequency of responses. Additionally notes were also taken during the discussions.

Data analysis

All responses to the questionnaire were collated using Microsoft Excel and Statistical Package for Social Sciences (SPSS version 17). A total of 110 variables were generated using SPSS and data were analyzed. Demographic data were analyzed by sex, marital status,



Fisherman and his catch on the Kafue River, Zambia © Martin Harvey / WWF

age, education, ethnicity and household size. Variables that indicated a respondent's wealth and income status included monthly income, housing structure and livestock. Responses were compared using frequencies and cross-tabulations in SPSS.

Five questions relating to some of the park's basic features (boundaries, institutional arrangements, knowledge of individuals punished for activities in the park, legal and illegal activities) were used to assess levels of awareness and knowledge of the park. Frequencies, cross tabulations and Chi-square analysis were used to compare statistical differences in responses among respondents. In order to obtain an overall result, Microsoft Excel was used to group and compare all negative responses, (responses that alluded to respondents not being aware or knowledgeable) versus positive responses that alluded to respondents being aware and knowledgeable.

With regards to perceptions towards the park, responses were considered from five questions relating to how respondents perceived the park's purpose, benefits, wildlife numbers and reasons to visit. Frequencies and

cross tabulations including Chi-square analysis were used to compare responses. An overall result was attained by grouping all negative responses and comparing them to positive responses (Fowler et al., 1998). The overall result concerning attitudes towards the park was attained by comparing pooled responses from four questions that solicited responses on attitudes, namely relations with ZAWA, adequacy of punitive measures, approval of the park's establishment by those present at the time and influence of the park on wildlife numbers in GMA.

RESULTS

Demographics of the respondents

Respondents came from the three chiefdoms and three Community Resource Boards (CRBs). The three chiefdoms were Chief Chibuluma of the Ila, Chieftainess Kabulwebulwe of the Nkoya people and Chief Mulendema of the Ila respectively. Among respondents the highest proportion were from the Tonga ethnic group (27 per cent) followed by Kaonde (23 per cent), Ila (21 per cent) and Lozi (10 per cent). The other 19 per cent consisted of at least 11 ethnic groups from all parts of Zambia as well as Shonas and Ndebeles from Zimbabwe.

Table 1: Demographics of respondents interviewed

Demographic aspects	Chieftdom		
	Chibuluma (n=121)	Mulendema (n=100)	Kabulwebulwe (n=67)
% respondents	42.4	34.7	22.9
Proportion of men to women	1.2 (67M:54F)	1.3 (57M:43F)	1.0 (34M:33F)
Modular household size	4-6	4-6	7-9
Modular monthly income (USD)	32-106	32-106	32-106
Average age	34±14.6	46±18.7	39±15.3
Highest level of education	Primary	Primary	Primary

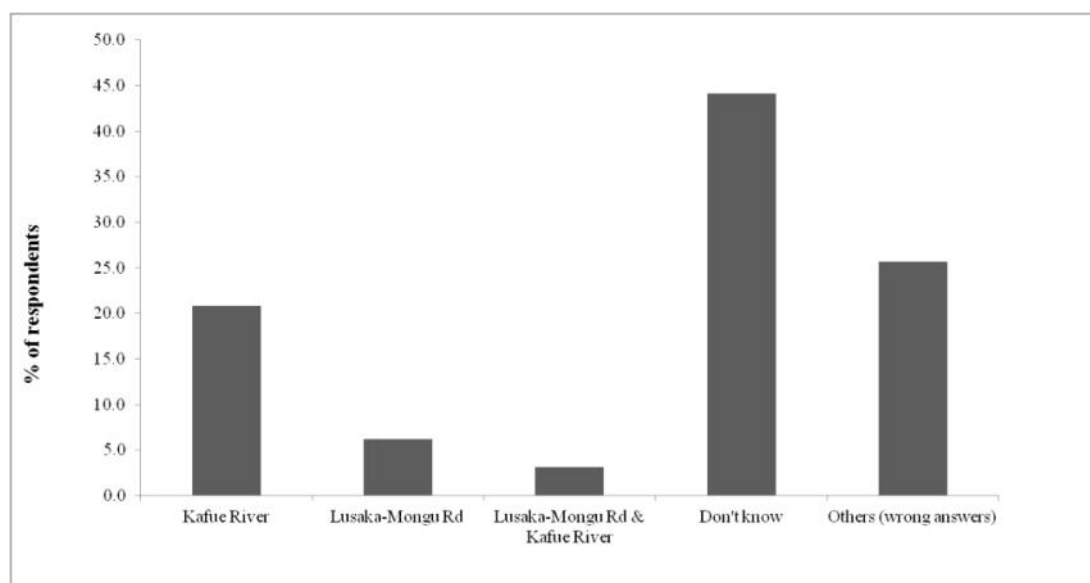


Figure 3: Respondents' description of KNP and Mumbwa GMA boundary

The majority (84 per cent) of respondents were farmers who reported farming as their sole occupation while less than one per cent were engaged in charcoal production. Another 4.5 per cent were high school students and less than one per cent combined farming with bee keeping. Another three per cent did some sort of trade or business as well as farming. Anecdotal evidence indicates that many residents of Mumbwa GMA are small to medium scale rather than subsistence farmers. Many fields observed were of cash crops such as cotton and high-value vegetables such as tomato which were reportedly sold at markets in Lusaka. Apart from crop farming, respondents also kept cattle, goats, chickens, pigs and sheep and in a few cases donkeys.

The fact that the majority of respondents (84 per cent) are small to medium scale farmers may have implications on conservation in the sense that it increases the likelihood of human wildlife conflicts (HWC), particularly due to crop raiding. Incidences of HWC are

likely to increase if land clearing for agriculture and settlements remains unchecked as wildlife corridors offered by the parks' buffer zones will be closed (Namukonde, 2009).

Basic demographic characteristics of the samples were similar for the three chiefdoms (Table 1). There were slightly more men than women, the highest level of education was typically primary school, and income figures indicate that the majority of respondents in Mumbwa GMA live on between USD 1 to just over 3 a day (Table 1) or USD 32 to 105.60 per month, which is higher than in many GMAs. Modular household size was largest in Kabulwebulwe and the average age was highest in Mulendema and lowest in Chibuluma. These values were not statistically significant from each other (i.e. $t_{stat} < t_{crit}$ $p=0.05$). According to Simasiku et al., (2008) 'the average annual per capita consumption (PCC) of communities living in GMAs and non-GMAs was ZMK 839,000 (approximately USD 250) and ZMK 850,000 respectively'.

Awareness and knowledge of key park attributes.

There is a lot of confusion about the boundary between the park and GMA. Nearly 70 per cent of respondents did not know the park boundary. Of those who knew, less than 4 per cent were aware about the whole boundary between the GMA and the park. Even the respondents that are involved in CBNRM are ignorant of the boundary, as there was no significant difference between their responses and those that were not involved in CBNRM ($\chi^2=0.081$, $df=1$ $p=0.776$). Features that constitute the park and GMA boundary include the Kafue river on the western side of the GMA and the Lusaka-Mongu road in the north. Figure 3 illustrates the respondents' knowledge of the park and GMA boundary.

The question on the park boundary revealed land conflicts among chiefdoms as well as between the various chiefdoms and ZAWA. This study found that there was a great deal of tension among the chiefs and between the chiefs and ZAWA to the extent that conflict over land and in-migration has come to define the politics of Mumbwa GMA. Whenever they were first questioned about the park and its boundaries the majority of people in focus groups and among respondents to the questionnaire would revert to these disputes, talking about boundaries that were between disputed areas rather than boundaries between KNP and the GMA. The disputes involved land in the eastern portion of the GMA which had initially been set aside for hunting in the 1950s. Currently, Chief Mulendema is allowing new settlements in this area against the wishes of ZAWA. Other chiefs in the area feel that agreements made in the past are being abrogated and that their power is being usurped. Chieftainess Kabulwebulwe in particular has threatened to settle her own subjects in the area if the status quo continues.

With regards to management, the majority (88.5 per cent) of the respondents knew that ZAWA together with other government departments (Forestry, Lands and the CRBs) managed the park. Five per cent had no idea, while 2.1 per cent thought it was the CRB. While many respondents were correct about who managed the park, the fact that so few talked about the involvement of CRBs may indicate a lack of cooperation between the wildlife authorities and the community. It may also be a sign of weakness for CBNRM in Mumbwa GMA.

Despite the overwhelming number that knew which institution managed the park, very few (22.6 per cent) gave correct responses about the activities conducted in the park. Although local communities do not necessarily have an input in the day to day management of the park, their contribution towards conservation is considered significant as they are co-managers of buffer zones

situated in their areas. Some of these areas constitute important habitats as they serve as breeding grounds for a myriad of wildlife.

Local communities are seemingly more aware of illegal activities conducted in the park (88.9 per cent) as opposed to the legitimate activities. For instance, poaching, tree cutting and illegal fishing were the most frequently cited illegal activities in the park. This is corroborated by the number of respondents that felt that the wildlife in the park was decreasing due to poaching (45.5 per cent). Only 35.4 per cent felt that wildlife populations were increasing primarily due to protection from ZAWA. Similarly, there were more respondents aware of people that had been punished for illegal activities in the park (65.6 per cent) as opposed to those that had no idea (34.4 per cent). This level of awareness of illegal activities may serve as an indicator of local community involvement in illegal activities in the park. Nevertheless, of those that knew someone punished for illegal activities, 64 per cent were of the view that the meted punishments were fair; whilst 28 per cent thought they were too harsh and only 7.4 per cent thought they were not stringent enough.

Kabulwebulwe were seemingly more aware of the park attributes such as park boundary than the other two chiefdoms. However, amongst all respondents there was a significant association between awareness of park attributes and gender ($\chi^2=14.53$, $df=1$ $p=0.05$), and age ($\chi^2=83.5$, $df=61$ $p=0.05$) but not so, for average size of household ($\chi^2=5.69$, $df=5$ $p=0.05$). This lack of awareness may be indicative of a lack of engagement of the community by the park authorities.

Perception of the park

Approximately 95 per cent of respondents felt that the purpose of the park was 'for keeping animals'. The general feeling seemed to be that the park was strictly for animals and in no circumstances could local people go there or else they would face some type of negative consequence. Of the 197 people who had not visited the park, 53 per cent 'had no reason to visit', 29 per cent could not afford park fees, 13 per cent said it was not allowed, and the rest did not have the means to visit the park.

With regard to benefits, 53.4 per cent of the respondents said they did not derive benefits from the park while 46.5 per cent said they derived benefits (Table 2). The most frequently perceived benefits were ecosystem services (60.6 per cent) that included among others the provision of honey, building materials and medicines. Income generation (26.4 per cent) from employment

Table 2: Respondents receiving benefits from park by chiefdom

Responses	Chibuluma	Mulendema	Kabulwebulwe	Total
No	95 (78.5%)	31 (31.0%)	28 (41.8%)	154 (53.4%)
Yes	26 (21.5%)	69 (69.0%)	39 (58.2%)	134 (46.5%)
Total	121 (100%)	100 (100%)	67 (100%)	288 (100%)

Table 3: ZAWA relations with chiefdoms in Mumbwa GMA

Attitude	Chibuluma	Kabulwebulwe	Mulendema	Total
Friendly	84 (68.3%)	40 (60.1%)	65 (65.0%)	189 (65.6%)
Depends on situation	0 (0%)	0 (0%)	3 (3.0%)	3 (1.0%)
No reaction	14 (11.4%)	2 (3.0%)	7 (7.0%)	23 (8.0%)
Unfriendly	25 (20.3%)	24 (36.4%)	25 (25.0%)	73 (25.4%)
Total	123 (100%)	66 (100%)	100 (100%)	288 (100%)

Table 4: Impacts of wildlife on livelihoods

Impact on livelihoods	Chibuluma	Mulendema	Kabulwebulwe	Total
Deprives access to land	14 (14.1%)	5(9.1%)	1(2.4%)	20 (10.3%)
Law enforcement operations	1(1.0%)	6(10.9%)	5(12.2%)	12 (6.1%)
Disease transmission	5(5.1%)	2(3.6%)	6(14.6%)	13 (6.7%)
Human wildlife conflict	79 (79.8%)	42 (76.4%)	31 (72.1%)	150 (76.9%)
Total	99 (100%)	55 (100%)	43 (100%)	195 (100%)

opportunities offered by tourism activities both in the park and GMA was the second most perceived benefit. Education (a result of schools built in the GMA) accounted for 13 per cent. Of the respondents who received benefits, 44 per cent were dissatisfied with them.

Analysis based on the chiefdoms revealed that a higher number of respondents from Mulendema perceived benefits from the park (69 per cent), followed by people from Kabulwebulwe (58.2 per cent) and Chibuluma (21.5 per cent). Chi-square analysis revealed a statistically significant association between chiefdom and the proportion of people who perceive benefits i.e. $\chi^2=21.776$, $df=2 > p=0.05$. Further, the focus group discussions revealed that Chibuluma residents felt they had less access to employment opportunities offered by the tourism industry and ZAWA. Chibuluma participants were also of the view that the people from Mulendema and Kabulwebulwe were better informed about jobs offered in the park and kept that information to themselves.

Analysis based on gender revealed that a higher number of men (53 per cent) perceived benefits than women (37 per cent) ($\chi^2=8.155$, $df=1 > p=0.004$). This response was expected in the Zambian traditional setting (Virtanen,

2003) as men would be the ones attending more meetings pertaining to resource allocation and hence are more likely to be in the CRB. Women's participation in all three CRBs was overwhelmingly outnumbered by men; only 10 per cent of the 30 board members in the CRBs. It may be important to target women in order to ensure benefits get to the larger and most vulnerable group of people (Pitt et al., 2006). Overall, 78 per cent of respondents felt that there should be more benefits received from the park. Desired benefits were income generation opportunities which topped the list at 44 per cent of the respondents, followed by educational opportunities (27 per cent) and greater access to tourist facilities for employment (18.1 per cent).

Attitudes towards the park authority

Sixty to 70 per cent of respondents in each chiefdom described their relationship with the park authority as friendly. However, the frequency of friendly responses showed a highly significant departure from homogeneity between the three chiefdoms ($\chi^2=15.465$, $df=2 > p=0.05$). More respondents in Kabulwebulwe than in the other chiefdoms perceived relations as unfriendly (Table 3). This was not surprising considering there are far more village sweeps (house to house searches carried out by ZAWA) in Kabulwebulwe as opposed to the other two chiefdoms [Nguileka, pers. Comm. 2010]. Residents of

Kabulwebulwe themselves admitted to the area being a hotbed for poaching. The highest perceived negative impact was HWC which accounted for over 75 per cent of all responses (Table 4). Despite being further away from the park, 79.8 per cent of respondents from Chibuluma reported this as the major impact from the park's existence.

When asked, 'Do you approve of the park's proclamation' 90 per cent of respondents said yes. This is a paradox given the general lack of awareness. Further, investigation during focus group discussions and interviews with key informants indicated that locals acknowledged that KNP was an important national asset rather than local asset.

DISCUSSION

Although the local people seemed to acknowledge the park's existence, very few were aware of some of the park's attributes and felt barred and excluded from the park. This exclusion can be traced back to the history of forced migrations since colonial times (Chipungu, 1992; Gibson, 1999; Mwima, 2001; Neumann, 1998) and the later development of tourism and hunting industries (Hutton et al., 2005; Neumann 1998). It may also be a result of relationships between Mumbwa GMA communities and the KNP. This relationship presents an important paradox for both the community and ZAWA. On the one hand the communities are still excluded from the day to day management of the park and on the other hand they are expected to cooperate with park authorities to conserve the park. The challenge for ZAWA is achieving conservation objectives while at the same time not alienating the community.

Nevertheless simply engaging stakeholders is not enough. In Mumbwa GMA it is important to acknowledge the heterogeneity of residents that has come about through in-migration. In more recent years, Mumbwa GMA has received a high influx of migrants in search of farm land, mainly from Tonga, Kaonde and Lozi ethnic groups (ZAWA, 2012). Migrant groups as it were, may not necessarily appreciate the historical and cultural values attached to ancestral lands in the park, which according to Ajzen and Fishbein (1980) play a cardinal role in shaping attitudes. That is not to say that 'indigenous' ethnic groups automatically have a greater appreciation for nature or have a natural inclination to conserve. The adoption of values is highly complex, and conservationists should not take a simplistic model of a 'knowledge gap' in efforts to educate communities about conservation and bring them to their way of thinking (Adams & Hulme, 2001).

The fact that very few benefits accrue to the local community directly from the park could prove a real challenge since emphasis on the current CBNRM discourse is on benefits linked to income rather than intrinsic values of the park as the rationale for conserving (Hutton et al., 2005; Virtanen, 2003). This emphasis is counterproductive as long as communities continue to see minimal benefits. It is highly unlikely that the park will generate enough revenue in the short to medium term to support management objectives as well as provide for communities adjacent to the park. At the moment revenues generated from both consumptive and non-consumptive tourism only cover a third of the annual running costs of KNP (ZAWA, 2007; 2008; 2009). Further, population growth means that 'conservation strategies dependent on revenue sharing for their success will be vulnerable to declines in the relative size of the revenue pot' (Adams & Hulme, 2001).

Another challenge related to benefits is that respondents tended to discuss benefits at a community level and do not see benefits accruing to themselves personally. Also, the form in which the gains are distributed in a community may create challenges since wildlife conservation projects do not often provide essential goods or regular income for many community members (Virtanen, 2003). Simasiku et al. (2008) found that 'there was no evidence of welfare gains to the poorer households associated with living in the GMAs or participation in CRB/VAGs. Rather, the top 40 per cent of the households derive all the benefits from living in GMAs and participating in CRB/VAGs'. However, the poor are generally more dependent on ecosystem services, even though in quantitative terms wealthier members of the community are often the most significant users (Virtanen, 2003). This underscores the need to target other lower income groups particularly women who are currently under represented and the most disadvantaged. When women are involved benefits accrue more directly to households. There might also be opportunities for conservation friendly entrepreneurship. Thus far, CBNRM based on consumptive use of large mammals has been designed and implemented as a male oriented activity (Hunter et al., 1990). Women are nevertheless part of the decision-making process for natural resource utilization particularly at household level and their inclusion is important for the success of any conservation effort (Hunter et al., 1990).

Appreciation of a feature is often determined by the level of knowledge and awareness of it. Ignorance expressed may be interpreted to mean very little or no value attached. Our findings suggest that very few people are aware of the park's attributes such as the park's



Fisherman selling his freshly caught fish along the Kafue River, Zambia © Martin Harvey / WWF

boundary, which is a major concern. It is unlikely that the locals would help police the national park, let alone avoid entering and collecting resources from the park, if they are unsure of the park boundaries. This unwillingness to acknowledge the park boundary can also be attributed to, disagreements on the part of local communities as to where the boundary should be and whether or not they have the right to collect resources from the park. Ostrom (1999) described the clear definition of boundaries known to all stakeholders as a necessary attribute of a successful management institution that involves local communities. This is especially pertinent in light of the current and historic conflicts over land.

Relations between park management and the local communities impacts attitudes towards the park. As revealed by this study, the current relations between the community and park authority are generally good, given that 65.6 per cent of the respondents described their relations as friendly. However, there is still room to improve relations, given that Mumbwa GMA accounts for nearly 40 per cent of illegal activities in KNP (Siamudaala et al., 2009). This means that not all cases of illegal activities by both the residents of the GMA and those from other areas are reported, to the detriment of conservation. Strengthening good working relationships between ZAWA and local communities through dialogue would go some way in contributing positively towards building trust. However, good working relationships are

not built overnight. A long-term view must be taken and success must be defined by all stakeholders not just park managers.

CONCLUSION

KNP is a national asset which brings returns at national level. It is also important for conservation of unique biodiversity. However, there are many costs yet few benefits for people living adjacent to the park. Communities adjacent to the park are excluded from it to the extent that the majority think that it is illegal even to visit. The study findings suggest a need to strike a delicate balance between education, legal and policy instruments as well as participatory approaches. ZAWA needs to take on a more rigorous approach in engaging local communities through awareness and education programmes as well as improving access to the park. There should be a deliberate long-term approach to this.

The need to secure long-term provisions for funding aside from park and hunting revenue cannot be over emphasized. This will help secure livelihoods in the GMAs that would offer viable alternatives to undertaking illegal activities in the park. Further, conflict resolution strategies must be employed in order to mitigate the current land disputes that have taken centre stage in Mumbwa GMA. This threatens to undermine even the minimal benefits that the people receive from wildlife. It is also likely to spread into the KNP in a significant way if it remains unchecked.

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REFERENCES

- Adams, W.M. and Hulme, D. (2001). If community conservation is the answer, what is the question? *Oryx*, 35 (3): 193–200. DOI: 10.1046/j.1365-3008.2001.00183.x
- Ajzen, I. and Fishbein, M. (1980). *Understanding attitudes and predicting social behaviour*. Englewood Cliffs: Prentice-Hall.
- Barrow, E. and Fabricus, C. (2002). Do rural people really benefit from protected areas – rhetoric or reality? *PARKS*, 12(2): 67–77.
- Chipungu, S.N. (1992). *Guardians in their time: Experiences of Zambians under colonial rule*. London: Macmillan.
- Gadd, M.E. (2005). Conservation outside of parks: Attitudes of local people in Laikipia, Kenya. *Environmental Conservation*, 32(1): 50–63. <http://dx.doi.org/10.1017/S0376892905001918>
- Gibson, C. (1999). *Politicians and poachers: The political economy of wildlife policy in Africa*. Cambridge: Cambridge University Press.
- Fowler, J., Cohen, L. and Jarvis, P. (1998). *Practical statistics for field biology*. Chichester: John Wiley & Sons.
- Hunter, M.L., Hitchcock, R.K. and Wyckoff-Baird. (1990). Women and wildlife in Southern Africa. *Conservation Biology*, 4(4): 448–451. DOI: 10.1111/j.1523-1739.1990.tb00321.x
- Hutton, J., Adams, W.M. and Murombedzi, J.C. (2005). Back to the Barriers? Changing Narratives in Biodiversity Conservation. *Forum for Development Studies*, 32(2): 341–370. DOI: 10.1080/08039410.2005.9666319
- Lewis, D.M. and Alpert, P. (1996). Trophy hunting and wildlife conservation in Zambia. *Conservation Biology*, 11(1): 59–68. <http://www.jstor.org/stable/2387276>
- Marks, S. (2005). *Large mammals and a brave people: Subsistence hunters in Zambia*. London: Transaction Publishers.
- McClanahan, T., Davies, J. and Maina, J. (2005). Factors influencing resource users and managers' perceptions towards marine protected area management in Kenya. *Environmental Conservation* 32(1): 42–49. <http://dx.doi.org/10.1017/S0376892904001791>.
- Ministry of Health. (2010). *Village Population Summary–Mumbwa Rural Health Centers*. Mumbwa: Ministry of Health.
- Mwima, H.K. (2001). A Brief History of Kafue National Park, Zambia. *Koedoe*, 44(1): 57–72.
- Namukonde, N. (2009). *A checklist of fauna in Mumbwa Game Management Area*. Mumbwa: Zambia Wildlife Authority.
- Neumann, R. (1998). *Imposing wilderness: Struggles over livelihood and nature preservation in Africa*. London: University of California Press.
- Ostrom, E. (1999). *Self Governance and Forestry*. Jakarta: Centre for International Forestry Research.
- Owen, F. and Jones, R. (1978). *Statistics*. London: Butler & Tanner Ltd.
- Pitt, M.M., Khandker, S. R. and Cartwright, J. (2006). Empowering women with micro finance: Evidence from Bangladesh. *Economic Development and Cultural Change*, 54(4): 791–831. <http://dx.doi.org/10.1086/503580>.
- Shibia, G.M. (2010). Determinants of attitudes and perceptions on resource use and management of Marsabit National Reserve, Kenya. *Journal of Human Ecology*, 30(1): 55–62.
- Siamudaala, V., Nyirenda, V. and Saiwana, L. (2009). *Effectiveness of Law Enforcement on Wildlife Crimes in the Kafue Ecosystem in Zambia*. Lusaka: Zambia Wildlife Authority.
- Simasiku, P., Simwanza, H.I, Tembo, G., Bandyopadhyay, S. and Pavy, J.M. (2008). *The impact of wildlife management policies on communities and conservation in Game Management Areas in Zambia*. Lusaka: Natural Resource Consultative Forum.
- Virtanen, P. (2003). Local management of global values: Community-based wildlife management in Zimbabwe and Zambia. *Society & Natural Resources* 16(3): 179–190. DOI: 10.1080/08941920309164
- ZAWA, (2004). *Quota setting and monitoring of hunting manual*. Lusaka: Zambia Wildlife Authority.
- ZAWA, (2007). *Financial Management Reports for Kafue National Park*. Lusaka: Zambia Wildlife Authority.
- ZAWA, (2008). *Financial Management Reports for Kafue National Park*. Lusaka: Zambia Wildlife Authority.
- ZAWA, (2009). *Financial Management Reports for Kafue National Park*. Lusaka: Zambia Wildlife Authority.
- ZAWA, (2010). *Kafue National Park General Management Plan 2011–2020*. Lusaka: Zambia Wildlife Authority.
- ZAWA, (2012). *January to December 2012 Report – Kafue National Park*. Mumbwa: Zambia Wildlife Authority.

RESUMEN

Se aplicó un cuestionario a los residentes de tres territorios administrados por jefes tribales del Área de Manejo de Caza de Mumbwa (GMA) en Zambia con el fin de determinar los niveles de sensibilización y conocimiento de algunos de los atributos del vecino Parque Nacional Kafue, así como las percepciones y actitudes con respecto al parque. Nuestros hallazgos sugieren que las comunidades locales en la GMA de Mumbwa eran poco conscientes de los atributos del parque, pese a haber aprobado su proclamación. Al margen de las relaciones amistosas de la mayoría de los encuestados (65,6 por ciento) con la autoridad del parque, la percepción general en torno al parque era que este era propiedad del gobierno y tenía poco que ver con ellos. Esto es corroborado por el número de encuestados (68,4 por ciento) que no veía razón alguna para visitar el parque o sentía que tenía prohibida la entrada al parque. Esta apatía se debía a varias razones. Una es los pocos beneficios que la comunidad local recibe directamente del parque. Otro factor es la desconfianza mutua entre el personal del parque y la comunidad. Ello se ve agravado por las disputas de tierras entre los tres jefes de la GMA. Estas disputas tienen su origen en las políticas agrarias de la era colonial y pre colonial que condujeron a migraciones forzadas y la reasignación de tierras en la GMA oriental. Al abordar cuestiones relativas al parque y la conservación en la GMA de Mumbwa, sería prudente ocuparse primero de las disputas de tierras entre los diferentes grupos de interés.

RÉSUMÉ

Un questionnaire a été distribué aux résidents de trois chefferies dans la zone de Gestion des Animaux de Mumbwa (GAM) en Zambie, avec l'intention de déterminer leur niveau de sensibilisation et leur connaissance des particularités du Parc National de Kafue voisin, ainsi que leur perception et leur attitude envers le parc. Nos résultats indiquent que les communautés locales sont relativement peu au courant des particularités du parc, en dépit de leur approbation de sa création. Même si la majorité des répondants (65,6%) entretient des relations amicales avec les autorités du parc, il subsiste une perception générale que le parc est la propriété du gouvernement et n'a donc que peu à voir avec eux. Ceci est corroboré par une majorité de répondants (68,4%) qui ne voient aucune raison de visiter le parc ou qui pensent que son entrée leur est prohibée. Plusieurs raisons expliquent cette apathie. D'une part la communauté locale voit très peu d'avantages provenant directement du parc. D'autre part une suspicion mutuelle existe entre le personnel du parc et de la communauté. Cette situation est aggravée par des conflits fonciers entre les trois chefs de la zone. Ces litiges sont le résultat de politiques foncières au cours de l'ère coloniale et précoloniale qui ont conduit à des migrations forcées et à la réaffectation des terres dans la partie orientale de la région. Il est donc important de rappeler que des questions autour du parc et de la conservation dans la zone de Gestion des Animaux de Mumbwa doivent d'abord traiter les conflits fonciers entre les différentes parties prenantes.