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PERSPECTIVE

Putting conservation efforts in Central Africa on the right track for interventions that last

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Abstract

Interventions in Africa designed to stop biodiversity decline have often failed because they were based on a top-down approach to management and focused on enforcing restrictive rules and imposing bans. They were equally misaligned with the values and needs of local actors. This paper presents an African perspective on the discourse regarding the bushmeat crisis and shows that bushmeat in Africa goes beyond being a source of livelihood, having a multifaceted use that must be considered when designing interventions. We show that current conservation initiatives often do not address the right issues, by neglecting non-monetary dimensions of bushmeat use, inadequately planning interventions, failing to align wildlife laws with realities on the ground, and carrying out ineffective law enforcement characterized by poor governance and corruption. We recommend a revision of current legal frameworks to enhance local ownership, tenure rights, and the sustainable economic empowerment of local communities to reduce hunting. We also call for development of regionally led innovative programs that invest in nature-based solutions and payments for environmental services. Finally, we identify where more research is needed to understand why wildlife use in Africa is overlooked in national development policies and not considered in national accounting.

KEYWORDS
African perspective, bushmeat crisis, conservation initiatives, wildlife legal frameworks

1 | INTRODUCTION

African voices have been very silent in the discourse on wild meat or bushmeat, even though levels of offtake are highest in Africa (west-central Africa) compared to Asia and South America (Brown & Williams, 2003; Coad et al., 2019). Despite huge conservation efforts in Africa, wildlife populations have continuously shrunk over the last several years. For example, Africa's pangolins are heavily hunted for bushmeat locally as well as for international trade, with 370,000 pangolins seized between 2014 and 2018 (UNODC, 2020). These seizures represent only a small fraction of the animals killed. Several other rare, threatened, or nonendangered species are poached for their body parts and meat, which are consumed or used in traditional medicine and ornament, including Africa's primate (great apes concentrated in forest landscapes in West and Central Africa), lions, certain tortoises, cheetahs, antelopes, and some rodent populations. Indeed, a report by the UNEP-WCMC (2016) estimated a loss of 50% of Africa's bird and mammal species by the end of the century because of overexploitation and degradation of ecosystems. Many African countries have however developed initiatives to help protect their natural assets through awareness raising campaigns on the values of wildmeat and its importance for socioeconomic development, building capacity, improving knowledge, and promoting nature-based solutions. However, given the scale of the challenges, more needs to be done to enhance efforts to reverse the current trends.

This perspective piece presents the views of a wide coalition of voices from across Central Africa (Cameroon, Democratic Republic of Congo, Congo Republic, Gabon, and Equatorial Guinea) that nevertheless agree on key points that we believe can lead to behavior change and sustainable management of bushmeat. Although we have potentially differing views on how to frame conservation concerns (Figure 1), our additional methods will add value to current efforts and address these questions holistically. We all agree that to address the bushmeat crisis in Central Africa, conservation policymakers and practitioners should do four things: (i) protect nature through collaborative management, (ii) preserve traditions and customs of local stakeholders, (iii) contribute to the wellbeing of poor communities, and (iv) ensure decision-making is underpinned by scientific evidence. This paper does not intend to discredit the work of other researchers or practitioners, who may be influenced by discourses emanating from the Global North, but to draw attention to the fact that the right issues are not always fully addressed, and the current approach needs revamping to achieve tangible impact. We therefore propose here a change in emphasis, which we believe will put conservation efforts relating to wild meat onto the right track.

2 | WHY INTERVENTIONS HAVE NOT PRODUCED THE EXPECTED RESULTS

Over the past two decades, more than 200 bushmeat-focused conservation interventions have been undertaken in Africa with hundreds of millions of dollars spent by donor organizations to preserve species affected by bushmeat hunting and support local livelihoods (as compiled in a comprehensive and up-to-date database: https://www.wildmeat.org/database/). Despite such huge efforts, bushmeat hunting and consumption is ever-increasing (Fa et al., 2002; United for Wildlife Taskforce, 2020). For example, the quantity of bushmeat trafficked across west and central Africa yearly is estimated at 5 million tons, with 1 million flowing to urban markets in the Democratic Republic of Congo alone (United for Wildlife Taskforce, 2020). Pangolin hunting for bushmeat and international trade in Cameroon, Equatorial Guinea, and Gabon has skyrocketed in recent years with countries like Nigeria playing a staggering role (Emogor et al., 2021). This is a clear indication that these conservation interventions have not been able to achieve their intended outcomes. Our contention is that they mostly focus on enforcing restrictive rules and provide alternative livelihoods that do not offer superior benefits to hunting, are not compatible with the values of resource users, and do not successfully compete for their labor (Brown & Williams, 2003). Most conservation interventions were designed to address poverty as the root cause of illegal behavior because poor people were believed to be involved in hunting bushmeat to generate income for basic material needs (Twinamatsiko et al., 2014). However, the evidence from the literature suggests that poverty is not the root cause and that the reasons for bushmeat hunting go beyond a lack of income.

The reason why the vast majority of the interventions in the wildmeat database did not have lasting reach is that they did not fully address the following key issues:

1. Oversight of nonmonetary dimensions that play important roles in influencing noncompliant behavior. For example, none of the 240 interventions in the wild meat database addressed nonmonetary incentives that influence noncompliant behavior. These relate to multiple intrinsic (e.g., attitude, moral obligation, perceived legitimacy of rules) and extrinsic (e.g., social pressure, customary laws) social incentives that interact to influence decision-making and compliance (Adams et al., 2004; Mastrangelo et al., 2014). These social incentives

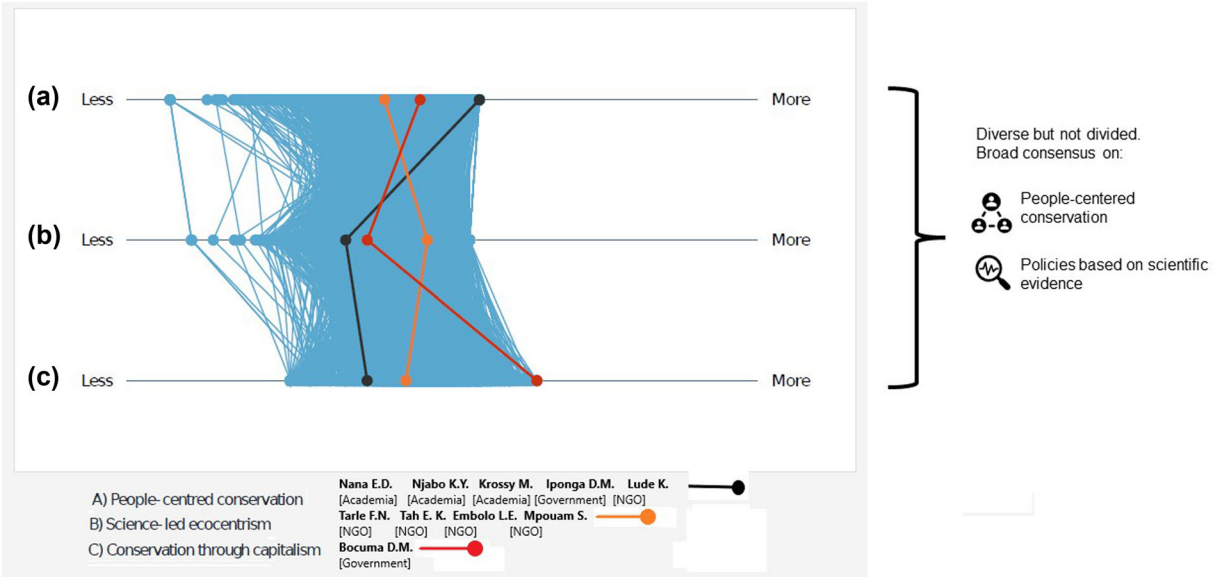

FIGURE 1 Diverse views (the bold points and lines) of a wide coalition of voices from across Central Africa on three axes representing three key dimensions of the conservation debate (see https://www.futureconservation.org/about-the-debate) derived from statistical analysis of results from the first 9264 respondents to the Future of Conservation survey. These dimensions are (a) "people-centered conservation" (relating to the role that people should play in conservation), (b) "science-led ecocentrism" (relating to the role of science in the conservation of species and ecosystems), and (c) "conservation through capitalism" (relating to the role of corporations and market-based approaches in conservation). A score toward the left-hand side of the plot is less in favor of the relevant dimension, whereas a score to the right-hand side of the plot is more in favor of the dimension

tend to better predict noncompliant behavior than economic motivations (Milner-Gulland & Rowcliffe, 2007; Oyanedel et al., 2020). Based on our experience, an individual's intention to enter the bushmeat trade can be predicted based on their attitudes, social norms, and perceived behavioral control, as expressed in the theory of planned behavior (an extension of theory of reasoned action; Ajzen, 1985) (Figure 2). Social norms about bushmeat established for generations, and family pressure, are important determinants that influence attitudes and the decision to enter and remain in the trade.

2. Inadequately planned interventions that do not include local stakeholders in the project development process and are concluded without securing the necessary resources. A consequence of this is that donors fund multiple interventions to solve the same problems over decades, leading to wasted resources. In addition, most interventions use a top-down approach to provide alternative sources of livelihood but fail to see that these are not considered as genuine alternatives by the target communities, but rather as additional to their normal activities. Empirical studies have shown that when local people are sufficiently consulted during the process of project development, interventions have more positive outcomes for both well-being and wildlife (Brooks et al., 2013; Dawson et al., 2021). Consulting local stakeholders enables the design of projects to be based on social incentives (Figure 2), thereby offering superior benefits to illegal activities, ensuring compatibility with people's values and development aspirations, and successfully competing for their labor. Integrating local stakeholders at all levels of the project development process is a prerequisite for success of any conservation intervention (Manten & Pridham, 2012). Nevertheless, a bottom-up approach is also not necessarily ideal in planning interventions because of the risk of operating without a clear strategy, particularly if there is a disconnect between leadership and the project team. However, individual actions could have massive impacts when embraced by many people, so we propose that externally funded and initiated projects enable local communities to play a central role in planning and implementation, so a sense of ownership may be achieved, with local people having substantial influence over decision making. This hybrid approach may be more effective in removing obstacles to acceptance.
3. Unfit wildlife laws out of sync with realities on the ground. Laws that are at odds with customary practices are unfit because they do not allow for local comanagement of traditional lands nor recognize the rights of local populations to regulate wildlife offtakes on their lands. These laws often impose complex license processes, beyond the capacities of local communities, in

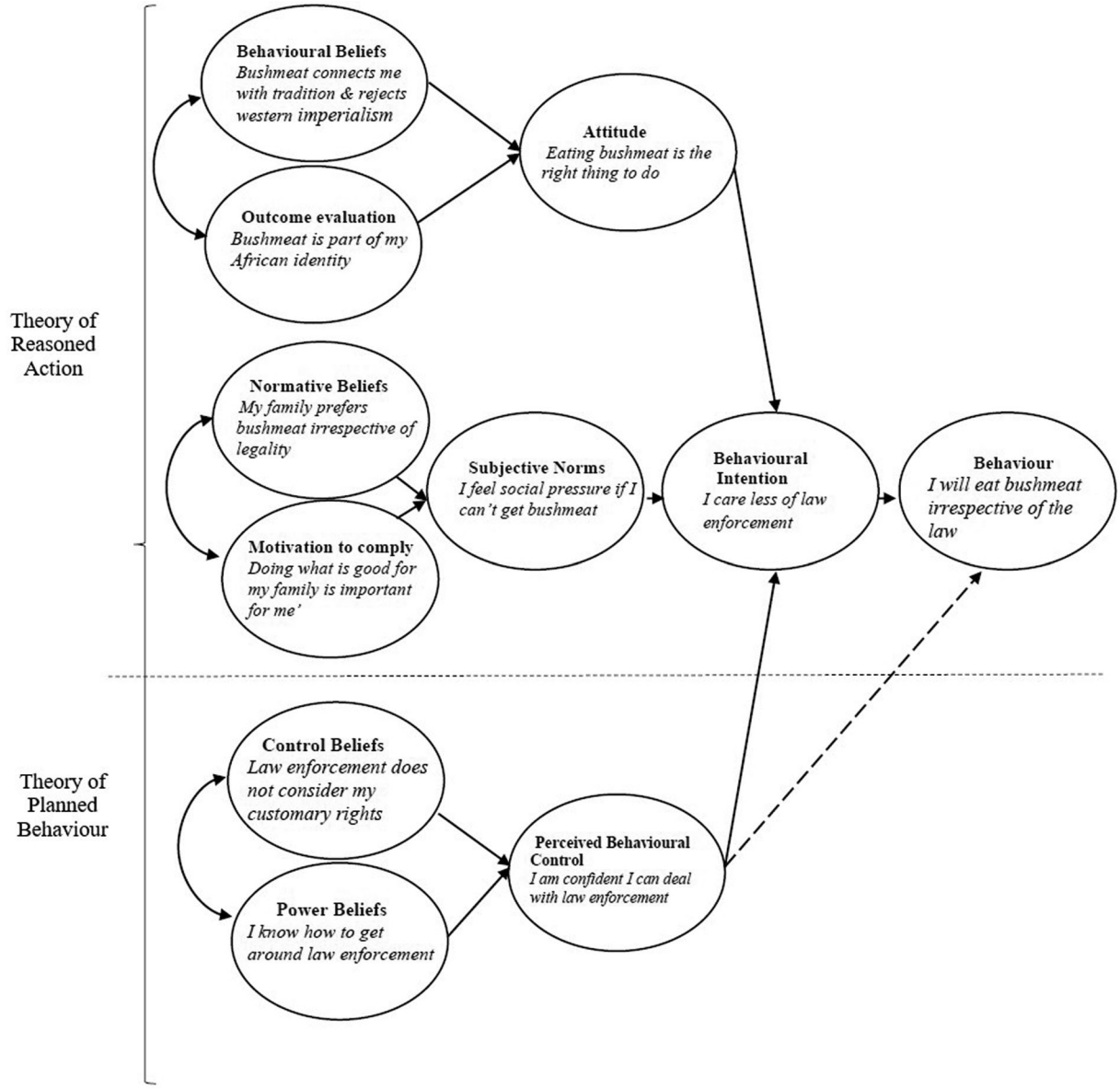

FIGURE 2 Example statements in a theory of planned behavior approach for understanding constructs in the mind of a bushmeat consumer (adapted from St. John et al., 2014)

order to market products derived from their customary use rights (Sartoretto et al., 2017; van Vliet et al, 2019). This is a central issue at the heart of misunderstandings between local communities and African governments that impede proper management and favors conservation conflicts (Egbe, 2001; Rowcliffe, et al., 2004).

4. Proper law enforcement is nearly impossible in the current socio-political and economic environment in the region. The lucrative nature of wildlife products, including bushmeat, has incentivized politically and economically influential people (sometimes high-ranking military officers) to fund poaching operations with no interest in the welfare of local communities (Agu & Gore, 2020; Cardillo et al., 2005; Daskin & Pringle, 2018). Political will is needed to stop these high-level government officials because their actions exacerbate tensions between conservationists and local communities. Another reason for weak law enforcement is low capacity and/or corruption within law enforcement services. Interventions that support law enforcement in the region are typically short-lived, project-driven, and not designed to provide decent wages to enforcement staff, who rely solely on their meager government salaries for their livelihood. This creates an environment prone to corruption, which is easily established in a region known for poor governance.

3 | HOW TO IMPROVE THE SITUATION

The major challenge is the provision of sufficiently lucrative opportunities throughout the year to people dependent on wildlife, which avoid depleting this resource and facilitate law enforcement. Existing interventions are mainly focused on disincentives through the enforcement of restrictive rules and imposition of bans on the trade of bushmeat, including those with important societal values (Ingram et al., 2021; Koh et al., 2021), or more generally, focused on the development and management of protected areas (Duffy, 2010). This helps to explain why more than two decades of bushmeat interventions have not been able to curb the ever-increasing erosion of biodiversity in the region. This is a clear sign that the current paradigmatic approaches are per se bound to failure because concrete objectives are mostly neglected (Duffy, 2010). We need to define more clearly objectives against which intervention outcomes can be measured (evidence-based conservation). To change these paradigmatic approaches, conservationists need to work with local actors to develop innovative programs that invest in nature-based solutions and payments for environmental services, addressing the bigger picture, not just bushmeat.

Our wide coalition of African voices offers recommendations for the way forward, based on our personal experiences and understanding of the cultural and societal intricacies of bushmeat use:

1. Smart farm subsidies (agricultural support schemes that are not detrimental to people or the planet) can empower local farmers to increase farm yields throughout the year. In rural areas, hunting is predominantly considered to be a part time profession for hunters (Abernethy et al., 2013; Bachmann et al., 2019) and hunters are also usually farmers. They may also take part in other illegal natural resource-based activities such as logging. When farm yields are low, hunting frequency for trade increases as other lucrative opportunities become scarce. Smart, cost-effective, farm subsidies are designed to target specific farmers (e.g., those who practice hunting and farming), as well as the poorest and most vulnerable households in rural areas (Jayne et al., 2018). Properly designed farm subsidies have the potential to reduce hunting frequency and, thus, volume of wild meat taken out of forests, and to bring down the costs of domestic meat compared to bushmeat in rural areas. Smart subsidies also imply an exit strategy to put a time limit on the support, facilitating long-term sustainability.
2. Use the traditional ecological knowledge of local communities to undertake regular monitoring of the status of wild populations and assess whether management plans are indeed providing the predicted sustainability (e.g., Brittain et al., 2022).
3. Work with local communities to rapidly provide information to law enforcement agents on outsiders trying to hunt in their area. When local people see the benefits of supporting conservation action and management in their area, results are positive (Coad et al., 2019).
4. Proper training of enforcement staff in communications skills, human relations, ethics, human rights, and professionalism, among other things, to enhance capacities and help stop cases of abuse by enforcement staff trying to get bribes from local people who want to access markets. Interventions should pay enforcement staff bonuses to assist them in project activities, so they are not only dependent on government-earned salaries. This will facilitate sustainability of the bushmeat trade by keeping those who are reliant on this source of income (often women with dependents) in business.
5. Revise unfit wildlife laws to support local communities in their self-determined management regimes (Coad et al., 2019; van Vliet et al., 2019), and tenure rights. Evidence shows that locally controlled conservation is the most effective form of biodiversity conservation and provides benefits to both wildlife and local people (Dawson et al, 2021). Wildlife legislation should allow for traceability control mechanisms that will ensure that wildlife being transported and traded in urban settings originates from legally hunted species. Three countries in the region—the Democratic Republic of Congo, Cameroon, and Gabon—are currently in the process of revising their wildlife legislation. It is therefore timely to address the questions of customary rights and comanagement of wildlife, as well as that of legalizing offtake quotas for certain species in the region, given that bushmeat is a food security issue as much as a biodiversity issue (Adams et al., 2004; Daskin & Pringle, 2018).
6. Undertake more research on the factors that influence wildlife use (gender, ethnographic origin, religious belief, and seasons), the typology of users (especially high-level government officials who take advantage of their position of power), and the value of wildlife to communities in both rural and urban settings. A better understanding is also needed of why wildlife use in Africa is overlooked in national development policies and not considered in national accounting—and how to change this.

4 | CONCLUSION

This policy perspective piece presents the views on the bushmeat crisis of a wide coalition of central African voices, which are diverse but not divided. This wide coalition agrees that while there is no silver bullet to solve the bushmeat crisis, a holistic approach that embraces both top-down and bottom-up approaches to sustainability as complementary rather than contradictory strategies is needed, as paradigmatic approaches are per se bound to failure. We need to examine and understand the ultimate drivers of the bushmeat trade and the effect of conservation interventions and law enforcement (e.g., increase in penalty rates) on the decisions and behaviors of individuals. Empirical assessments on which interventions could reduce the volume of bushmeat traded in urban settings require good and comprehensive baseline monitoring data. Innovative scientific approaches that provide an understanding of the drivers and mechanisms of bushmeat trade need to be placed in the context of psychosocial and economic systems alongside the ecological ones. The key novelty of such research would be the integration of methods and assumptions from multiple disciplines. For example, methods from social psychology could be combined with individual-based modeling to examine how heterogeneity in the behavior of individuals who participate in the bushmeat trade is influenced by enforcement, regulations, and interventions, but also by how these align with or are contrasted with social norms. Such studies would be among the first in Africa and among only a few worldwide to take this approach. African voices need to lead on all of this science and policy—so that it stays grounded in reality, and this needs to include training of young researchers and building of a regional research network, so as to build a foundation of expertise for the future.

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AUTHOR CONTRIBUTIONS

All authors contributed to the drafting and revision of the manuscript.

DATA AVAILABILITY STATEMENT

No data were collected or accessed in the preparation of this manuscript, except for that published in the cited literature.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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