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Improving Sustainability in Wildlife Conservation Using Community Based Model: A Business Case for Zambia

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Abstract

In recent years, the importance of sustainable hunting and wildlife management practices has gained increased recognition. This paper examines the importance of sustainable wild life conservation and sustainable hunting in preserving ecological balance, the impact of wildlife management on biodiversity, and the ethical considerations of harvesting wildlife for conservation and sustenance. By exploring the intersection of conservation, tradition, and environmental ethics, this paper aims to provide a comprehensive understanding of sustainable hunting and wildlife management practices in contemporary society in Zambia. Government regulators may also be needed to enforce property rights arrangements like catch shares and to monitor resources that remain open access in case socioeconomic or environmental conditions change sufficiently to trigger the tragedy of the commons. Most treatments of wildlife regulation default to various iterations of the government access model and fail even to consider the costs and benefits of private and open access models. The analysis here instead shows the conditions in which each conservation access model is most appropriate: open when a resource is in high supply and low demand, private most of the time, and government when the others fail to slow resource depopulation/depletion.

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Keywords: *Sustainable hunting, Wildlife management practices, Ecological balance, Biodiversity, Extirpation*

1. Introduction and Background

The growing human population in Africa generally and Zambia in particular is putting increasing pressure on habitats and wildlife outside of protected areas. Sustainable hunting and wildlife management are critical components of maintaining ecological balance and preserving biodiversity. By utilizing responsible and ethical hunting techniques, as well as implementing effective wildlife management practices, we can ensure the long-term health and stability of natural ecosystems. This article aims to explore the principles and benefits of sustainable hunting, as well as the importance of effective wildlife management in safeguarding our planet's diverse and precious wildlife. It is worth noting that throughout history, human societies have relied on hunting for sustenance and survival. However, as the human population has grown and industrialization has expanded, hunting has posed significant threats to many species, leading to declines in populations and even extinction in some cases. Recognizing the need for sustainable and ethical hunting practices, conservationists and wildlife experts have developed principles and guidelines to ensure that hunting is conducted in a manner that respects the environment and maintains healthy wildlife populations.

Furthermore, wildlife management plays a vital role in ensuring the sustainable coexistence of humans and wildlife. This involves the regulation of hunting, protection of habitats, and monitoring of wildlife populations to prevent overexploitation and habitat degradation. Effective wildlife management practices also promote biodiversity conservation and contribute to the overall health and resilience of ecosystems. In the face of ongoing habitat loss, climate change, and other human-induced pressures, the need for sustainable hunting and proactive wildlife management has never been more urgent. By emphasizing the importance of these practices, we can work towards a harmonious balance between human activities and the conservation of our planet's rich and diverse wildlife.

2. Literature Review

Zambia has allocated an impressive proportion of its land surface to wildlife conservation. The protected area is comprised of 20 national parks (covering ~65,000 km2) and 36 game management areas (GMAs) (167,000 km2) and a variety of other protected area categories as shown in figure No 1 below:

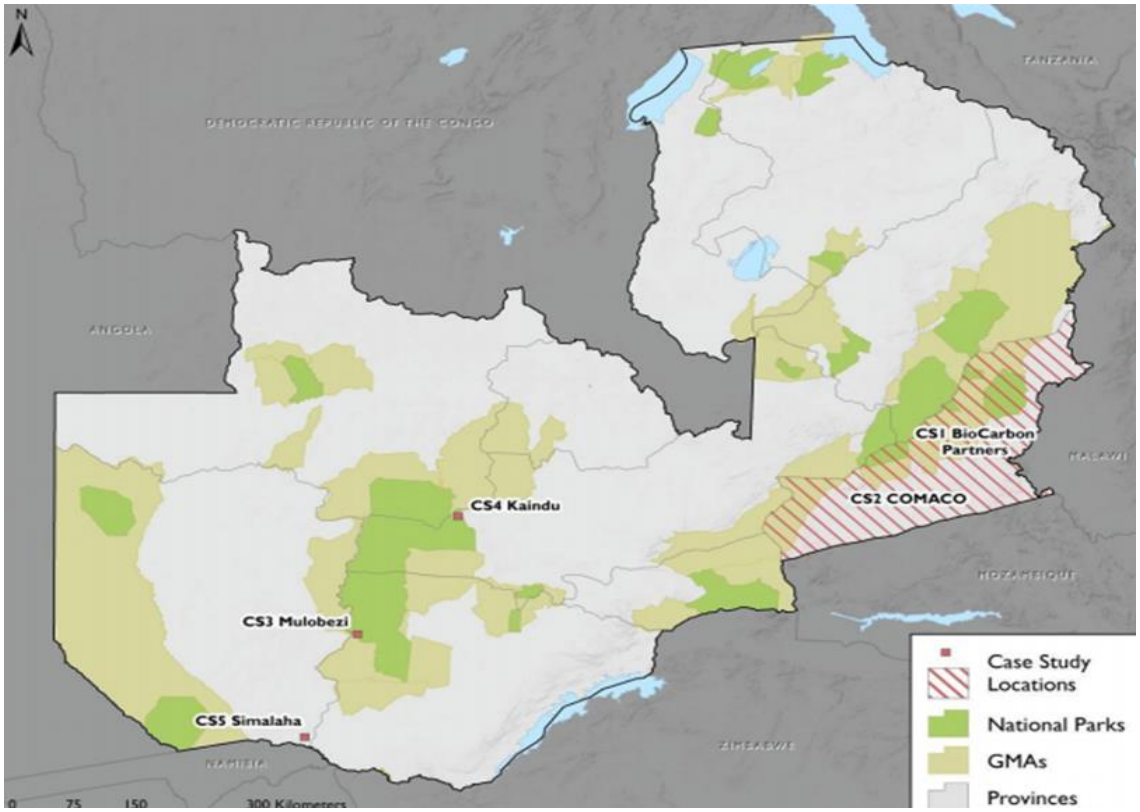

Figure No 1: Location of protected areas

In Zambia, it is either there is either contribution to national and local livelihoods or the country fails in its 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, the game management areas (GMA) 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 benefiting local ecosystems (McShane & Wells, 2004).

However, despite their widespread adoption in SubSaharan 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. The community conservancy model on wildlife conservation in Zambia empowers rural communities to decide on the use of their wildlife, for example, through joint venture agreements with private investors and operators in wildlife tourism. This provides opportunities for alternative livelihoods Figure No 2.

The joint venture agreements are set up so that an agreed percentage of revenues is provided to the communities for wildlife protection activities (e.g. salaries of wildlife rangers) and for benefit distribution to conservancy members (e.g. to repair local water points). The model aims to increase the perceived value of wildlife and to raise the commitment of local communities to wildlife conservation.

The model could be an effective mechanism to include in national conservation strategies in many other countries.

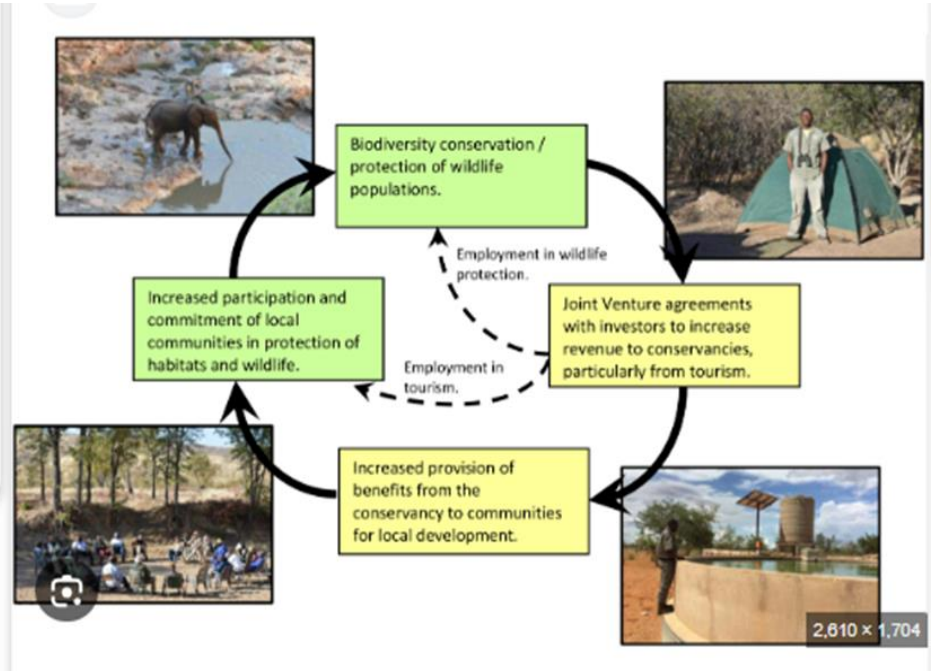

Figure 2: Community Based Natural Resource Management Model

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. 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).

3. Methodology

Semi-structured (google form questionnaires) interviews were carried out as group discussions (up to 12 participants) in all the conservancies. There was one main discussion session with each conservancy. Participants included the conservancy Chairpersons, management teams and game scouts as well as chiefs, and government workers.

On average, half a day was spent with each conservancy during the core consultation work of main interview sessions.

Additional meetings were held at later dates to follow-up on the findings. In addition, consultation meetings were carried out with national and regional policy-makers, NGOs and tourism operators. The main interviews at the conservancies were designed to be semi-structured, facilitating discussions on planned topics, which included the history of the conservancy; the main impacts of the conservancy model; the national policy framework; conservancy governance; status of private investment in tourism and revenue streams; community engagement and participation; wildlife monitoring and results; the influence of the conservancy model on wildlife populations and the main challenges and scope for improvement in the conservancy model. The semi-structured approach facilitated our descriptive analysis of common trends in feedback, but also gave flexibility during the discussions for additional questions to encourage focus on important topics identified during the meetings. The case study work was completed in 2023.

Our assessment included a review of the core institutional components of the conservancy model as well as some high-level descriptive analysis of available wildlife data. The data set that was analysed had been collected by the conservancies in the Annual Game Counts, carried out each year since 2015.

Data Collection

Original fieldwork was conducted in August and September 2023 by the main author author and four research assistants who conducted household interviews. Follow up data collection was conducted latter in 2023 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 local language in these GMA, 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 were the main source of data. 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. 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.

4. Discussions

Based on the case studies, other consultation meetings and literature review, we have identified that the main factors contributing to success of conservancies in terms of ecological conservation and community development are:

- Integration of the conservancy model into national policy and legislation.
- Setting up robust governance structures at community conservancies.
- Equitable distribution of revenues.

- Employment of wildlife rangers from the host communities as the understand the terrain and the culture around game parks and the GMAs
- Community participation and commitment.
- Central support for promoting and facilitating investments in tourism.
- Monitoring of wildlife populations.

5. Conclusions and Recommendations

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. For instance, 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.

In order to the make the model work effectively, government should pay attention to the demands of the local communities as they are the custodians of wildlide and ensure that they are involved at every stage of planning

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