

Assessing Wildlife Consumption Awareness and the Attitudes of the Local Lambwe Valley Community towards Ruma National Park, Kenya

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Abstract

The study was conducted around Ruma National Park within Lambwe Valley in Kenya. The study fulfils the gap of knowledge about wildlife consumption awareness and attitudes of the local Lambwe valley community towards the park. It is believed that understanding the level of awareness and community attitude would provide imperative information that could contribute to wildlife conservation within the park. The key objective of the study was to establish how the locals perceive the national park and their level of awareness of illegal wildlife consumption in the area. The study adopted survey design using both structured questionnaires and focus group discussions to collect information from the local community. In order to disseminate questionnaires, simple random technique was further used to select the respondents. The respondents comprised households living adjacent to the national park. Structured questionnaire interviews were complimented with focus group discussions in order to gather more information and to collect diverse views. The data collected was subjected to descriptive and inferential tests. The study established that majority of the local community had negative attitude towards the park and did not require the park within their locality. Local community were aware that snaring of wildlife took place in and around the park and majority believed the future of the park was bleak. Illegal wildlife hunters were mainly from the local community and the status of wildlife numbers outside the park was declining. Majority were also not aware about Kenya's wildlife laws prohibiting illegal hunting and bushmeat consumption. The study concludes and recommends that local communities in the area should be sensitized and educated on Kenya's wildlife laws specifically laws relating to illegal hunting and bushmeat consumption and trade. Creating local awareness on the benefits of wildlife conservation without tangible benefits from the park might not influence attitude change and deter wildlife utilization in the area. New policies could be formulated for integrated park management where local community, especially the youth, could actively participate in wildlife conservation. Developing and promoting alternative forms of tourism in the area could bring benefits to the local community thus leading to attitude change and alternative source of livelihood.

Keywords: Wildlife consumption awareness; Attitudes; Local community

Introduction

In Sub-Saharan Africa, Kenya included, many protected areas were first created during colonial times as hunting grounds or parks for European elites, with little or no regards for the needs or desires of local communities [1-3]. Their creation was often considered a foreign concept and outgrowth of western conservation needs and values [4-9]. As a result, the management of protected areas is challenged by conflict of interest between stakeholders, economic or livelihood interest of local people on one side and conservation needs by the park management on the other side [10]. Lack of support and conflict between people residing in and around protected areas and conservation agencies are other challenges of protected area management [11]. Due to the livelihood implications caused by protected area establishment local communities perceive it as a liability [12]. This has been going on despite the fact that protected areas are the cornerstone of national and international conservation strategies [13].

The challenges of coexistence of humans and wildlife are termed human-wildlife conflict and manifests when humans encroach onto wildlife areas [14] and/or when human safety and/or property such as farm-fields, livestock or infrastructure are threatened by wildlife [15]. This often has negative impacts on human livelihoods and wellbeing, leading to hostile and retaliatory responses [16,17]. These interactions occur in many contexts [18]. Forms of retaliation include killing wildlife, poaching, destruction of natural habitat, or illegal resource extraction while wildlife may cause loss of human life, crop damage, livestock depredation as well as targeting poultry [15,19-24]. The level

of hostility may also increase discord between those with biodiversity interests and those with humanistic interests, adding another dimension of conflict [25]. High opportunity costs of living alongside wildlife can also manifest further into problems of habitat destruction and poaching [15] demanding a detailed identification of cause-and-effect relationships to design future interventions [26].

Africa, for example, has had bitter experience on wildlife poaching [27]. Killing wildlife is not exclusively motivated by livestock depredation or economic drivers but other factors such as perception, fear and personal, environmental and social motivations, which may be even more important in driving conflict than the damage incurred [28-30]. Conflict may also be intensely political, linked to power relationships and/or socio-economic constraints [25]. The relative wealth and security of the people can affect the real impact of damage and therefore their antagonism [31]. On the other hand, in impoverished rural economies, conflict may arise from local people

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searching for solutions to their overwhelming livelihood demands [32]. However, the human dimension is often ignored in conflict studies [28] or considered only in terms of general attitudes towards conservation, which has limited value in designing interventions [28,33].

Great losses can leave poverty-stricken people feeling powerless if they feel costs have been imposed upon them, especially in areas nearby protected areas and if they are unable to recover from impacts of damage [31,34]. On the other hand, perceptions of positive benefits from wildlife may decrease likelihood of hostility towards wildlife. Antagonism towards wildlife can also be rooted within societal tensions [31]. Such tensions can be particularly intense around protected area boundaries, where benefits of wildlife are felt to accrue to the government, tourists and external entities at the expense of valuable agricultural land [35]. In addition, rural people often perceive wildlife as property of the state. With this perspective, state institutions that manage and govern protected areas are perceived responsible for keeping wildlife within protected areas and away from human inhabited areas [36].

Studies of rural communities in developing countries have found that access to conservation-related benefits and involvement of local people in decision-making for resource management can positively influence local attitudes towards wildlife, protected areas, and conservation [36,37]. In Kenya, for example, most of the national parks and reserves are heavily dependent on surrounding community and private owned lands for their ecological survival and integrity [38]. Research has shown that information on perception and attitudes of local communities living in and around protected areas is important to identify management programs and strategies that best suit the protection of biodiversity alongside the development of local community livelihoods [39-43]. This study explores not only local Lambwe Community attitudes but also their level of awareness of wildlife snaring in the region. It is believed that understanding the attitudes of local communities, particularly where their rural livelihoods are dependent on agriculture, like around Ruma National Park, is vital for resolving wildlife-human conflicts, which otherwise can threaten the success of any conservation activity [8,44]. In addition, local communities are vulnerable to the establishment of protected areas since they are followed by wildlife policies that restrict access to wildlife resources and their subsequent use [12].

Based on the fact that attitudes are a strong predictor of a person or group's intentions to behave in a particular manner such as complying with wildlife protection regulations, assessing attitudes and perceptions of humans toward wildlife provides insights on the degree to which people are willing to cohabit with wildlife. Moreover, the cooperation of communities and private landowners is essential for wildlife conservation [38]. Mutually supportive relationships between communities and nearby protected area are critical to the long-term success of conservation efforts. Their cooperation is crucial for the success of conservation activities [38]. Since there is increased interest in engaging local residents in management and conservation efforts in protected areas [45-49], assessing the attitudes and snaring awareness among the Lambwe valley community would provide imperative information about snaring activities in and around Ruma national park thus contributing to wildlife conservation efforts in the region.

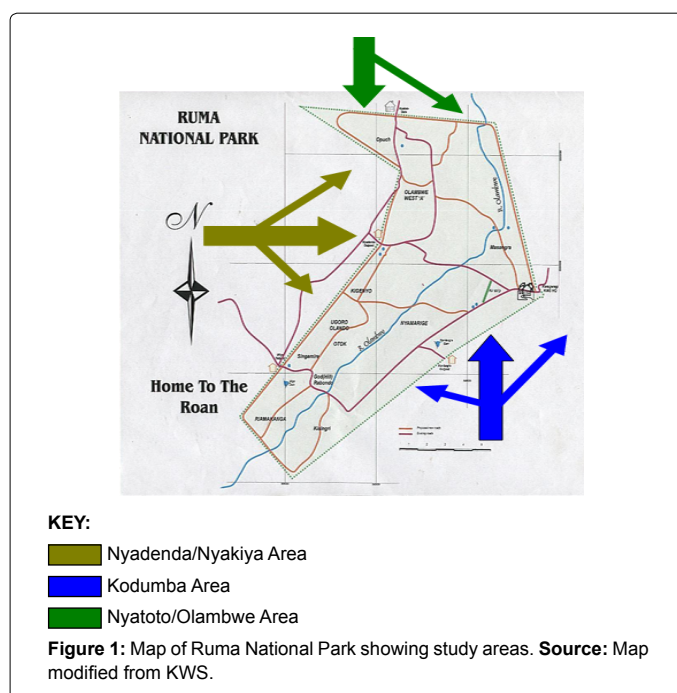
Study Area

The research was conducted around Ruma National Park in Lambwe Valley, Kenya. The park, with a size of 120 km², was gazetted in 1966 as Lambwe Valley Game Reserve and later acquired national park status in 1983. The park is within Homa-bay County and is around

140 km from Kisumu City, 10 km East of Lake Victoria and 25 km South West of Homa-bay town. The park lies within the flat floor of the famous Lambwe Valley and bordered Kanyamwa escarpment to the East. The area's climate is hot and humid with a mean annual rainfall of 1200-1600 mm with an altitude of 1200-1600 metres above the sea level while the soil is black cotton clay. It is the only park in Kenya where the remnants of endangered Roan antelopes remain. Other wildlife species include Rothschild giraffe, Bohor reedbeek, Jackson's hartebeest, ostrich, oribi, buffalo, leopard, wild pig, hyena, baboons, different species of monkey, topi, cobra, Python, Tsetse flies, butterflies, grasshoppers. The flora mainly consists of tall rolling grassland, with tracts of open woodland and thicket vegetation dominated by acacia trees and balanites (Figure 1).

Research Methodology

The study adopted survey design using both structured questionnaires and focus group discussions to collect information from the respondents. It covered Kodumba, Nyatoto/Lambwe, and Nyakiya/Nyadenda areas around the park. The regions were chosen based on their proximity to the park, dense human settlement, crop destruction by wildlife, reports of wildlife snaring as well as wildlife water points. The structured questionnaires were disseminated using simple random technique and the respondents comprised households living adjacent to the park in the selected areas (Figure 1). The structured questionnaires were disseminated by the researcher to all the homesteads in the selected areas one kilometer (1km) away from the park. Only the household head and one person per family unit filled in the questionnaires. During the study, household wives filled in the questionnaires where the heads were not available. Filling in the questionnaires was conducted at family unit homesteads and where the respondents did not understand English language, the researcher translated the questions in to native Luo language making a total of ninety six respondents. The structured questionnaires were complimented with focus group discussions in order to gather more information and aid in collecting diverse views from the local community. Twenty four key local community members with different background experiences participated in focus



group discussions. Discussions were further complimented with other probing techniques depending on the respondents' responses in order to gather information that they could not disclose openly due to the sensitivity of snaring topic in the region. Interesting responses were treated with an echo probe to allow a participant to continue talking while baiting probe was used to reaffirm what had already been learned and also elicit further what participants were reluctant to discuss. Group discussions elicited information for testing scientifically key among them snaring awareness within the locality, which derived the following checklist questions:

- Do the local community aware of wildlife snaring activities within the locality?
- What is the future of the national park?
- Where do illegal wildlife hunters come from?
- What is the status of the number of wildlife animals outside the park?
- Are you aware about Kenya's wildlife laws regarding illegal hunting and bushmeat consumption?

These questions formed the hypotheses and were subjected to scientific investigation for confirmation. The hypotheses tested include:

- Local Lambwe community was not aware of wildlife snaring activities within the locality.
- The future of Ruma National Park was not bleak.
- The illegal wildlife hunters did not come from the local community.
- The number of wild animals outside the park has not declined over time.
- Local Lambwe community was not aware of wildlife laws regarding illegal hunting and bushmeat consumption.

Scientific Package for Social Sciences (SPSS) 20 was used for data analysis. Chi-square goodness of fit tests were conducted to test whether there was significant relationship differences between the respondents at significant level equals to or below 0.05. The questions were asked in order to allow the respondents to indicate the extent to which they agree or disagree with the statements.

Results and Discussions

Wildlife consumption awareness and attitudes of the local community towards the park

Among the ninety six of the respondents interviewed, majority of the respondents (98.4%) were aware that snaring activities took place around Ruma National Park and the response differed ($\chi^2=57.066$, $df=1$, $p=0.001$) between the respondents. At the same time, most respondents (95.1%) felt that the future of the park is bleak and only 4.9% had no idea and the response differed ($\chi^2=49.590$, $df=1$, $p=0.001$) between the respondents. Majority of the illegal hunters were from the local community (98.4%) than the non-local community and this differed significantly ($\chi^2=57.066$, $df=1$, $p=0.001$). The status of wild animals outside the park was declining (96.7%) and 3.3% had no idea and the response differed ($\chi^2=53.262$, $df=1$, $p=0.001$) between the respondents. 63.9% of the respondents agreed they don't require the park, 32.8% needed the park while 3.3% had no idea. The response between respondents differed ($\chi^2=33.672$, $df=2$, $p=0.001$).

Majority of the local community around Ruma National Park have very negative attitude towards wild animals and they perceive the park as an impediment for their economic development in terms of crop growing and livestock keeping. Majority argued that this land could have been used for other purposes instead of conserving wildlife, which do not benefit them. Moreover, the local people do not see the need to protect wildlife especially the predators and crop raiders, which destroy their sources of livelihood subjecting them to poverty. According to Norton-Griffiths [48], wildlife raises the costs of livestock and agricultural production, the extent of property destruction and loss of human life, and grazing competition reduces net benefits of livestock. Because of conflicts, landowners are forced to take all kinds of defensive, some of which are detrimental to wildlife and the majority of land owners would like to see all wildlife eradicated and protected areas opened for development [49].

Those who guard their crops especially during planting and harvesting seasons argue that they usually have family conflicts during this period. Majority of men never sleep in their houses but spend months sleeping in small temporary huts constructed to guard wild animals. During the day, dogs are tied in these temporary huts (Figure 2) to scare wild animals and to alert the local community members when there are invaders around. As a result, women complain about their men staying away and some have threatened to divorce.

Concerning the laws relating to hunting trade and consumption of bush meat, 86.9% of the respondents were not aware about the laws while only 13.1% were aware. The number of respondents differed ($\chi^2=33.197$, $df=1$, $p=0.001$) between the level of awareness. Many of the respondents (91.8%) reacted negatively towards wild animals. The response differed ($\chi^2=94.066$, $df=2$, $p=0.001$) between the respondents. Most local people (88.5%) experienced human-wildlife conflict around the park and this differed ($\chi^2=36.213$, $df=1$, $p=0.001$) with those who never experienced any conflict. The problem experienced included both domestic animal predation and crop raiding (Table 1). The most problem species mentioned were leopard, hyena, baboon and wild pig. 86.9% of the respondents reported destruction of their crops while 36.1% had their domestic animals like dogs, chickens, goats, and sheep killed.

The local Lambwe Valley around the park experience high human-wildlife conflict and the research revealed that wildlife destroys crops and kill domestic animals (Table 1). The predators killed domestic animals at higher rate (Figure 3). This was compounded by the continuous increase in predators' population. The Luo (majority of the respondents during this study) culture and customs never permeate eating predators like baboons and this could have contributed to

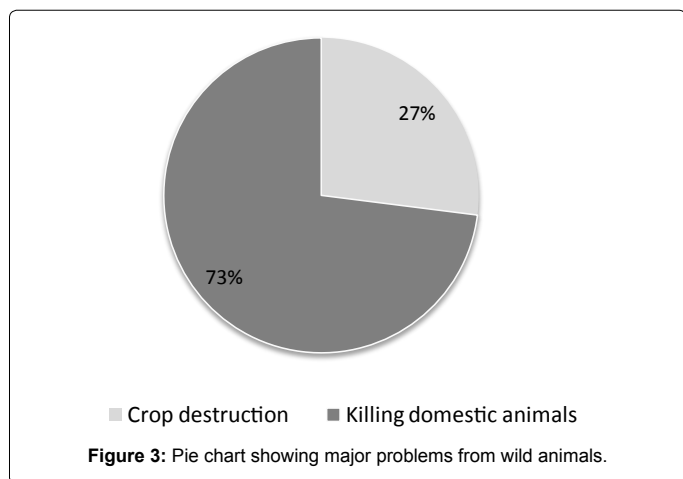


Figure 2: Temporary structure used for guarding crops at Kodumba area. Inside is a dog tied during the day. Source: Photo taken by researcher

Wild animal	Leopard	Hyena	Baboon	Wild pig
Yes	78.7	67.2	85.2	85.2
No	21.3	32.8	14.8	14.8
χ^2	20.082	7.230	30.311	30.311
P	0.001*	0.007*	0.001*	0.001*

*Significant

Table 1: The percentage of the major problem wild animal species reported by the respondents.



their population increase since they were not the major target for snaring. Moreover, tsetse fly infestation in the region has hampered livestock keeping within Lambwe Valley. This, collectively with low crop yields could have contributed to abject poverty amongst the local community. Bush meat, therefore, must be alternative supplement of their diet. Furthermore, due to high number of households combined with low production of crops and livestock, bush meat will continue to supplement their diet.

The local community interviewed believed that their grievances are not considered and argued that the park officials value wildlife more than their lives. "When an ambush is done in the community, the locals are arrested, charged in court and sometimes others who have connections with the local chiefs and assistant chiefs are released without fine..." One of the participants in focus group discussion equipped. As a result, there seemed to be pull and push between the armed Kenya Wildlife Service (KWS) staff and the locals where the latter accused KWS for indiscriminate arrests of the locals for illegal killing of wildlife while the locals insisted that when their crops are destroyed, they have no alternative source of livelihood but to forcefully kill wildlife. Sometimes they killed wildlife to deter them from destroying crops and killing domestic animals while other instances they snared for consumption. This could be the same scenario as was in Malawi where Bell [50] argued that "around 500 persons per year are charged on wildlife related counts, while in 1981, 239 were arrested in and around Kasungu National Park alone" devoid of any proper solution to the problem.

In many African countries like Zambia and Malawi, research has shown that armed confrontations between 'poachers' and enforcement staff are common place and deaths and injuries on both sides are regular occurrences [51]. However, the main question left is whether armed confrontations between the hungry and irritated locals and the state employed staff of KWS could save the situation or an integrated approach to conservation of biodiversity should be sought. Nevertheless, a handful of the local community members admitted that

the park had benefit to them and believed it should be well-managed, marketed for tourists so that they could also enjoy the benefits of wildlife tourism as in other places in Kenya. Through the park, they said, The Kenya Trypanosomiasis Research Institute has controlled the number of tsetse flies, which formally was out of control in the region. Some few locals also acquire temporary work contracts within the park thus see the park as valuable to them.

Community-based wildlife organizations and wildlife related benefits to the local community

Majority (74.4%) had never heard of any community-based conservation around the park and the response differed ($\chi^2=48.820$, $df=2$, $p=0.001$) between the respondents. There was almost no benefit from the park to the local community as 91.8% of the respondents said that they have never received any benefit. The number of respondents differed ($\chi^2=94.066$, $df=2$, $p=0.001$). On the same note, 100% of the respondents do not sell artefacts to tourists visiting the park. As a result, 96.7% did not support the existence of the park and this differed between the respondents ($\chi^2=53.262$, $df=1$, $p=0.001$). Many communities in wildlife areas do not receive benefits and yet they bear the costs of living with wildlife [52]. As a result, the communities develop a negative attitude towards conservation [53,54]. Nevertheless, despite the costs of living with wildlife, some communities have retained a positive attitude towards conservation [8]. By denying people benefits from resources, the local people are bound to develop a negative attitude towards the resource and engage in activities that are detrimental to conservation [54]. In such situations, some of Kenya's communities have always killed wild animals for food, mostly buffalo, impala, gazelle, giraffe, even monkey [55].

A rapid decline in wildlife has been noted in areas where benefits are not accrued to the local community [48]. Wildlife loss in non-tourism areas is higher than in tourism areas because the derived benefits support conservation activities and people are willing to conserve because of these benefits [54]. Direct benefits are more important than indirect benefits through social investments [56,57].

Majority of the locals around Ruma National Park are not aware of any community-based organization whether supporting conservation of wildlife or other community-based activities meant to improve their living standards. However, there existed a defunct Central Kanyamwa Wildlife Protection Self Help Group found in Kanyamwa location covering Kodumba area (one of the study areas). Moreover, there is a signpost of Youths for Wildlife Conservation Ruma National Park at the next gate along the road from Nyatoto gate passing through the park to Nyakiya area (Figure 4).



The members of this conservation group were not well-known by the villagers. It was believed that most former members of this youth group left the village to seek jobs elsewhere after realizing that there was no proper support and benefit that accrued to its members. As a result, there was no active member left to run the association at the time of the study. In connection to this, the study also revealed that nearly all the locals had never received any benefit from the park and “they don’t see the need to ‘waste’ their time and energy conserving wildlife, which are only detrimental to their crops and domestic animals...” one of the respondents asserted.

Where the costs of wildlife conservation outweigh the benefits of wildlife, the locals will hardly protect wild animals especially in the buffer zones. According to Mwamfupe [58], “when local people do not benefit from conservation, they lack the commitment to conservation objectives”. Any community-based economic development places the community as the target, the main beneficiary and the decision-making body. Thus involving community members in the process of decision-making, responsibility and accountability is very essential.

Conclusion

Wildlife around Ruma National Park is seemingly facing longstanding snaring pressure while local Lambwe community also suffer from crop destruction and killing livestock by wildlife species. As a way of retaliation and survival, the community members snare wildlife. The members are aware of illegal snaring of wildlife within the area and majority of illegal hunters are from the community. Moreover, the future of the park seemed bleak as status of wildlife population continued to decline. On the other hand, local community members seemed not to be aware of the wildlife laws prohibiting illegal hunting in Kenya or continued to violate such existing laws claiming that the law enforcers applied double standards. Lack of benefits that accrued from wildlife could have further contributed to negative attitude of the local Lambwe community towards wildlife. This kind of dilemma if not controlled could lead to irreversible wildlife depletion especially the endangered roan antelopes and other wildlife species. A paradigm shift in wildlife policy formulation and management especially in this region is required. Local community welfare and their participation in wildlife conservation can no longer be underestimated. Support, through the park, by establishing community-based sustainable projects could foster income generation among the communities thus winning their support towards wildlife conservation. While supporting the community, the law enforcers can use such opportunities to educate the locals on Kenya’s wildlife laws specifically laws relating to illegal hunting and bushmeat consumption and trade. This study recommends an urgent need for further research and implementation of viable and sustainable community-based projects like bee keeping, growing alternative crops not susceptible to wildlife within the region, commercial fish farming rather than over relying on dwindling fish stock from Lake Victoria, mechanized agriculture to improve crop yields from small scale farms, introduction of livestock resistant to tse-tse fly and creating awareness among locals. Such projects could go a long way in improving living standards of the local community through alternative and sustainable livelihood sources.

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