

Examining the Efficacy of Compensation blueprints for Livestock, Human, and Crop losses in Zimbabwe's Human-Wildlife Conflict Hotspots.

Abstract

Human-wildlife conflict (HWC) persists as a debilitating scourge in Zimbabwe, exacting a devastating toll on human life, livestock, and agricultural productivity. Despite the availability of indemnification schemes aimed at alleviating the consequences of HWC, their effectiveness remains shrouded in uncertainty. This comprehensive analysis scrutinizes the adequacy and impact of indemnification programs addressing human, livestock, and crop losses in Zimbabwe's most vulnerable areas. Using a qualitative approach with interviews as data instrument, the study evaluates the effectiveness of compensation schemes in reducing conflict and supporting affected communities. The results show that while compensation schemes provide some relief to affected communities, they are often inadequate, lack robust data systems, delayed payments, lack of fair valuation of losses, and inequitable. The study identifies key challenges, including limited funding, bureaucratic inefficiencies, lack of any laid down legislation that seeks to protect victims of HWC, and lack of community engagement. To enhance the efficacy of compensation schemes, the study recommends increasing funding avenues, streamlining administrative processes, and ensuring community active participation in scheme design and implementation. The study strongly recommended establishment of National Insurance Fund (NIF) and legislative framework from both government and other partner organizations so that communities vulnerable to HWC will be in a position to legally file their cases in the event of any loss related to HWC. The findings of this study underpin the development of evidence-based compensation strategies, effectively alleviating HWC-related losses and cultivating a culture of symbiotic coexistence between humans and wildlife.

Key words: *Human-Wildlife Conflict (HWC); Compensation Schemes; Wildlife conservation; livestock predation; conflict mitigation*

Introduction

Human-wildlife conflict (HWC) in Zimbabwe is characterized by frequent encounters between humans and wildlife, leading to significant economic losses, especially in crop and livestock sectors. Chigonda (2020) defines it as the interaction between humans and wildlife that results in negative outcomes for both. These conflicts occur when wildlife poses a direct and recurring threat to human life, livelihoods, or property, leading to economic loss, injury, or death. Conversely, human actions may threaten wildlife populations and their habitats, often resulting

in injury or death of animals and reduced biodiversity, (Nyamadzawo, 2020). HWC typically arises from competition for resources such as food, space, and water and is exacerbated by factors such as habitat loss, human encroachment, and changes in land use. Compensation schemes are implemented as a strategy to alleviate the financial burden on affected communities and reduce retaliatory killings of wildlife. This article undertakes a rigorous examination of the efficacy of compensation schemes, scrutinizing their transformative impact on rural livelihood enhancement, human wildlife conflict mitigation, and the long-term viability of wildlife conservation initiatives.

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Research Justification

Human-wildlife conflict (HWC) is a significant challenge in many rural communities in Zimbabwe, particularly in areas bordering national parks and wildlife reserves. These conflict hotspots have experienced increasing incidents of wildlife intrusion into human settlements, leading to livestock, crop, and human losses. This ongoing issue has not only threatened the livelihoods of local communities but also intensified tensions between wildlife conservation efforts and the needs of rural populations.

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To mitigate the negative impacts of HWC, Zimbabwe has so far implemented various compensation schemes aimed at reimbursing communities for losses incurred due to wildlife activity. However, the effectiveness of these compensation schemes remains questionable. Many reports suggest that the compensation process is slow, inconsistent, and insufficient to cover the real losses experienced by communities. Furthermore, the schemes often fail to address the root cause of HWC, resulting in a continuing cycle of conflict, loss, and frustration.

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This investigative study aims to evaluate the effectiveness and adequacy of existing reparation mechanisms for livestock, human, and crop losses in Zimbabwe's high-risk HWC zones. It will explore whether these schemes adequately meet the needs of the affected communities, the challenges in the compensation process, and the overall impact of compensation on mitigating human-wildlife conflict. By understanding these dynamics, the study aims to provide insights into how compensation schemes can be improved to foster sustainable coexistence between human communities and wildlife in Zimbabwe.

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Literature Review

The literature review covers various aspects of HWC and compensation schemes, including their design, implementation, and outcomes. It explores the theoretical frameworks underpinning compensation schemes, the challenges faced in their execution, and the evidence from similar programs globally.

Human-Wildlife Conflict in Zimbabwe

Human-wildlife conflict in Zimbabwe is a persistent issue, driven by the proximity of human settlements to wildlife habitats. Crop damage and livestock depredation are common problems, with species such as elephants, lions, baboons, and hyenas frequently causing significant economic losses (Madden, 2022). The impact of these conflicts extends beyond immediate financial losses, affecting food security, livelihoods, and community well-being (Miller et al., 2022).

Human-wildlife conflict (HWC) is a significant issue in Zimbabwe, affecting both rural communities and wildlife conservation efforts. This conflict arises when wildlife poses a direct threat to human safety, livelihoods, and property, leading to negative consequences for both humans and animals (Tarakini, 2019). In Zimbabwe, the conflict is particularly pronounced in areas adjacent to national parks and wildlife reserves, where communities frequently interact with wildlife.

Human Settlement Encroachment

Several factors contribute to human-wildlife conflict in Zimbabwe. One primary driver is the encroachment of human settlements and agricultural activities into wildlife habitats. As human populations grow and expand, natural habitats for wildlife shrink, forcing animals into closer contact with people (Madzara, 2019). This often results in crop raiding, livestock predation, and occasional attacks on humans, particularly by large mammals like elephants, lions, and hyenas (Nyahongo et al., 2021).

Climate change and variability also exacerbate HWC in Zimbabwe. Changes in weather patterns have led to erratic rainfall and prolonged droughts, reducing the availability of water and food for both humans and wildlife. Consequently, wildlife, especially elephants, and lions often move closer or into agricultural lands or and human settlements in search of food and water, increasing the likelihood of conflicts in form of crop damage and livestock predation (Chigonda, 2020). Also drought conditions can alter wildlife migration patterns, with animals venturing into areas they normally would not, in search of resources, thereby increasing contact with human populations.

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Socio-Economic Impacts

The socio-economic impacts of HWC in Zimbabwe are substantial, particularly for rural communities that rely heavily on subsistence farming. Crop destruction by wildlife can lead to significant economic losses, exacerbating poverty and food insecurity in these areas (Murwira et al., 2012). Livestock predation by carnivores also poses a major threat to the livelihoods of pastoral communities, as it reduces the number of livestock they can rely on for income and sustenance (Butler, 2020).

Moreover, human-wildlife conflict often results in loss of human life or injury, leading to social and psychological trauma among affected communities. Such incidents heighten tensions between local communities and wildlife conservation efforts, (Chigonda 2020). In some cases, the fear of wildlife can limit the movement and activities of community members, further impacting their economic productivity and well-being (Gandiwa et al., 2013).

Conservation and Management Strategies

In response to the challenges posed by human-wildlife conflict, several conservation and management strategies have been implemented in Zimbabwe. These include the establishment of community-based natural resource management programs, such as the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE). CAMPFIRE aims to empower local communities by involving them in wildlife management and allowing them to

benefit economically from wildlife conservation through tourism and sustainable hunting practices (Murombedzi, 2018).

However, the effectiveness of such programs has been mixed. While some communities have benefited economically, others have faced challenges such as inadequate compensation for losses and a lack of genuine participation in decision-making processes (Balint and Mashinya, 2019). Additionally, the recent economic crisis in Zimbabwe has strained conservation funding and resources, further complicating efforts to manage human-wildlife conflict effectively (Bond & Frost, 2020).

Policy and Institutional Frameworks

The policy and institutional frameworks governing human-wildlife conflict in Zimbabwe have also come under scrutiny. While Zimbabwe's Parks and Wildlife Act provides a legal framework for wildlife management, there are concerns about its adequacy and enforcement. The lack of a comprehensive, integrated approach that addresses the root causes of human-wildlife conflict, such as land use planning and community engagement, has been highlighted as a critical gap (Gandiwa et al., 2013).

Furthermore, there is a need for more robust data collection and monitoring systems to better understand the patterns and drivers of human-wildlife conflict in Zimbabwe. Such data is crucial for informing evidence-based policy and management decisions that balance the needs of both people and wildlife (Khumalo and Yung, 2015).

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Future Directions and Research Gaps

While the literature on human-wildlife conflict in Zimbabwe has grown, several gaps remain. There is a need for more research on the socio-cultural dimensions of human-wildlife conflict, including how different communities perceive and respond to wildlife threats. Understanding these perceptions can help tailor conflict mitigation strategies to be more culturally appropriate and effective (Mashinya and Balint, 2021).

Additionally, more studies are needed to evaluate the long-term effectiveness of current conflict mitigation strategies, particularly in the context of changing climatic conditions and socio-economic dynamics. Research should also focus on innovative solutions that leverage technology,

such as the use of early warning systems and non-lethal deterrents, to reduce the incidence of human-wildlife conflict (Chigonda, 2020).

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Zimbabwe's Approach to Compensation

Compensation initiatives aim to reimburse individuals for losses incurred due to wildlife interactions. In Zimbabwe, these schemes are typically ZIMPARKS led, government-led or supported by conservation organizations. The design of these schemes often includes assessment processes, eligibility criteria, and payment mechanisms (Conover, 2020). The effectiveness of these schemes depends on various factors, including timely payouts, fair assessments, and transparency.

Human-wildlife conflict (HWC) is a significant issue in Zimbabwe, particularly for communities living near wildlife habitats and protected areas. These conflicts often result in the loss of crops, livestock, and even human lives, leading to economic and emotional distress for affected communities. To mitigate these impacts, Zimbabwe has implemented various compensation schemes aimed at reducing the financial burden on communities and promoting coexistence between humans and wildlife. However, it is imperative to note that these schemes are not legally binding and those who happen to suffer loss due to HWC may not in any way sue the government or other conservation supporting organizations. These compensation settings are just but out of willingness by the ZimParks, government and other NGOs supporting wildlife conservation aimed at fostering coexistence. Below are some of the remedial measures used in Zimbabwe:

Cash Compensation Scheme

Direct financial reimbursement involves providing monetary payments to individuals or communities who have suffered losses due to wildlife activities. This scheme is designed to indemnify or remunerate for the economic value of the losses incurred, such as damage to crops, loss of livestock, or destruction of property. The goal is to reduce the immediate financial burden on affected communities and discourage retaliatory actions against wildlife.

In Zimbabwe, the process of receiving direct financial compensation typically requires victims to report incidents to local wildlife authorities, such as the Zimbabwe Parks and Wildlife Management Authority (ZPWMA). An investigation is conducted to assess the extent of the damage and verify the legitimacy of the claim. The amount of compensation is then calculated based on predefined rates for different types of losses (e.g., per hectare of crop damage, per head of livestock lost). In case where compensation covers the full or significant portion of the loss, the affected individuals are more likely to perceive the scheme as fair and supportive, while the opposite may lead to retaliatory mechanisms.

One of the significant challenges of monetary compensation package in Zimbabwe is the lack of sufficient funding. The ZPWMA and other relevant bodies often face financial constraints, limiting their ability to provide timely and adequate compensation to all affected individuals. This situation is exacerbated by Zimbabwe's broader corruption shenanigans plus economic challenges, which reduce the availability of funds for such schemes (Charamba, Chikwati and Chidarikire, 2024). Additionally, the valuation of losses can be contentious, particularly when assessing the value of crops, livestock, or human injury and fatalities.

Delays in compensation payments are common due to bureaucratic inefficiencies or red-tape, corruption, and limited financial resources. This undermines the effectiveness of the scheme, as victims may suffer prolonged economic hardship and may become disillusioned with the compensation process (Gandiwa et al., 2013). These delays according to Chazireni, (2020) can exacerbate economic hardships for the affected individuals and reduce the perceived reliability of the financial schemes. There are also significant administrative challenges in Zimbabwe, including lack of necessary infrastructure in remote areas, limited personnel to verify claims, and other bureaucratic inefficiencies. These issues often lead to underreporting of losses and mistrust in the whole system, thereby intensifying the HWC.

Community-Based Natural Resource Management (CBNRM) Programs

Community-Based Natural Resource Management (CBNRM) programs, such as the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE), are designed to promote sustainable management of wildlife by local communities. Instead of direct

compensation, these programs provide communities with economic incentives derived from wildlife conservation activities, such as tourism and trophy hunting.

Under CAMPFIRE, communities living near wildlife areas are granted rights to manage and benefit from wildlife resources. A portion of the revenue generated from tourism, trophy hunting, and other wildlife-related activities is shared with the community. This revenue is used to fund community projects, such as building schools or clinics, and sometimes to compensate individuals who suffer losses due to wildlife (Frost and Bond, 2008).

By linking economic benefits directly to the presence of wildlife, CAMPFIRE encourages communities to see wildlife as an asset rather than a threat. This approach aims to reduce human-wildlife conflict by fostering a sense of stewardship and responsibility toward wildlife conservation (Balint and Mashinya, 2020). In this regard, compensation schemes promote coexistence by providing a tangible benefit for tolerating wildlife presence,

The effectiveness of CBNRM programs like CAMPFIRE depends heavily on proper governance and management at the community level, (Chigonda 2020). Issues such as corruption, lack of transparency, and unequal distribution of benefits can undermine the success of these programs. Additionally, revenue from wildlife-based activities can be unpredictable and insufficient, particularly in times of drought or economic downturn, limiting the funds available for compensation (Murphree, 2018). To that note, if compensation is perceived as a one-time payment or fails to address underlying economic needs of the community, it might not be sufficient to foster long-term coexistence, (Chazireni, 2020). Additionally, there is a risk that communities may become dependent on compensation rather than adopting proactive measures to prevent the conflict.

Insurance-Based Schemes

Insurance-based schemes involve the establishment of insurance funds that provide payouts to individuals or communities affected by wildlife-related damages. These schemes are designed to distribute the financial risk associated with human-wildlife conflict across a broader base, making compensation more sustainable and predictable. Insurance-based compensation schemes for HWC are an emerging approach in Zimbabwe aimed at mitigating the economic impacts of wildlife-related damages on local communities. Unlike direct financial compensation schemes

funded by the governments or NGOs, insurance-based schemes involve communities or individuals paying premiums to an insurance provider, which then compensate them for verified losses caused by wildlife, (Nyamadzawo 2020).

In Zimbabwe, insurance-based schemes are still in their infancy and have generally been piloted on a small scale. These projects typically involve collaborations between government agencies, non-governmental organizations (NGOs), and private insurers. They aim to provide more reliable compensation for losses, particularly for high-value crops and livestock (Dickman et al., 2021). Insurance-based schemes can be more financially sustainable than direct compensation models because they spread risk across a larger pool of participants and are funded through premiums rather than relying solely on external donors or government, (Chigonda, 2020).

The success of insurance-based schemes according to Madden (2022), depend on the ability and willingness of communities to pay premiums, which can be challenging in economically marginalized areas. If premiums are too high or perceived benefits too low, participation rates may be low, thereby undermining the scheme's sustainability and coverage. Without exceptions for insurance-based schemes to be successful, Chazireni (2020) resonates that, the insurance providers must strive on ensuring that premiums are affordable for rural communities, many of whom live in poverty. Moreover, there needs to be widespread education and awareness to encourage participation in such schemes, as many communities may be unfamiliar with the concept of insurance (Booth, 2022).

The administration of insurance schemes requires robust data collection and state of art monitoring surveillance systems to assess and verify claims accurately. The fairness of compensation in insurance schemes hinges on the accuracy of loss verification processes and the transparency of the claims adjustment, (Booth 2022). If the communities perceive the process as unfair or biased, this can lead to distrust and reduced participation. Also, disputes over claim assessments can arise, especially in determining the value of non-tangible losses, such as emotional distress or cultural value. Given the Zimbabwe's infrastructural and institutional challenges, establishing such systems can be difficult, (Madden 2022). Furthermore, insurers may be reluctant to enter the market due to the high risk associated with frequent and severe wildlife damages (Hazzah et al., 2023).

In-Kind Compensation and Support

Substitutionary compensation (tangible benefits and support) involves providing non-monetary support to communities affected by human-wildlife conflict. This may include providing materials for building wildlife-proof fences, offering seeds or livestock to replace those lost to wildlife, or providing food aid to communities whose crops have been destroyed. In Zimbabwe, as in other countries facing HWC, in-kind compensation aims to help affected communities recover from losses and reduce future conflicts by addressing their immediate needs and encouraging coexistence with wildlife, (Hazzah et al, 2022). The scheme's features include being non-monetary, focus on prevention and recovery and lastly provider of a targeted assistance. Types of in-kind compensation and support in Zimbabwe include provision of replacement livestock, agricultural inputs and tools, construction materials for protective structures, training and capacity building and lastly provision of community infrastructure, (Chigonda 2020).

In most some cases, organizations provide fencing materials to help communities protect their crops and livestock from wildlife. This approach not only compensates for losses but also helps prevent future incidents, thus reducing overall conflict levels (Osborn and Parker, 2021). While in-kind compensation can provide immediate relief, there are concerns about the long-term sustainability of such measures. Continued external support may be required, and there may be logistical challenges in delivering resources to remote communities (Chazireni, 2020). It is also vital to note that, the potency of in-kind compensation depends on the appropriateness and quality of the goods or services parceled out to the affected. Poor-quality replacements or inadequate inputs can lead to dissatisfaction and fail to restore livelihoods effectively.

The efficiency of in-kind compensation often depends on community acceptance and involvement. If communities are actively involved in designing and implementing these measures, they are more likely to be effective. However, if such initiatives are perceived as not beneficial or effective or externally imposed, they may face resistance or may not be maintained over time thereby reducing the overall impact of the scheme (Khumalo and Yung, 2021).

Performance-Based Compensation

Performance-based compensation schemes reward communities for achieving specific conservation goals, such as reducing incidents of human-wildlife conflict or increasing wildlife

populations, (Chazireni 2020). These schemes aim to align community incentives with conservation objectives, thereby promoting coexistence.

Performance-based schemes (linking incentives to outcomes) are typically structured around measurable outcomes, such as the number of wildlife sightings or reductions in poaching incidents. Communities are financially rewarded based on their performance against these metrics (Carter et al., 2017).

Accurate measurement and verification of outcomes are critical to the success of performance-based compensation schemes. This requires reliable data collection methods and strong monitoring and evaluation frameworks, which can be challenging to implement in remote areas with limited resources (Ferraro and Kiss, 2022). Challenges in measurement and verification have been identified as the impediment to this compensation mechanism in most parts of the country due to outdated technical technology, (Chazireni 2020).

If communities perceive the performance targets as unrealistic or unattainable, or if there is a lack of transparency in how rewards are distributed as the case in some areas in the country, certainly these initiatives can lead to tensions and conflict, thereby undermining their intended purpose (Ravenelle and Nyhus, 2020).

Methodology

This study uses qualitative research technique. Data was collected through interviews with stakeholders, (affected community members, ZIMPARKS members, conservation supporting organizations, government staff) surveys of affected communities, other secondary sources such as journal articles, book chapters, and critical analysis of compensation scheme records. All participants were deliberately or purposively selected because the researchers felt that they are the ones with rich-bound information related to the topic under study. The research focuses on evaluating the effectiveness of compensation schemes in reducing conflict and supporting community livelihoods.

Findings and Discussions

The research focused on human-wildlife conflict (HWC) in Zimbabwe's conflict hotspots, examining the effectiveness of compensation schemes designed to address losses incurred due to wildlife interactions. Key insights were derived from interviews with various stakeholders, including local community members, government officials, and conservation organizations. The compensation schemes primarily cover livestock, human life, and crop losses caused by wildlife, with different perspectives emerging on their efficacy.

Perceptions of Local Communities

Community Concerns about Timeliness and Accessibility

The majority of local community interviewees expressed dissatisfaction with the compensation schemes, citing delays in the processing of claims. Delays in payments and inadequate compensation amounts are common issues. Many reported that compensation for livestock or crop losses could take months or even years to materialize. One farmer from Hwange has this to say:

"We lose our cattle today, but the money comes after a year, and by that time, the loss has already affected our ability to plow the fields or sell livestock for school fees."

The inaccessibility of the schemes was another significant concern. Rural communities often have limited access to formal communication channels required to file claims, and the bureaucratic processes were deemed too complex for many. Several respondents noted that they did not know how to navigate the system, leading to unfiled or rejected claims.

Compensation versus Market Value or Human loss

An overwhelming number of interviewees argued that the compensation provided often falls below the market value of the livestock or crops lost. For instance, while an elephant may destroy an entire field of maize worth hundreds of dollars, the payout only covers a fraction of the actual value. A village elder adjacent to Gonarezhou(Chiredzi)has this to say:

"We get peanuts for the damage done by elephants. It's not enough to cover the seeds and labor, let alone the income we would have made from selling the crops."

This discrepancy between compensation and actual market values has led many community members to perceive the schemes as inadequate or unfair. Sentiments by the community members marry well with what was established by Bertram and Vivier (2020) in their study on compensation versus market value. Compensation schemes provide partial relief but often fall short of covering the full extent of losses, (Bertram and Vivier, 2020). Another community member from Hwange has this to say after suffering a huge loss:

"Every season, we lose more crops to baboons and elephants, and there's nothing we can do about it. Our livelihoods are destroyed, yet there's no legal protection for us in Zimbabwe's constitution. We can't hold the government, ZIMPARKS, or any of these wildlife conservation groups accountable. Their so-called 'compensation' is nothing more than a goodwill gesture—it's not obligatory, and it's far from enough to cover what we've lost."

Other community members also expressed their dissatisfaction about not even receiving any form of compensation from responsible authorities since the day they experienced the crop loss. One of the members who stays near Gonarezhou has this to say:

"I planted my field with hope and sweat, but the elephants came and destroyed everything in one night. I have been waiting for compensation for years, but nothing has come. It is like my loss does not matter. I am still struggling to recover, but the government and conservation efforts only seem to care about the elephants, not the people affected by them. It is hard to protect wildlife when your own livelihood is at stake."

The above sentiments by one of the community members clearly shows that these remedial measures are becoming less effective on daily basis and many people are fast losing trust in conserving the wildlife in these areas.

The unavailability of a compelling legislation in the country has caused a menace among the farmers in Gonarezhou because of the continued escalations of HWC in their area. One learned farmer cried when narrating his ordeal to one of the researchers. The farmer has this to say:

"I woke up one morning to find my entire cattle herd torn apart by lions. It was like my livelihood was shredded before my eyes. I have applied for compensation, but it is been months and nothing has come through. The worst part is, there is no one to hold accountable. ZIMPARKS and the government just shrug their shoulders and say "it is an act of nature', But what about our rights as farmers? We are not just victims of circumstance, we are victims of a system that does not care at all. Until there is a legislation in place that compels ZIMPARKS and government to take responsibility for wildlife atrocities, we are just pawns in a game we cannot win. For now, we are at the mercy of the wild, with no recourse, no justice, and no compensation."

On a different note, most community members air out their resentments regarding the loss of a human being versus the compensation tabled by the responsible authorities. Most members agreed that there is no enough compensation for human loss and because of such, a lot needs to be done so that those who suffered the loss must continue benefiting from the ZIMPARKS, government or Conservancy in place. One of the community members interviewed in Gonarezhou area narrated his ordeal and objected the following. He said the following words to one of the researchers:

"We lost my brother to an elephant attack while he was trying to provide for his family. The authorities only helped with the funeral and gave us some groceries, but that was it. Now, his wife and kids are struggling every day just to survive. Losing him was a huge blow, not just emotionally but also financially. I believe it's only fair for the authorities to offer monthly compensation in form of groceries or school fees for the children of the deceased for such a loss. No amount of money can replace him, but at least his family would have something to live on, especially since he was their only source of income."

Government Officials' Perspective

Funding Constraints and Administrative Challenges

Government representatives interviewed acknowledged the inefficiencies in the compensation system, but attributed many of the issues to budgetary constraints. A representative from the Zimbabwe Parks and Wildlife Management Authority (ZimParks) explained that the funds allocated for compensation are often insufficient to cover all claims:

"We are doing our best, but the government's resources are stretched thin. The funds we receive for compensation are not enough to meet the demand in hotspots like Hwange and Gonarezhou."

Additionally, the process of verifying claims was highlighted as a significant administrative challenge. Officials noted that fraudulent claims or disputes over the extent of damage slow down the process, creating bottlenecks in the system.

Wildlife Legal Frameworks

Other government representatives have highlighted their need for a government-backed legal framework which they said is a cause for concern when trying to manage the HWC in the country's hotspots area. An official from the Ministry of Justice, Legal and Parliamentary Affairs has this to say:

"As it stands in Zimbabwe, there is no legal framework that allows citizens to sue the authorities for human, crop, or livestock losses caused by wildlife. It is crucial that the government urgently addresses this gap by enacting a legal framework through an Act of Parliament. This would not only safeguard citizens' rights but also ensure accountability in managing wildlife-induced damages. Given the current economic challenges faced by the government, with limited financial resources to mitigate these losses, such a framework is even more critical in protecting affected communities."

These sentiments align well with the views raised by Nyhus et al (2020) in his previous study that the absence of a legal framework that can be used by members of the community to sue the responsible authorities is the major problem that is leading to the intensification of HWC in most hotspots areas across the country.

Conservation Organizations' Views

Sustainability and the Need for Alternative Approaches

Representatives from conservation organizations emphasized the need to rethink the current compensation model, arguing that it is unsustainable in the long run. According to one NGO officer working on HWC mitigation, the schemes are a short-term solution that does not address

the root causes of the conflict. The utterance by this conservationist conforms to what was established by Nyhus et al (2020) in their previous study noting that, while compensation can reduce retaliatory killings and improve tolerance towards wildlife, it does not address the root causes of conflict. The conservationist has this to say:

"Compensation schemes might help in the short term, but they are not solving the underlying issues. We need to look at more sustainable solutions, like better fencing, community-led conservation initiatives, community active engagement in decision-making, and co-existence strategies."

Several conservationists also suggested that the schemes could inadvertently lead to moral hazards, where people become less proactive in preventing wildlife damage because they expect compensation. The words resonated by these conservationists tally well with what Gillingham and Lee (2022) noted saying, "Successful schemes are often those that involve community participation in decision-making and management". However, distrust and dissatisfaction with scheme administration can undermine their effectiveness.

Impacts on Human-Wildlife Conflict Management

Weak Incentives for Proactive Measures

Interviewees across different sectors highlighted how the compensation schemes might weaken incentives for communities to take preventive measures against wildlife damage. Local leaders noted that while efforts such as building wildlife-proof fences, setting up early warning systems, or creating buffer zones have been promoted, many community members are reluctant to invest in these measures when they expect financial compensation after an incident. A local conservationist working in Kariba expressed concern over this dynamic:

"If people know they will get compensated, they may not take the extra step to prevent conflicts, which in the long run worsens the problem, it is therefore imperative to foster more attention to Insurance-based compensation mechanisms where the communities pay premiums."

The interviews reveal a mixed assessment of the efficacy of compensation schemes for livestock, human, and crop losses in Zimbabwe's HWC hotspots. While the schemes provide some relief,

especially in areas with severe wildlife conflicts, they are marred by delays, inadequate payouts, and accessibility issues. Government officials acknowledge the funding challenges, but conservation organizations stress that compensation alone is not a sustainable solution. The discussion explores the implications of the findings for the design and implementation of compensation schemes. It highlights the importance of timely and adequate compensation, transparency, and community involvement. Moving forward, stakeholders advocate for a more integrated approach that combines compensation with proactive conflict mitigation measures, including community-based conservation and long-term co-existence strategies. Further research and policy adjustments are necessary to enhance the effectiveness of these schemes and to better balance the needs of local communities with wildlife conservation efforts.

Recommendations

Compensation schemes for crop damage, human loss, and livestock depredation are critical tools for mitigating human-wildlife conflict (HWC) in Zimbabwe. These schemes aim to alleviate the economic burden on communities living near wildlife habitats, reduce retaliatory killings of wildlife, and foster coexistence between humans and wildlife. However, the effectiveness of these schemes varies based on several factors, including their design, implementation, and the socio-economic context in which they operate. Below are some of the suggested recommendations to enhance the effectiveness of compensation remedial in Zimbabwe:

Ensure Timely and Adequate Compensation Payments

To improve the effectiveness of compensation schemes, it is crucial to ensure that compensation payments are both timely and adequate. Delays and insufficient compensation undermine trust in the schemes and can exacerbate tensions between communities and wildlife authorities. There is greater need to streamline and simplify the procedures for reporting wildlife incidents and verifying claims. This could involve training local community members as field officers to conduct preliminary assessments and submit reports quickly.

Mobilize additional financial resources from government budgets, international donors, and conservation organizations to ensure that compensation funds are adequately funded and can cover all valid claims. There is also need to create some contingency funds to ensure that compensation can be paid promptly even during periods of high conflict or economic downturns.

Implement a Tiered Compensation System

Having a tiered compensation system that differentiates between types and extents of damage can enhance fairness and effectiveness. This approach ensures that the most affected individuals receive appropriate compensation based on the severity of their losses. There is need to establish some detailed guidelines (develop a criteria for compensation) for assessing different types of losses (e.g., partial vs. complete crop destruction, single vs. multiple livestock losses). This can help standardize compensation amounts and ensure they are proportional to the damage incurred.

Involve community representatives (Engage Local Communities in Decision-Making) in the development and periodic review of compensation criteria to ensure they are context-specific and reflect local realities and perceptions of fairness. Such an arrangement will help the compensation mechanism to be sustainable and respect by the locals.

Integrate Non-Monetary Compensation and Support Measures

Complement direct financial compensation with non-monetary support measures, such as providing materials for wildlife-proof fencing, technical assistance for crop protection, and community-based education on wildlife management. The government and other various organizations should provide communities with (preventative resources) materials and training to implement non-lethal deterrents, such as beehive fences, chili pepper barriers, or solar-powered lights, which can reduce crop raiding and livestock predation.

The wildlife responsible authorities together with the government should also encourage, promote, and support alternative livelihoods (promotion of livelihood diversification) less susceptible to wildlife conflict, such as beekeeping or eco-tourism. This diversification can reduce the economic impact of wildlife damage on households.

Strengthen Community-Based Natural Resource Management (CBNRM) Programs

Enhance Community-Based Natural Resource Management (CBNRM) programs like the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) to include more robust compensation mechanisms and greater community involvement in wildlife management. Those responsible must ensure that all revenue generated from wildlife-based activities is transparently managed and equitably distributed to communities. Regular audits and community meetings should always be done so as to maintain transparency and trust among various stakeholders.

Development of mechanisms that tie compensation to positive conservation outcomes, such as reduced poaching or increased wildlife sightings can also be ushered so as to have more participants. This can encourage communities to actively participate in most of the wildlife conservation and management efforts placed before them.

Improve Data Collection and Monitoring Systems

Establishment of more robust data collection and monitoring systems to accurately assess wildlife damage, monitor the effectiveness of compensation schemes, and make data-driven adjustments can be ideal to effectively mitigate the HWC in most hotspot areas in the country.

There is also a need to create a centralized database to track wildlife incidents, compensation claims, and payments. This database can be used to identify patterns, improve response times, and ensure transparency in the compensation process. Use or incorporation of appropriate or up to date modern technologies, such as mobile apps and GPS tracking, to report incidents in real-time and verify claims more efficiently. This can reduce the likelihood of fraudulent claims and improve the accuracy of damage assessments.

Enhance Awareness and Education Programs

Implement awareness and education programs to increase community understanding of the compensation process, wildlife behavior, and conflict mitigation strategies. ZIMPARKS and other responsible organizations should regularly hold workshops and training sessions in affected communities to educate residents about their rights and responsibilities under compensation schemes, as well as practical measures they can take to prevent conflicts.

Developing and making use multiple communication channels, including radio, social media, and community meetings, to disseminate information about wildlife conflict mitigation and the availability of compensation schemes is another way of sensitization that help to reduce the HWC problem.

Foster Partnerships and Collaboration

Strengthen partnerships between government agencies, non-governmental organizations (NGOs), community groups, and the private sector to enhance the design and implementation of compensation schemes. Creating committees that include representatives from all relevant stakeholders (establishment of multi-stakeholder committees) to oversee compensation schemes, address grievances, and continuously improve the schemes based on feedback and evolving conditions. It is also vital to create partnerships or collaborations with NGOs that have experience in conflict resolution, wildlife conservation, and community engagement to provide technical support, funding, and capacity-building initiatives.

Conduct Regular Evaluations and Adaptive Management

There is need to frequently evaluate the effectiveness of compensation schemes and use adaptive management practices to make necessary adjustments based on changing circumstances and new information. Setting up of feedback mechanisms for affected communities to provide feedback on the compensation schemes, including their effectiveness, fairness, and any challenges encountered is important for it promotes timely reporting.

It is also advisable for the ZIMPARKS and other related organizations to make use of evaluation findings to adjust compensation rates, improve processes, and introduce new measures that better meet the needs of communities and wildlife conservation goals. They should adjust compensation amounts to better reflect actual losses and ensure timely payments to reduce financial strain on affected households.

National Insurance Fund (NIF)

Establishing or setting up a National Insurance Fund for (HWC) to provide financial support to affected community members will go a long way in solving the menace in HWC hotspots in the country. Like the current AIDS levy in the country, also the National Insurance Fund will easily

help the affected community members to recover and rebuild their livelihoods and resultantly promote coexistence between them and wildlife. Such an arrangement will also go a long way in promoting tolerance and acceptance of wildlife among communities, reducing HWC.

Legislative Framework

The absent of legislative framework in the country has been highlighted by the community members; government personnel and partner conservation participants as the major attribute to the on-going HWC in most hotspots areas across the nation. It is therefore the submission of this write up that, establishment of the legislative framework either through the Act of the Parliament or as lobbied by various conservation organizations is the ultimate answer to reduce or end tensions between humans and wildlife. Legislative framework will help the affected community members to hold government or ZIMPARKS responsible and therefore get compensated to the losses incurred. The framework provides legal basis for compensation, ensuring that affected individuals have a right to claim support in the courts of law. Laws can protect the rights of affected individuals, ensuring they receive fair and just compensation with short space of time.

Conclusion

The potency of remedial schemes for livestock, human, and crop losses in Zimbabwe's human-wildlife conflict hotspots is a crucial factor in mitigating the socio-economic impacts on affected communities. While compensation provides immediate financial relief, its success largely depends on timely and adequate payments, robust data systems, fair valuation of losses, partnerships and adaptive management, community active participation, and community education and awareness of the schemes. Additionally, addressing broader issues such as habitat encroachment, conservation policies, and sustainable coexistence strategies is essential. A well-structured and adequately funded compensation framework, coupled with proactive conflict prevention measures, can significantly reduce human-wildlife tensions and promote long-term ecological and economic sustainability in these regions of high-risk. Also as a matter of urgent, due to escalating incidents of HWC in the country, there should be a strong political will to pay particular attention on this matter. All heads from both government and partner organizations must be put together and establish National Insurance Fund (NIF) and legislation to safeguard the affected communities across the country. By addressing these areas, Zimbabwe can better

manage human-wildlife conflict, reduce its negative impacts on communities, and promote coexistence with wildlife.

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