Economic Benefits, Local Participation, and Conservation Ethic in a Game Management Area: Evidence From Mambwe, Zambia

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Abstract

This study examines views on economic benefits, local participation in wildlife management and conservation ethic among 267 residents of three chiefdoms in Mambwe district, Eastern Zambia. Results show that 68% of the residents who live in the Lupande Game Management Area are not in any way involved in community wildlife management. For those involved, the main reason advanced for participating was economic benefit (79%). Only a small minority of 17% of the residents participated due to motivations to conserve wildlife. Human-wildlife conflicts induced by wild animal crop raiding, property destruction, and loss of human life, and perceived low or non-existent economic benefits seemingly precluded the development of a conservation ethic among residents. The local chiefs asserted wildlife ownership, lamented low wildlife benefits and justified its illegal uptake. Proponents of community conservation projects could encourage pro conservation attitudes among residents by addressing human-wildlife conflicts and raising awareness on intrinsic values of wildlife.

Keywords

chiefdoms, poaching, safari hunting, human-wildlife conflicts

Introduction

Community conservation has gained wide acceptance among wildlife conservationists as a preferred approach to managing the diverse and abundant African wildlife found in protected areas on the continent (Infield, 2001; Sinclair et al., 2011). From their inception in the 1980s—in their various guises such as community based wildlife management, collaborative or integrated conservation and development projects—community conservation approaches have emphasized the importance of community benefits and community participation for their success (Adams & Infield, 2003; Campbell, 2002; Songorwa et al., 2000, Umar, 2018). Community conservation is espoused as a moral imperative and the ability of communities to access direct benefits from wildlife is seen as linked to the development or enhancement of a conservation ethic. It is argued that through residents' ability to generate revenues from tourism, safari hunting, and meat sales and consumption, local people come to realize the long-term benefits of healthy wildlife populations (Agrawal & Gibson, 1999; Barret & Arcese, 1995; Heagney et al, 2015; McNeely, 1989).

Community conservation approaches to wildlife management usually have a strong economic rationale that if local people participate in wildlife management, and economically benefit from this participation, then a win-win situation will arise whereby wildlife is conserved at the same time as community welfare improves (Adams & Hutton, 2007; Emerton, 2001; Jimoh et al., 2012). Barrow and Murphree (2001) categorically maintained that conservation and protected areas in contemporary

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Africa must either contribute to national and local livelihoods or fail in their biodiversity goals. Tumusiime and Vedeld (2012) attested that the sharing of revenues with local people demonstrate the economic usefulness of protected areas. They observed further that the principle of revenue sharing is at the heart of the win-win narrative that combines concerns of environmental conservation with those of local development. This thinking, requiring participation of people living in and around protected areas and linking conservation objectives with local development needs, is epitomized in integrated conservation and development projects (ICDPs), which begun in earnest in Africa in the 1980s and 1900s (Newmark & Hough, 2000).

Integrated conservation and development projects have diffused quickly, especially across Sub-Saharan Africa, and have become more strongly entrenched there than in other regions, arguably due to the level of aid dependence, the influence of multilateral and bilateral agencies over domestic policies, and the weakness of states, local bureaucracies, and research capacities (Adams & Hulme, 2001). The logic driving ICDPs is that providing communities living around protected areas with alternative livelihoods that foster improved development and increased income will result in a decreased need to remove resources from these areas, thereby benefitting local ecosystems (McShane & Wells, 2004).

However, despite their widespread adoption in Sub-Saharan Africa, the ICDPs or community conservation approaches have been widely criticized. Terborgh, (1999)—author of *Requiem for Nature*—posited that ultimately, nature and biodiversity must be conserved for their own sakes, not because they have present utilitarian value. Terborgh (1999) further dismissed all the utilitarian arguments for biodiversity conservation, arguing that they are built on fragile assumptions that crumble under closer scrutiny. In a more restrained mode, Rabinowitz (1999) surmised that community participation and development may be politically correct approaches, but they channel away a significant portion of available funding yet produce minimal results in terms of biodiversity protection. Milupi et al. (2019), in their review of Community Based Natural Resources Management (CBNRM), found that such projects had failed in several African countries due to low community participation, unequal sharing of benefits from wildlife resources, unresolved conflicts, and lack of community empowerment among other factors.

Davies et al. (2013) concluded that there was limited evidence of success in achieving both conservation and development. Infield and Adams (1999) cautioned against relying on ICDPs and asserted that while the approach is useful in promoting conservation and local empowerment, it creates new relationships of complete economic dependency and expectations of compensation. As the present study shows, when these expectations are not met, disillusionment follows and participation in community conservation projects declines, which is detrimental to ICDP goals. Wainwright and Wehrmer (1998) attribute the failure of Luangwa Integrated Resource Development Project, implemented in the current study's site, to unsustainable wildlife populations due to shrinking ranges and increasing human populations, the local people's traditional hunting practices that offered incommensurable intangible values, and the exclusion of women from the development benefits.

Despite these criticisms, many governments in Sub-Saharan Africa continue to implement community conservation programmes in various forms. The Zambian government started implementing them from as far back as 1983 with the implementation of the Administrative Management Design for Game Management (ADMADE) programme. The programme was intended to involve the local community in wildlife management and the sharing of wildlife benefits. Its key features are the training and hiring of village scouts, using 50% of safari hunting revenue to finance community projects, and game culling that provides game meat for the community (Fernandez, 2010). The programme model was legislated under the Zambia Wildlife Act of 1998 (Government of the Republic of Zambia, 1998) and the more recent Zambia Wildlife Act of 2015, which has repealed the earlier legislation (Government of the Republic of Zambia, 2015). The 2015 Wildlife Act espouses the benefits of game management areas to local communities and wildlife, and extolls the involvement of local communities in the management of game management areas. The Act points to the enduring premise that wildlife conservation is best achieved through community participation and benefits.

This study investigates this premise by exploring community views on economic benefits and local participation, and how these views relate to wildlife conservation using as case studies three chiefdoms adjacent to Zambia's most emblematic national park and the site of the oldest community wildlife management programmes in Zambia. Although observational data is used and causality among variables cannot be claimed, it is contended that the common premise that economic benefits enhance participation in wildlife management was not borne out in this study as most of the respondents perceived themselves as not benefiting from wildlife, but incurred costs due to their proximity to wild animals and the national park. The paper argues that promises and offers of economic benefits to park adjacent communities are insufficient for engendering a wildlife conservation ethic and risk being counterproductive in that when the benefits do not materialize, apathy and negative attitudes towards community wildlife management programmes emerge among such communities.

Methods

Description of the Study Area

The fieldwork was conducted in three chiefdoms from Mambwe district, Eastern Zambia (Figure 1). Mambwe district is found in the low-lying Luangwa valley and experiences high temperatures of up to 42°C and sporadic seasonal rainfall of below 800mm annually. It has three distinctive seasons: the cool-dry season from May to August, hot-dry season from September to October and wet-hot season from November to April. The entire district is part of Lupande Game Management Area (GMA)

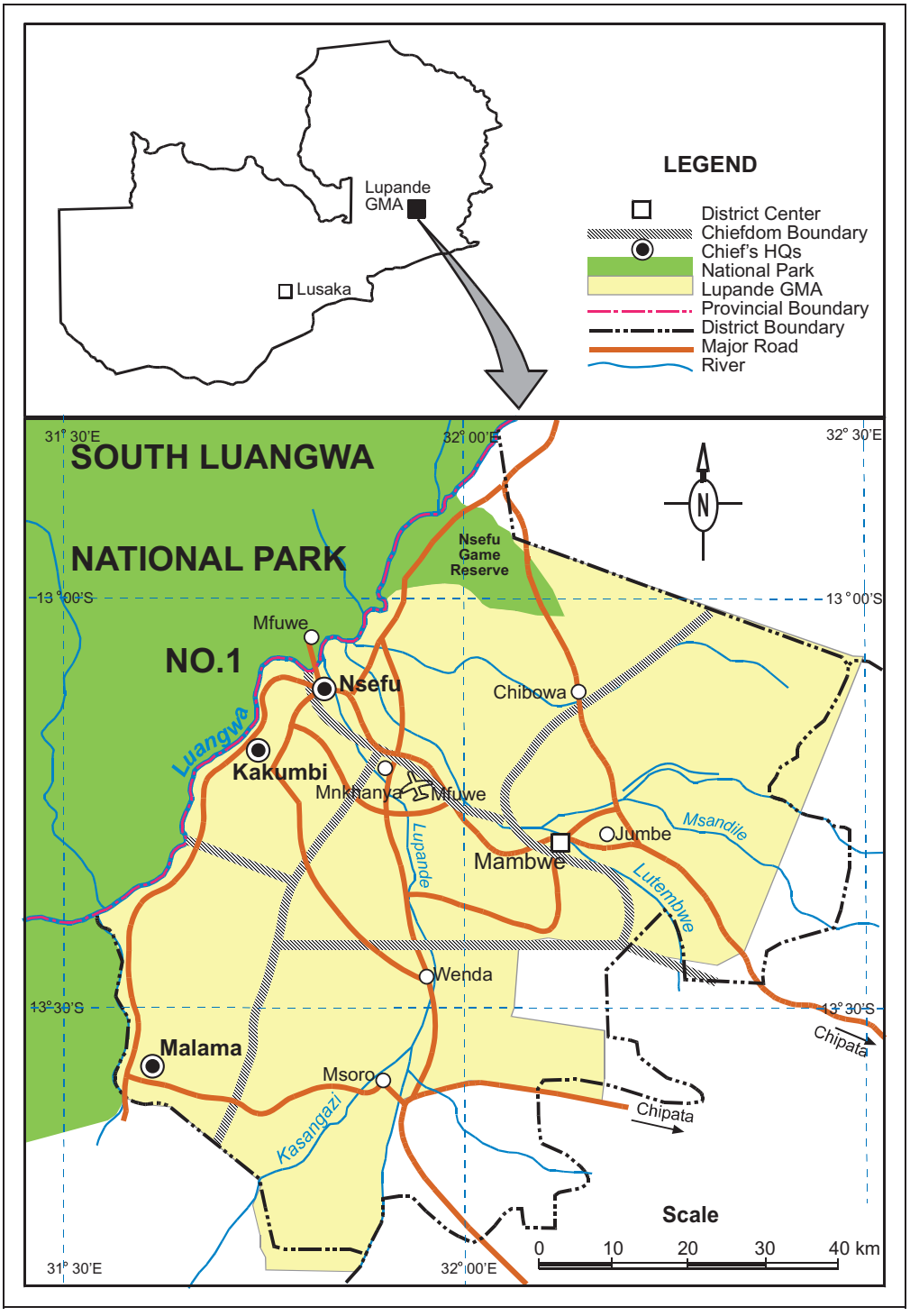

Figure 1. Location of Malama, Kakumbi and Nsefu Chiefdoms, Mambwe District.

and acts as a buffer zone for the South Luangwa National Park on the park's eastern side. In Zambia, GMAs were established to *inter alia* provide for a technically controlled and sustained culling scheme of wild animals through safari hunting and for safari hunting to provide resources and revenue to promote conservation and community development in the GMAs (Simasiku et al., 2008). Lupande GMA was established in 1972. It comprises six chiefdoms, namely: Jumbe, Kakumbi, Malama, Mnkhanya, Msoro and Nsefu (Nshimbi & Vinya, 2014). According to Child and Dalal-Clayton (2004) the first ICDP in the area started when individuals working for the government in Eastern Province started to discuss the possibilities for a catchment-wide project to combine wildlife protection, and effective land use planning to meet the needs of the people. These ideas were endorsed in 1983 at the Lupande Development Workshop funded by NORAD. Projected activities begun in 1986 with NORAD funding, which lasted for two decades (see Milupi et al., 2017). There was no community consultation prior to the decision to implement the ICDP. When it was finally established, the six chiefs of Lupande GMA (each with one advisor) were included in what turned out to be a very government- heavy management committee. How community members perceived this inclusion of their chiefs in wildlife management is discussed later in this article and elsewhere (see for instance Gibson, 1999: Gibson & Marks, 1995).

South Luangwa National Park is a world-renowned wildlife haven covering an area of 9059 km^2. It has over 60 species of wild animals, over 400 bird species and diverse vegetation. The landscape is dominated by the Mopane tree (*Colophospermum mopane*) but also has large quantities of winter thorn (*Faidherbia albida*), lead wood (*Combretum imberbe*), ivory palms (*Hyphaene petersian*a), marula (*Sclerocarya birrea*), tamarind (*Tamarindus indica*), baobab (*Adansonia digitata*) and ebony (*Diospyros ebenum*) trees (Zambia Tourism Board, 2016). South Luangwa National Park was gazetted as a national park in 1972. It had been a game reserve since 1938 when it was established by the colonial government. According to Gibson (1999), the colonial government had moved entire villages to create protected areas, which resulted in resentment among the displaced communities. The displaced communities responded by continuing to kill protected wild animals and setting of fires in protected areas.

The main economic activities in Mambwe district are smallholder farming, trading, and providing tourism hospitality services. Poverty levels are high and up to 50% of the farming households run out of food before the next season's harvest (Ngoma, 2012). The main food crops grown are maize (*Zea mays*), sorghum (*Sorghum bicolor*), rice (*Oryza sativa*), groundnuts (*Arachis hypogaea*), sweet potatoes (*Ipomoea batatas*), cowpeas (*Vigna unguiculata*), cassava (*Manihot esculenta*), common beans (*Phaseolus vulgaris*) and pumpkins. The crops are predominantly produced for household consumption although some households sell maize and rice. Cotton (*Gossypium hirsutum*) is grown as a cash crop under contract farming with international cotton companies by an increasing number of households (Lewis et al., 2011). Crop production is constrained by crop raiding wild animals (Balakrishnan & Ndhlovu, 1992; Simasiku et al., 2008) and by climate variability in the Luangwa Valley which has above 60% likelihood of drought occurrence annually (Gilvear et al., 2000). Other economic activities in the Luangwa Valley are timber harvesting, charcoal production, photographic tourism, and safari hunting businesses. The main ethnic group is the *Kunda* and the main language spoken in the area is *chiKunda,* but ChiBisa and *ChiChewa* are also spoken.

Data Collection

Original fieldwork was conducted in August and September 2013 by the second author and four research assistants who conducted household interviews. Follow up data collection was conducted in 2015 and 2018 by the first author and two research assistants through several key informant interviews and eight focus group discussions (FDGs). The research assistants were trained prior to the fieldwork and were all competent speakers of the lingua francae the study area, *ChiNyanja,* and *ChiChewa,* that were used in the interviews. Some interviewees chose to use English. The research assistants were all university graduates with understanding of natural resource governance and rural development issues. Therefore, they had some reasonable familiarity with the subject of the research. The two authors conducted the key informant interview and supervised data collection by the research assistants.

A triple-stream approach for focus group discussions was used, i.e., women-only FGDs, men-only FGDs and FGDs with both women and men. Permission to collect data during the first phase of data collection was obtained from the Zambia Wildlife Authority (now Department of National Parks and Wildlife) headquarters and from the gatekeepers at chiefdom level. For the later fieldwork, research approval was granted by a nationally accredited research ethics board. Principles of research ethics that guided the research included informed consent, cause no harm, anonymity, and confidentiality. Thus, respondents that admitted to engaging in poaching were not reported to authorities as they had been assured of this at the beginning of the interviews.

The total number of households in the three chiefdoms was 4700 with Kakumbi Chiefdom having the largest number at 2900, whereas Nsefu and Malama Chiefdoms had 1600 and 200 respectively. Semi-structured interviews were conducted with 267 randomly sampled households; 87 from Nsefu, 166 from Kakumbi, and 14 from Malama. This constituted 5% of the total numbers of households from each of the three chiefdoms.

Given household population and desired sample size, the sampling interval was calculated to be 20. For each chiefdom, using a sampling frame consisting of all the households in the chiefdom, the first household was randomly selected, then intervals of every 20th household were picked until the required sample size was reached. The household interviews were conducted with adult members in the commonly spoken local dialects. Informed consent was obtained before any interviews were conducted. Questions focused on household and community participation, and benefits related to wildlife management in the three chiefdoms. A Likert scale was used for some questions such as residents' perceptions on levels of community participation in wildlife management and effectiveness of community wildlife management organisations. The development of a wildlife conservation ethic was evaluated by asking residents questions related to the development of wildlife conservation habits, attitudes, and perceptions. Questions examining conservation ethics asked about whether or not they thought wild animals ought to be conserved and the reasons for their views; effects of living close to wild animals, both positive and negative; whether they thought values of wild animals depended on their usefulness to humans; participation in wildlife management activities and reasons for level of participation; their perceptions on individual and community reasons for participation levels in wildlife management; benefits obtained from wildlife management, and whether this motivated individual and community participation in wildlife management; costs incurred in living close to wild animals; and whether or not wild animals had any rights.

Key informant interviews were conducted with the three chiefs, two chiefs' representatives (*indunas)*, three officials from the then Zambia Wildlife Authority (Now Department of National Parks and Wildlife), representatives from the Wildlife Conservation Society of Zambia, Community Resource Boards (CRB), and the Conservation South Luangwa (then South Luangwa Conservation Society, SLCS), and three long-term residents of the study area. The key informants represented organizations that are mandated to work with park adjacent communities to promote community participation in wildlife management. Their organizations' activities are premised on enhancing community participation through improved socio-economic benefits. It was important to interview key informants to get perspectives from a different category of actors than just residents. Questions that were asked to these key informants centred around their wildlife management activities, perceptions on community benefits from and participation in wildlife conservation, community valuation of wildlife resources, and their organizations' wildlife management ethos. Informed consent was obtained from all the key informants. For the three chiefs, we anonymised them as Chiefs A, B and C.

A conceptual framework was formulated to aid the formulation of research questions, results presentation, and data interpretation (Figure 2). The starting point

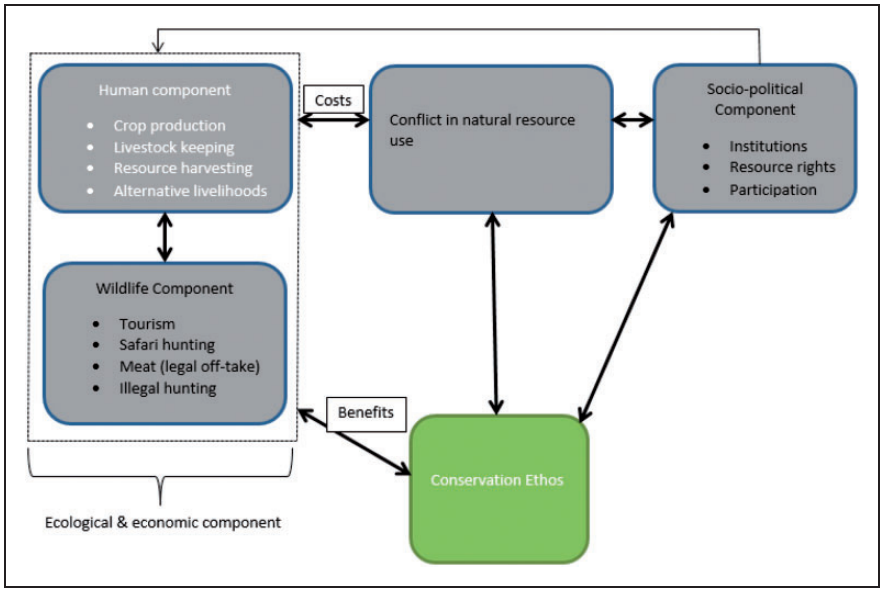

Figure 2. Conceptual Framework for Economic Benefits, Participation and Wildlife Ethics.

was the resource users that included the human communities living adjacent to the national parks, their livestock, and the wild animals. The three categories of resource users all depend on natural resources inside and around the national park. Utilization of these resources by the park adjacent communities is regulated by formal and informal institutions.

Formal institutions such as the state through the Department of National Parks and Wildlife (DNPW) regulate the utilization of resources. Consumptive use of any resources inside the national park is not permitted. Hunting of wild animals in the Game Management Area is strictly controlled and only allowed for selected species under licences issued annually at a fee. Informal institutions such as local traditional leadership epitomised by the chieftaincies also mediate resource use. Chieftaincy regulations are derived from local norms and customs, and thus vary depending on the chiefdom even among small tribal groupings. Formal and informal institutions do not always align. For instance, although the DNPW regulations stipulate that anyone intending to hunt should obtain a licence from its headquarters in Lusaka Province and pay a fee, and only hunt during a specified period and only animals of a particular gender and age, chieftaincies have their own rules that may be as simple as presenting a chicken as a gift to the chief when making the request. Wild animals frequently prey on livestock and occasionally attack and kill human beings; invade crop fields and granaries, causing food shortages. Livestock compete for the same resources as the wild animals. Therefore, resource use, by the three categories of users, mediated by the different institutions results in conflicts. The conflicts affect how the local communities perceive wild animals. Negative interactions engender negative attitudes and low levels of participation in wildlife management activities. This in turn affects the use of resources inside and around the park; poaching of wild animals and illegal harvesting of timber and non-timber forest products are more likely when community members feel they incur more costs than benefits from their proximity to wildlife. This conceptual framework helped to set questions for the residents and key informants.

Data Analysis

Responses from the household interviews, key informants and FDGs were grouped into themes using the qualitative data analysis software QDA Miner 3.2 (Provalis Research, 2009). The themes were mostly from the authors and were determined *a priori* to capture information deemed to be important in answering the main research question. These were livelihood strategies, participation in community wildlife management organizations, effectiveness of wildlife management organizations, and community attitudes toward wildlife. After data collection and during preliminary analysis, two more themes emerged and were added, namely conflicts resulting from resource use among community members and contestations among local chiefs' regarding wildlife resources ownership and benefit sharing. Similar responses pertaining to an identified theme were counted and reported as percentages of total sample size to give an indication of how widespread a view was. Illustrations of views were made by reporting the verbatim of what respondents said.

Results

Livelihood Strategies

Livelihood strategies engaged in by the households interviewed were crop production (67%), trading (25%), formal employment (10%), casual laboring (7), brick laying (4%), and fishing (2%). Some of the households (43%) would like to engage in several other livelihood strategies but were not allowed to do so. These strategies are charcoal production (34%), poaching (27%), brewing *kachasu*, an illegal local alcoholic spirit, (3%), farming of chilli pepper (*Capsicum annuum*) (2%), fishing (2%), selling of logs (1%), selling of pan bricks to lodge owners and collecting sand from the river banks (1%).

Actors Engaged in Wildlife Management

Several organizational actors are engaged in wildlife management in the study area (Table 1).

The most well-known were the community resource boards. The Department of National Parks and Wildlife (DNPW) is mandated to protect and conserve Zambia's wildlife and improve the quality of the life among communities in the wildlife estates; to maintain sustainable biodiversity in national parks and game management areas; to reverse the decline in wildlife resources; to improve wildlife resource management to a level which will secure sustainable flow of benefits from the resources; and to considerably improve the wildlife resource

Table 1. Actors Engaged in Wildlife Management in Mambwe, Zambia.

Wildlife management actors known to be operating in the three chiefdoms	Percentage of respondents (n = 256)
Zambia Wildlife Authority (ZAWA)	68
Community Resource Board (CRB)	80
South Luangwa Conservation Society (SLCS)	64
Village scouts	64
Chiefs	52
None	16.4

base investment in cooperation with the private sector and local communities (Government of the Republic of Zambia, 1998). ZAWA was mandated to establish community resource boards and allocate 45% of the revenue raised from animal licence fees to the community resource board and 5% to the community resource board patron, in the area in respect of which the animal licences has been issued (Government of the Republic of Zambia, 2004). The law stipulates that the community resource board patron should be the chief of the area. Enshrining the sharing of wildlife revenue in law is presumably meant to ensure that communities that live with the wild animals realize economic benefits from them. The ZAWA Act (Government of the Republic of Zambia, 1998) also provided for the recruitment of village scouts. These are community members who have undergone training in law enforcement and wildlife management, and work under the supervision of a community resource board and ZAWA. The village scouts are paid by community resource boards from the money the boards generate through *inter alia*, animal licence fees.

The South Luangwa Conservation Society, set up in 2003, is a non-profit community based organisation committed to the conservation and preservation of the local wildlife and natural resources of the South Luangwa National Park and at the same time ensuring and encouraging community development among local populations in the surrounding game management areas (www.zambiasafari.com). Its mission is stated as "To offer high quality support services to the Zambia Wildlife Authority and to South Luangwa community resource boards targeted at supporting the realization of excellence in wildlife management and law enforcement in the South Luangwa National Park and optimization in the utilization of natural resources in the surrounding GMAs (www.cslzambia.org). Its projects include: anti-poaching patrols and snare removal programs within the park and game management areas; upliftment of local communities by alternative income generating projects such as chili farming; education of local children to appreciate their heritage and work toward sustainable wildlife utilization and a balanced coexistence; sponsoring and co-ordinating village scout training programs; assisting community resources boards with natural resources protection through forest guards; promoting the South Luangwa Anti Snaring Campaign in local villages and schools, and habitat and wildlife data collection through monitoring by village scouts (www.cslzambia.org).

The underlying ethos for seeking employment in the wildlife sector seemed to be the accruement of benefits without a concomitant concern for wildlife conservation. The locals want more wildlife jobs, more benefits, and equality in their distribution. There were no opinions expressed on how the workings of the organizations were affecting wildlife management. The views also indicated a negative attitude toward wild animals as the responses hinged on the costs incurred due to perceived inadequate protection from wild animals for human communities by the relevant organizations. The different actors involved in wildlife management, all ostensibly guided by wildlife conservation goals use a variety of strategies, some of which result in or exacerbate conflicts between the different categories of resource users, and between the human communities and the actors. Conflicts also result from competition for resources contained in shared physical spaces by the different categories of users.

Views on the effectiveness of wildlife management organizations operating in the three chiefdoms were mixed. Over a third (36%) of the respondents felt the organizations were not effective, 24% perceived them to be fairly effective, 7% thought they were effective and 31% praised them as very effective. Most respondents would want to see changes in the ways in which these organizations operate locally. These changes include organizations protecting wildlife *and humans* as opposed to the status quo in which organizations "only protect wild animals". Related to this were calls for changes where organizations improved on their response time in cases of wild animal attacks (20%) and started to control wild animal movements (6.3%). Employment of more locals in wildlife management (11%), increased remuneration for game scouts (4%), equal distribution of wildlife revenue among residents (4%) and improved communication between organizations and community members (4%) were also desired.

Chiefs were identified to be involved in wildlife management in their areas by 52% of the respondents. The chiefs were thought to be corrupt with no good role to play in wildlife management by 39% of them. Conversely, 25% of the locals thought chiefs sensitised their subjects on the importance of wildlife, 7% thought they managed human-wildlife conflicts, 9% thought they ensured law and order in wildlife management, 7% thought they coordinated with ZAWA on wildlife management, 3% thought they protected the interests of their subjects in wildlife, and 8% did not know of any roles that their chiefs played in wildlife management.

Conflicts in Use of Wildlife Resources

Human-Wildlife Conflicts. Communities that live near protected areas usually adapt their livelihoods and social behaviour in view of risks posed by, and competition from, wildlife. For the communities under study, adaptations reported include not being able to engage in crop production due to fear of crop depredation by wild animals (26%) and putting chili pepper fences around their homesteads and farms to repel the wild animals (14%).

The rest (60%) reported that they had not adapted in any way and persistently incurred costs due to their proximity to wild animals. The perceptions of costs were as follows: crops damaged by wild animals (55%), loss of human life (25%), destruction of houses and other property (16%), and being arrested when they killed wild animals in retaliation (3%). This study contends that these costs have engendered negative attitudes toward wild animals among affected households. For example, a woman resident, whose husband and children had been crushed to death in their house by an elephant, challenged one of the research assistants to report her to the authorities for poaching. She stated her position as follows:

> I survived to take vengeance through poaching as the authorities have so far done nothing. No, I don't go out there to stalk and shoot or snare the animals myself. I brew alcohol which I use as payment for men to poach on my behalf. I take what I can eat and throw away/bury the remainder [Interview conducted on 20th August, 2013].

Another respondent—a man in his mid-40s—challenged the labelling of affected residents as poachers: "How can one be a poacher by killing an animal destroying their property or threatening their life in their own yard?"

Respondents admitted to harvesting wildlife resources from the game management area and the national park for subsistence purposes (Table 2) without following laid down procedures. Households harvested plants that they used for house construction and repair, charcoal production, and as sources of household energy from *within* the boundaries of the national park, which is against state regulations. Wild animals were similarly harvested or poached for home consumption and sale of bush meat and by-products.

The community members displayed negative values toward wildlife as well as a blatant disregard for national wildlife utilization regulations. According to key informants, these activities attract jail sentences of between three and ten years without the option of a fine even for first offenders. Such stiff penalties had however not deterred community members from illegally harvesting wildlife resources. We argue this was at least in part because it was simply not possible for community members to completely refrain from utilizing wildlife resources and expecting them to do so may be unreasonable.

Our key informant interviews with the three chiefs of the area revealed that resource use conflicts have extended to the traditional institutions, who as both patrons of their respective community resource boards and supreme traditional authorities in their chiefdoms, asserted their competing claims on wildlife resources even as they conflicted with national wildlife management regulations.

Contestations Among Local Chiefs. The three chiefs—all with chiefdoms adjacent to the national park—had similar polemics, all characterised by dissatisfaction with wildlife benefits accruing to their chiefdoms and the workings of ZAWA. Chief A, whose chiefdom is along a main road going into the South Luangwa National Park, expressed dissatisfaction at not being able to enjoy wildlife resources due to government restrictions. He said categorically,

> The value of wildlife is soup on the table! God gave me and my people the animals, but Government and NGOs dictate how we should treat the animals. They tell me not to allocate land along animal migratory corridors to my subjects, yet they had come to me and begged me to allocate them some land to work from. I see virtually no benefits from wildlife tourism. The tourists must be blindfolded until they reach the National Park so they do not start by viewing animals in my chiefdom.

Looking visibly annoyed at some point at what he perceived to be injustices towards his subjects. He complained further,

> My chiefdom has the most wildlife population. Why haven't you gone to stay in the other chiefdoms for your research? Because there are no lodges; because there are no wild animals. The resources from my chiefdom must be used to benefit me and my people. If we want, then we can give the left-overs to the other chiefdoms. Let the other chiefs show us their wild animals. My subjects and I bear the full brunt of wildlife activities

Table 2. Wildlife Resources Appropriated From South Luangwa National Park by Lupande GMA Residents.

Wild animals	Buffalo (22%), zebra (18%), puku (5%), impala (5%), bush buck (15%), antelope (4%), warthog (4%), elephant (1%), and hippo (1%)
Trees, herbs, and shrubs	Mopane (72%), mangoes (14%), bamboo (17%), setaria spp (11%), cane grass (8%), elephant grass (4%), rain tree (3%), lead wood (3%), guava (3%), neem (3%), falcon's claw (2%), *Mbalo* (2%), ivory palm (2%).

Mopane (*Colophospermum mopane*), mango (*Mangifera indica*), bamboo (*Bambusa vulgaris*), rain tree (*Philenoptera violacea*), leadwood (*Combretum imberbe*), ivory palm (*Hyphaene petersiana*), cane grass (*Eragrotis indica*), elephant grass (*Pennisetum purpureum*), guava (Psidium *guajava*), neem (*Azadirachta indica*), falcon's claw (*Acacia polyacantha*).

> and the conservation, yet other chiefs equally share the proceeds from government.

Chief A protested the equal allocation of proceeds from safari hunting among chiefdoms. He contended that he was entitled to a larger share since (1) his chiefdom had more wild animals than adjacent chiefdoms and therefore his chiefdom was *the* tourist destination (2) it was him and his subjects who suffered from wild animals "killing them" and their domestic animals, and destroying property and crops. In other words, according to the chief, his chiefdom shoulders the bulk of the costs compared to chiefdoms that did not share boundaries with the national park. As a solution, he proposed that ZAWA should restock the other chiefdoms with more wild animals so that "they could get their own tourists and bear the costs of living with wild animals". He buttressed that he must get a larger share of the tourism income because it was his side of the game management area which had lots of animals the tourists were coming to look at. If not, they should find another route into the national park and not use his chiefdom. The chief was displeased with the actions of ZAWA. He continued as follows:

> ZAWA officers were humble when they came to ask for land for their office in my chiefdom. But since I gave them the land, they have taken over and harass my people for killing animals in their own yards. ZAWA's jurisdiction is protecting animals in the national park and should ensure their animals do not get out.

The chief echoed the views of his subjects that benefits from wildlife were minimal and went further by claiming ownership of the wild animals as given by God to him and his people. Given this standpoint, wild animals are argued to be instruments for him and his people to use as they deemed fit.

Chief B who used to be in the Anti-poaching unit with the Luangwa Integrated Resource Development Project (LIRDP) agreed with ZAWA's conservation policy in general. Chief B disagreed with Chief A on allocation of wildlife benefits. He argued that the animals move to different places seasonally and so everyone is affected. However, he also decried the disenfranchisement of the traditional rulers from management and exploitation of wildlife resources. He complained about punitive and heavy-handed measures of the ZAWA officers against his subjects harvesting small animals for their families. He stressed that,

> Our ancestors moved all over the place looking for where to settle down. They finally settled here because of the abundance of wild animals to hunt easily. Now we cannot even kill a rabbit because of ZAWA scouts. They even go round checking in people's pots to see if they have cooked game meat!

The researchers observed strong hostilities between Chief B and wildlife conservation officers. The chief's palace was far off from the central place where the researchers lodged. A conservation officer from a local wildlife non-governmental organisation who had been dropping off and picking up researchers using a powerful 4×4 vehicle declined to drive the researcher to Chief B's palace fearing possible altercation with the chief. This is despite the journey having the worst terrain and being risky for an ordinary local taxi. However, contrary to researchers' apprehension, Chief B was jovial and amicable in his welcome and interview.

The hostilities between the chief and wildlife law enforcement officers had a history. Not long before the interview, the chief had been arrested by the ZAWA for poaching. During the interview with a journalist reported in the print media Chief B asserted his claims over the wildlife resources when he stated that ZAWA officers have been involved in poaching, but *he had not taken any action against them*. His statement suggests that he believed he had the right to act against unauthorised hunting of *his* wild animals, even against state employed wildlife management officials.

Chief C, similarly, but with more diplomacy than his colleagues, complained about the lack of benefits from wildlife in his chiefdom by initially framing himself and his people as the *bona fide* or *de jure* claimants whose rights over the wildlife resources were instituted by God through their ancestors. He then complained about how the state was the *de facto* owner of the wild animals but was unresponsive to requests for compensation for his people whose crops and property had been damaged by wild animals. He nostalgically referred to previous years when ZAWA money from wildlife had contributed to building a school and sinking of a borehole in his chiefdom.

The three chiefs complained about the benefits their respective chiefdoms get from safari hunting as not being commensurate with the costs they incur. They all claimed to be owners of the wild animals in their chiefdoms, ostensibly to justify their entitlements to economic benefits accrued from said wild animals. The chiefs did not express any sentiments in support of wildlife conservation but equivocally justified the killing of wild animals that strayed into their subjects' agricultural fields or homesteads. This is not withstanding the fact that their chiefdoms are located in a game management area, a buffer zone around the national park and wild animals routinely move between the chiefdoms and the national park.

Whereas the chiefs were locking horns over whose chiefdom deserved more economic benefits from wildlife, their subjects lamented the chiefs' involvement in

community wildlife management. Due to their positional power and authority conferred on them by local norms and customs, chiefs are not subject to accountability mechanisms designed to encourage transparency in the running of community organizations. In instances where chiefs are perceived to be using their positions to promote patron-client relationships, unhappy subjects' common recourse is to negate their participation and subsequently develop negative attitudes towards the conservation project, which is contrary to ICDP goals. Unlike ordinary community members, chiefs also focused on political control of resources. Gibson and Marks (2005) had similarly noted that chiefs used ADMADE to secure more power and resources for themselves rather than to facilitate local participation or wildlife conservation.

Participation in Community Wildlife Management

The majority of the households (68%) said they were not personally involved in community wildlife management in any way while 32% reported being involved in some way. Reasons advanced for individual involvement in community wildlife management for those that were involved were dominated by economic benefits for the individuals that were involved (Table 3).

The general level of community participation in wildlife management was variously perceived by the respondents to be low (37%), fairly good (18%), good (16%), very good (19%), while less than 1% thought there was no community involvement in wildlife management. Community participation in wildlife management was perceived to be based on the acquisition of benefits. These benefits included employment (20%), receiving of hand-outs such as food (12%), revenues for the community through community resource boards (5%), tourism and exposure (2%), free education for children through sponsorships offered by wildlife management organizations (2%), and community members wanting to partake of the benefits from safari hunting (1%). Only 1% of the respondents thought it was so that community members could learn about wildlife conservation. Almost half (49%) of the respondents did not perceive any benefits for community participation in wildlife management. Respondents' views on what motivated community participation in wildlife management converged on economic interests (Figure 3).

Table 3. Reasons for Individual Involvement in Wildlife Management.

	Percentage of respondents
(a) Reason for individual involvement in wildlife management	n = 82
Income earning opportunities	78.8
Been chosen for involvement by community	4.5
Wanted to conserve wildlife	16.7
Just volunteered	1.5
(b) Reason for individual lack of involvement in wildlife management	n = 171
Lack of interest	35.5
Corruption in recruitment process	10.5
Lack of opportunities for involvement	40.3
Fear and disillusionment	3.2
No benefits for participation	1.6
Not eligible to participate	1.6
Having a small family size	6.4

A majority of the respondents did not participate for wildlife conservation purposes, and neither did they think that others did. Only 12.6% attributed motivation for community participation to wildlife protection. They further observed that community members that would want to participate in wildlife management were hindered from doing so by several factors. Slightly over a quarter (27%) mentioned corruption during recruitment of village scouts and appointments to positions of responsibility in the local wildlife management structures to be inimical to community participation. Lack of benefits for community members, a sheer lack of interest, and ignorance of recruitment process for community participation were cited by 22%, 10% and 7% of the respondents respectively. Not having wildlife management knowledge, not having any appreciation for wildlife, wildlife management organizations failing to meet community needs and even demanding payment for participation were also reported albeit by less than 5% of the respondents.

Around 12% of the respondents thought community members' participation in wildlife management activities was motivated by their desire to manage wildlife while 13% thought it was to gain wildlife management education. Only 16% reported that they participated because they wanted to conserve wildlife (Table 3). Hence, most of the respondents attributed personal and community participation in wildlife management to factors other than wildlife conservation. When asked whether they thought wild animals should be conserved, 90% of the respondents affirmed so while 10% did not. When probed on the reasons for their views, the majority subscribed to the utilitarian axiological view (Table 4). The few that were against wild animal conservation all gave reasons linked to a lack of benefits for and costs incurred by humans.

Discussion

Livelihood Strategies

The respondents complained about not being able to employ some livelihood strategies because of living in a

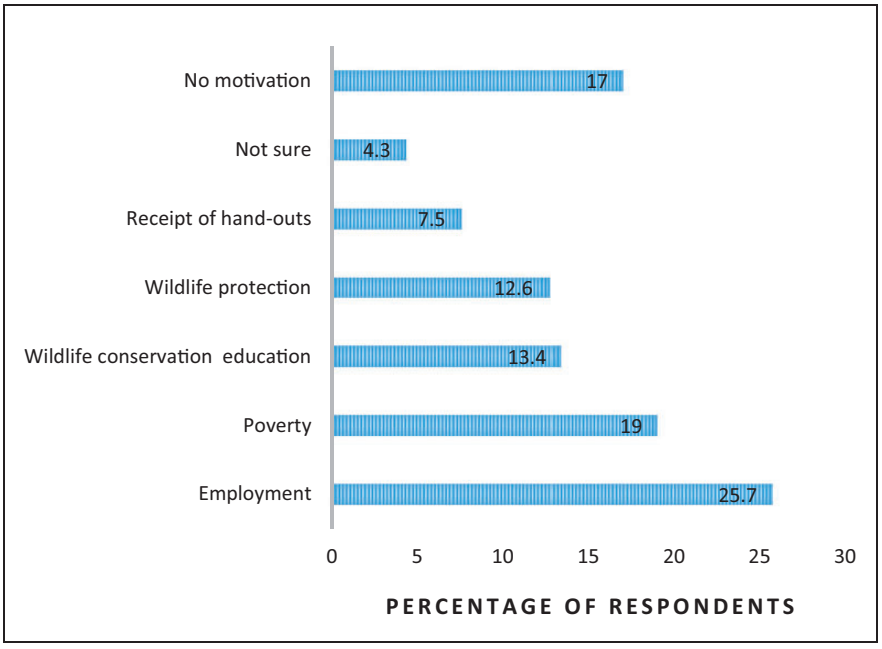

Figure 3. Motivations for Participation in Community Wildlife Management.

Table 4. Reasons for Wildlife Conservation Views.

	Percentage of respondents
(a) Reasons for why wild animals ought to be conserved	n = 239
Tourism income earning opportunities	49.0
For future generations to benefit	24.0
Wild animals have right to life	7.1
They are food for humans	5.8
They bring employment to locals	4.0
For nature to thrive	3.1
They are God's creation	4.4
Because they are harmful	1.8
Demanded by Zambia Wildlife Authority	0.4
No reasons	0.4
(b) Reasons for why wild animals ought not to be conserved	n = 28
They do not bring any benefit	57.0
They bring a lot of trouble	32.0
They eat human's food but are not allowed to be eaten	10.7

game management area. For example, charcoal production and pan brick making would entail harvesting of timber resources and are thus not permitted. They thus perceive this as opportunity costs incurred by virtue of their proximity to a protected area.

Furthermore, respondents indicated that although it is prohibited legally, they harvest forest wildlife products for various uses such as firewood fuel, food, and construction. They also admitted to poaching smaller animals both for consumption and for income generation through illegal bush meat trade. Watson et al. (2013), in a study in the South Luangwa National Park, affirmed that the area's economy is wildlife-based. The study further corroborates our findings by showing evidence of wire-snaring of wildlife inside national park areas immediately adjacent to human settlements. Although no evidence of snaring was found in the interior of the national park, poaching still occurred using firearms. This dependence on wildlife resources is not unique to the study area. Gibson (1999) observed that the edible and non-edible products of wild animals were generally essential parts of diets and social relationships in Zambian rural communities. Wild animals affect farmers' decisions and bush meat was and continues to be part of the rural dweller's household economy. This is also confirmed by the evidence that locals, and not outsiders, consisted the majority of those arrested for poaching (Gibson, 1999; Watson et al., 2013).

Conflicts in Use of Wildlife Resources

Human-wildlife conflicts associated with livestock predation is common among park adjacent communities. The loss of domestic animals to wild animal attacks or disease entails substantial and even invisible losses for people living close to protected areas (Masse, 2016). Harrison et al. (2015) found that illegal harvesting of resources from Bwindi Impenetrable National Park in

Uganda was partly motivated by crop raiding by wild animals, inequity of revenue sharing, and lack of employment; factors that created resentment among the poorest communities. We argue that such human-wildlife conflicts have contributed to the lack of a conservation ethic among the study communities as the communities suffer losses which are not compensated. Milupi et al. (2020) also affirm the uneven distribution of benefits and the lack of compensation for losses incurred as a problem for conservation in Lupande GMAs.

Gibson and Marks (1995) had similarly observed that ADMADE did not induce rural residents in Luangwa Valley to forego hunting, but to change tactics and prey. Gibson and Marks (1995) further observed that chiefs also used the programme to secure more power and resources for themselves rather than to facilitate local participation or wildlife conservation. Songorwa et al. (2000) had similarly contended that rural communities have negative attitudes toward wildlife because many species found there are destructive and dangerous. Thus, residents may continue to hunt wild animals in retaliation for crop raids or destruction to household property despite some evidence of community benefits in form of schools, clinics, and boreholes. Villagers particularly demand the killing of elephants because they are seen to cause the most damage, they supply more meat to the villagers, and their killing represents a form of punishment for the damage caused (Child & Dalal-Clayton, 2004).

Comparisons made by Infield and Namara (2001) of community attitudes and behaviour towards conservation after seven years of a community conservation programme in Uganda did not show that communities were generally more positive toward conservation and suggested that residents were more critical of management and demanded more support and resources than they had received. Heinen and Shivastava (2009) found a high degree of conservation awareness among residents of a park adjacent area in India but most expressed negative conservation attitudes as almost all had lost crops to wildlife. Rickenbach et al. (2017) made similar observations among the Bantu and Yaka Pygmy forest dwellers of Northern Congo when they reported that anthropocentric value orientations towards wildlife were motivated by heavy reliance on bush meat. We argue that crop raids and destruction of property by wild animals induce negative attitudes towards wildlife which are not easy to change even with the provision of benefits and community participation rhetoric. In addition, for as long as residents perceive that office bearers are corrupt and processes for recruitment into wildlife management related employment positions are not transparent, they will express their protests through acts such as apathy and pilferage of wildlife resources.

Contestations Among Chiefs. All the three chiefs complained about the benefits their respective chiefdoms receive from safari hunting as not being commensurate with the costs they incur. The disbursement of benefits was also erratic and late (Milupi et al., 2020). All chiefs claimed to be owners of the wild animals in their chiefdoms, ostensibly to justify their entitlements to economic benefits accrued from said wild animals. The chiefs did not express strong sentiments in support of wildlife conservation but unequivocally justified the killing of wild animals that strayed into their subjects' agricultural fields or homesteads. This is not withstanding the fact that their chiefdoms are located in a game management area, a buffer zone around the national park and wild animals routinely move between the chiefdoms and the national park.

Chiefs disagreed on proportionality of benefits which were given to them equally. Chief A demanded more benefits than the other chiefs while Chief B insisted on equal distribution. This exposes some latent tensions even among traditional rulers around issues of distributive justice which includes dimensions such as desert, equality, or need as the basis for a fair sharing of benefits and burdens in wildlife management (see Lecuyer et al., 2019). In exploring complex interrelationships among actors, there is need to probe for intra-group nuances and tensions and not merely focus on collective interests. Resolving the inter-group conflicts may still leave the intra-group conflicts that would still fuel conservation conflict. Scholars have rightly called for addressing social justice, environmental justice and ecological justice to effectively resolve biodiversity conflicts and manage the environment sustainably (Kopnina, 2019; Lecuyer et al., 2019; Wienhues, 2017). A reward and compensatory system that considers all the nuances is likely to result in sustainable conservation goals. Such a system would foster good relations among actors that have been identified as a predictor of human tolerance to damage by wildlife (Kansky et al., 2016).

Whereas the chiefs disagreed over whose chiefdom deserved more economic benefits from wildlife, their subjects lamented the chiefs' involvement in community wildlife management. Due to their positional power and authority conferred on them by local norms and customs, chiefs are not subject to accountability mechanisms designed to encourage transparency in the running of community organizations. In instances where chiefs are perceived to be using their positions to promote patron-client relationships, unhappy subjects' common recourse is to negate their participation and subsequently develop negative attitudes towards the conservation project, which is contrary to ICDP goals. Unlike ordinary community members, chiefs also focused on political control of resources. Gibson and Marks (2005) had similarly noted that chiefs used

ADMADE to secure more power and resources for themselves rather than to facilitate local participation or wildlife conservation.

The chiefs' desire for greater control over resources brings them in direct conflict with wildlife officials from government and non-governmental organisations as well. Chief B's argument highlighted what is seen as excessive use of force against villagers who are labelled as villains. Chief A also showed some indignation against white hunters when he said they should be blindfolded when passing through his chiefdom. The two chiefs highlighted the conservation moral discourse that approves of white hunters but disapproves of indigenous poachers arrested even for killing small game or fish (Neumann, 2004). This is a result of historical denigration of African hunting practices (Steinhart, 2006) and is putatively reflected in the militarisation of conservation in Africa based on a skewed definition of poaching (Duffy, 2014; Duffy et al., 2019).

Participation in Community Wildlife Management

Our results reveal low participation in wildlife conservation activities by community members. This mirrors findings of low CBNRM participation in a study by Milupi et al. (2020). The apathy is related to their sense of exclusion from wildlife benefits: there is a sense that only the few well-connected members accrue benefits through employment as village scouts while the local elites use their positions to individualise what should be community benefits. In the case of Nsefu Chiefdom, only 18 households out of the 1600 had members employed as village scouts. Each scout earned a monthly salary of ZMW700 (USD70).

In one chiefdom, community members complained that when the chief is given a carcass of a large wild animal (buffalo or hippo) such as one killed as a problem animal or culling, the chief would fill up his fridges with the meat for consumption and sale and give only a little to some villagers who suffer the most damage. This corroborates some research that have noted elite capture by those in authority in community-based wildlife management (Lucas, 2016; Saito-Jensen et al., 2010). Seeing one expected occasional benefit of community participation being enjoyed by the chiefs only seemed to demotivate community members in their commitment to wildlife conservation.

The community in the study area, like their three chiefs, exhibited a utilitarian wildlife value orientation, holding that wild animals are essentially for human use even if this entails harming or killing the wild animals (Kansky et al., 2016). This is in accord with the observation that Africa's morality towards animals is essentially anthropocentric (Horsthemke, 2015). This explains, at least in part, their apathy to wildlife conservation once immediate benefits from wildlife were not forthcoming. The finding confirms criticisms of community-based conservation strategies that assume continuous and sustainable benefits for communities (Umar, 2018) and exposes the lack of a full-fledged animal-centred conservation ethic in current conservation praxis (Kapembwa, 2017).

Implications for Conservation

Our results suggest that emphasizing local community participation and economic benefits have not engendered a wildlife conservation ethic but instead inculcated a focus on economic benefits among the park adjacent communities. This is presumably a result of ICDP promoters using economic benefits to motivate community participation under the assumption that both would lead to a greater appreciation of wildlife and subsequently its conservation. This study finds that residents appropriated resources, including poaching of wild animals from the national park in blatant disregard of national wildlife regulations. They were not permitted to engage in some livelihood strategies due to their proximity to the park. This limited their livelihood strategies and severely worsened their welfare as the few livelihood strategies they were permitted to engage in, such as crop production and livestock rearing, were adversely affected by wild animals through depredation. Community members are at a losing end and their actions may also indicate their contestations of the legislation that has taken away their traditional rights and claims over natural resources. The several organizations involved in community conservation and law enforcement in the area were perceived to be too focused on wild animals and not doing enough to protect humans and their crops from wild animal raids, a source of human-wildlife conflict. This points to the need to carefully balance the needs of environmental justice and those of ecological justice (see Kopnina, 2019).

Ambivalent attitudes were expressed towards chiefs' involvement in wildlife management citing them as being responsible for sensitising their subjects on the importance of wildlife and managing human-wildlife conflicts, but also as being very corrupt and capturing the bulk of the wildlife benefits. Redpath et al. (2015) caution against conservationist' bias towards conservation results and top-down enforcement on non-participatory stakeholders. Similarly, Lecuyer et al. (2019) aver that procedural justice is cardinal to addressing biodiversity conflicts and that ignoring the local community's knowledge ignited feelings of injustice which in turn reduced community cooperation in conservation interventions. The chiefs' concern to focus more on human-human conflicts in addressing human-wildlife conflict appear justified based on this study's findings. Conflicts among the actors led some community members to exploit wildlife in protest, retaliation, or self-compensation for losses incurred.

The acrimony between Chief B and wildlife law enforcement officers indicates the chief and his subjects are unlikely to cooperate in wildlife conservations efforts. There is need to foster collaboration and common ground among actors in environmental or wildlife management in order to reduce biodiversity conflicts (Lecuyer et al., 2018).

Illegal appropriation of wildlife resources has continued, seemingly unabated despite decades of integrated conservation and development projects. Promises and offers of economic benefits is arguably insufficient for the development of a community conservation ethic by itself. Neither is the formulation of community participation strategies. The quality of benefits and the quality and type of community participation matter. Community participation in wildlife conservation must be in activities that either explicitly link economic benefits to very specific individual actions resulting in wildlife conservation or appeal to their value systems and their linkages to a conservation ethic. In the case of recourse to economic benefits, the benefits offered must be large enough to offset the opportunity cost of not participating in economic activities they would otherwise participate in, and shared in a transparent and equitable manner reflecting community perceptions of fairness (see Lecuyer, 2019). Capture of benefits by a few elites triggers resentment and apathy as wildlife costs are incurred by all.

A sustained focus on economic benefits risks delinking economic benefits from wildlife conservation, or the development of perceptions of wildlife as mere instruments for human welfare. In such instances demands are made by park adjacent residents for economic benefits due to them from wildlife either as claimants with ownership rights or as victims of wild animal activities which lead to destruction of property and loss of human life. We recommend that community conservation efforts should instead be focused on creating awareness and appreciation of the intrinsic value of wildlife; that wild animals have a right to exist that is independent of their utility to humans. Development of low cost adaptation strategies that minimise negative interactions between humans and wildlife could potentially lead to more positive attitudes towards wild animals and possibly a pro conservation ethic.

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References

Adams, W. M., & Hulme, D. (2001). If community conservation is the answer in Africa, what is the question? *Oryx*, *35*(3), 193–200.

Adams, W. A., & Hutton, J. (2007). People, parks and poverty: Political ecology and biodiversity conservation. *Conservation and Society*, *5*(2), 147–183.

Adams, W. M., & Infield, M. (2003). Who is on the gorilla's payroll? Claims on tourism revenue from a Ugandan National Park. *World Development*, *31*(1), 77–190.

Agrawal, A., & Gibson, C. C. (1999). Enchantment and disenchantment: The role of community in natural resource conservation. *World Development*, *27*(4), 629–649.

Balakrishnan, M., & Ndhlovu, D. E. (1992). Wildlife utilization and local people: A case-study in Upper Lupande Game Management Area, Zambia. *Environmental Conservation*, *19*(2), 135–144.

Child, B., & Dalal-Clayton, B. (2004). *Transforming approaches to CBNRM: Learning from the Luangwa experience*. Columbia University Press.

Barrett, C. B., & Arcese, P. (1995). Are integrated conservation-development projects (ICDPs) sustainable? On the conservation of large mammals in sub-Saharan Africa. *World Development*, *23*(7), 1073–1084.

Barrow, E., & Murphree, M. (2001). Community conservation: From concept to practice. In D. A. M. Hulme (Ed.), *African wildlife and livelihoods—The promise and performance of community conservation (pp. 24-37)*. James Curry Ltd.

Campbell, L. M. (2002). Conservation narratives in Costa Rica: Conflict and Co-existence, *Development and Change*, *33*, 29–56.

Davies, T. E., Fazey, I. R. A., Cresswell, W., & Pettorelli, N. (2013). Missing the trees for the wood: Why we are failing to see success in pro-poor conservation. *Animal Conservation*, *17*(4), 303–312.

Duffy, R. (2014). Waging a war to save biodiversity: The rise of militarised conservation. *International Affairs*, *90*, 819–834.

Duffy, R., Masse, F., Smidt, E., Marijnen, E., Buscher, B., Verweijen, J., Ramutsindela, M., Simlai, T., Joanny, L. & Lunstrum, E. (2019). Why we must question the militarisation of conservation. *Biological Conservation*, *232*, 66–73.

Emerton, L. (2001). The nature of benefits and the benefits of nature—Why wildlife conservation has not economically benefited communities in Africa. In D. Hulme & M. Murphree (Ed.), *African wildlife and livelihoods—The promise and performance of community conservation (pp. 208 -226)*. Heinemann.

Fernández, A. (2010). *Wildlife conservation in Zambia: Impact of game management areas on household welfare* [MSc Thesis]. Michigan State University. Michigan.

Gibson, C. C. (1999). *Politicians and poachers: The political economy of wildlife policy in Africa*. Cambridge University Press.

Gibson, C. C., & Marks, S. A. (1995). Transforming rural hunters into conservationists: An assessment of community based wildlife management programs in Africa. *World Development*, *23*(6), 941–957.

Gilvear, D., Winterbottom, S & Sichingabula, H. (2000) Character of channel planiform change and meander development: Luangwa River, Zambia, Earth Surf, Processes, Landforms, *25*, 421–436.

Government of the Republic of Zambia. (1998).*The Zambia wildlife act No. 12 of 1998*. Government Printers.

Government of the Republic of Zambia. (2004). *Zambia wildlife (community resources boards revenue) regulations, 2004*. Government Printers.

Government of the Republic of Zambia. (2015). *The Zambia wildlife act No. 14 of 2015*. Government Printers.

Harnish, A. (2014). Extractive workload: A mixed-method approach for investing the socially differentiated effects of land-use/land-cover changes in a southern Zambia frontier. *Population and Environment*, *35*(4), 455–476.

Harrison, M., Baker, J., Twinamatsiko, M., & Milner-Gulland, E. J. (2015). Profiling unauthorized natural resource users for better targeting of conservation interventions. *Conservation Biology*, *29*(6), 1636–1646.

Heagney, E. C., Kovac, M., Fountain, J., & Conner, N. (2015). Socio-economic benefits from protected areas in southeastern Australia. *Conservation Biology*, *29*(6), 1647–1657.

Heinen, J. T., & Shivastava, R. J. (2009). An analysis of conservation attitudes and awareness around Kaziranga National Park, Assam, India: Implications for conservation and development. *Population and Environment*, *30*(6), 261–274.

Horsthemke, K. (2015). *Animals and African ethics*. Palgrave Macmillan.

Infield, M. (2001). Cultural values: A forgotten strategy for building community support for protected areas in Africa. *Conservation Biology*, *15*(3), 800–802.

Infield, M. & Adams, W. M. (1999) Institutional sustainability and community conservation : A case study from Uganda. *Journal of International Development*, *11*, 305–315.

Infield, M., & Namara, A. (2001). Community attitudes and behaviour towards conservation: An assessment of a community conservation programme around Lake Mburo National Park, Uganda. *Oryx*, *36*(1), 48–60.

Jimoh, S. O., Ikyaagba, T. E., Alarape, A. A., Obioha, E. E., & Adeyemi, A. A. (2012). The role of traditional laws and taboos in wildlife conservation in the Oban Hill Sector of Cross River National Park (CRNP), Nigeria. *Journal of Human Ecology*, *39*(3), 209–219.

Kapembwa, J. (2017). *Wildlife rights and human obligations* [PhD Thesis]. University of Reading. http://centaur.reading.ac.uk/78228/

Kansky, R. Kidd, M. & Knight, A. (2016). A wildlife tolerance level model and case study for understanding human wildlife conflict. *Biological Conservation*, *201*, 137–145.

Kopnina, H. (2019). Indigenous rights and ecological justice in Amazonia: Exploring ethics of wildlife conservation. *International Journal of Wilderness*, *25*(1), 76–90.

Lecuyer, L., Calmé, S., Blanchet, F. G., Schmook, B., & White, R. M. (2019). Factors affecting feelings of justice in biodiversity conflicts: Toward fairer jaguar management in Calakmul, Mexico. *Biological Conservation*, *237*, 133–144.

Lecuyer, L., White, R. M., Schmook, B., & Calmé, S. (2018). Building on common ground to address biodiversity conflicts foster collaboration in environmental management. *Journal of Environmental Management*, *220*, 217–226.

Lewis, D., Bell, S. D., Fay, J., Bothi, K. L.,Gatere, L., Kabila, M., Mukamba, M., Matokwani, E., Mushimbalume, M., Moraru, C. I., Lehmanne, J., Lassoie, J., Wolfe, D., Lee, D. R., Buck, L., & Travis, A. J. (2011). Community Markets for Conservation (COMACO) links biodiversity conservation with sustainable improvements in livelihoods and food production. *Proceedings of the National Academy of Sciences*, *108*(34), 13957–13962.

Lucas, A. (2016). Elite capture in and corruption in two villlages in Bengkulu province, Sumatra. *Human Ecology*, *44*, 287–300.

Masse, F. (2016). The political ecology of human-wildlife conflict: Producting wilderness, insecurity and development in the Limpopo National Park. *Conservation and Society*, *14*(2), 100–111.

McNeely, J. A. (1989). *Protected areas and human ecology: How National Parks can contribute to sustaining societies of the twenty-first century*. Oxford University Press.

McShane, T. O., & Wells, M. P. (2004). *Getting biodiversity projects to work: Towards more effective conservation and development*. Columbia University Press

Milupi, I. D., Somers, M. J., & Ferguson, W. (2017). A review of community-based natural resources management. *Applied Ecology and Environmental Research*, *15*(4), 1121–1143.

Milupi, I. D., Somers, M. J., & Ferguson, W. (2019). Inadequate community engagement hamstrings sustainable wildlife resource management in Zambia. *African Journal of Ecology*, *58*(1), 1–11.

Neumann, P. R. (2004). Moral and discursive geographies in the war for biodiversity in Africa. *Political Geography*, *23*, 813–837.

Newmark, W. D., & Hough, J. (2000). Conserving wildlife in Africa: Integrated conservation and development projects and beyond. *Bioscience*, *50*(7), 585–592.

Ngoma, P. (2012). Landuse practices interface: Human-wildlife conflict in Lupande Game Management Area [MSc Thesis]. University of Zambia.

Nshimbi, M., & Vinya, R. (2014). Impacts of public-private partnerships on local livelihoods and natural resource dynamics: Perceptions from Eastern Zambia. *Resources*, *3*, 471–487.

Provalis Research. (2009). *QDA miner version 3.2*.

Rabinowitz, A. (1999). Nature's last bastions: Sustainable use of our tropical forests may be little more than wishful thinking. *Natural History*, *108*, 70–72.

Redpath, M. S., Bhahia, S., & Young, J. (2015). Tilting at wildlife: Reconsidering human-wildlife conflict. *Oryx*, *49*(2), 222–225.

Rickenbach, O., Reyes-García, V., Moser, G., & García, C. (2017). What explains wildlife value orientations? A study among Central African forest dwellers. *Human Ecology*, *45*, 293–306

Saito-Jensen, M., Nathan, I., & Treue, T. (2010). Beyond elite capture? Community-based natural resource management and power Mohamed Nagar village Andhra Pradesh, India. *Environ Conservation*, *37*(3), 327–335.

Simasiku, P., Simwanza, H. I., Tembo, G., Bandyopadhyay, S., & Pavy, J. (2008). *Game management areas in crisis. The impact of wildlife management policies on communities and conservation*. Natural Resources Consultative Forum.

Sinclair, A. J., Collins. A. S., & Spaling, H. (2011). The role of participant learning in community conservation in the Arabuko-Sokoke Forest, Kenya. *Conservation and Society*, *9*(1), 42–53.

Songorwa, A. N., Buhrs, T., & Hughey, K. F. D. (2000). Community-based wildlife management in Africa: A critical assessment of the literature. *Natural Resource Journal*, *40*, 603–643.

Steinhart, E. I. (2006). *Black poachers, white hunters: A social history of hunting in colonial Kenya*. EAEP.

Terborgh, J. (1999). *Requiem for nature*. Island Press.

Tumusiime, D., & Vedeld, P. (2012). False promise or false premise? Using tourism revenue sharing to promote conservation and poverty reduction in Uganda. *Conservation and Society*, *10*(1), 15–28.

Umar, B. B. (2018). Strategies for wildlife management in Africa: Actors, successes and failures. In R. Ebert & A. Roba (Eds.), *Africa and her animals (pp. 393-408)*. University of South Africa Press.

Wainwright, C., & Wehrmer, W. (1998). Success in integrating conservation and development? A study from Zambia. *World Development*, *26*(6), 933–944.

Watson, F., Becker, S. M., McRobb, R., & Kanyembo, B. (2013). Spatial patterns of wire-snaring poaching: Implications for community conservation in buffer zones around national parks. *Biological Conservation*, *168*, 1–9.

Wienhues, A. (2017). Sharing the earth: A biocentric account of ecological justice. *Journal of Agricultural and Environmental Ethics*, *30*, 367–385.

Winkler, R. (2011). Why do ICDPs fail?: The relationship between agriculture, hunting and ecotourism in wildlife conservation. *Resource and Energy Economics*, *33*(1), 55–78.

Zambia Tourism Board. (2016). *South Luangwa National Park*. www.zambiatourism.com.