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Qualitative Assessment for Sustainability: The "Diamond" Strategy to Counter Elephant Baobab Tree Damage in the Mapungubwe National Park, South Africa

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ABSTRACT

Protected areas play an important role in the conservation of fauna and flora. However, they have also become popular tourist destinations that contribute significantly to their financing. Many nature reserves also operate under budget constraints if managed by state or parastatal entities. Hence, nature reserves need to balance their conservation strategies within the nexus of environmental, social and economic dimensions of sustainability. This paper reports on an approach taken to counter elephant damage to baobab trees in Mapungubwe National Park, South Africa. Qualitative assessment through observation of tree damage in the park was an approach that augmented quantitative analysis to decide on appropriate interventions to mitigate the elephant baobab damage. This highlights the value of qualitative assessment in sustainability conservation strategies. Document analysis of three available reports (2022, 2024 and 2025) on an intervention of wrapping the baobab barks with diamond mesh wire as a deterrent to elephant damage concluded the intervention to be effective, cost-effective and unobtrusive to tourists. The use of the diamond mesh wire confirms that the nexus of environmental, social and economic dimensions can be balanced within sustainability conservation strategies. The study supports recommendations in the literature and in reports of the Mapungubwe National Park for increased monitoring, expanding the diamond mesh wire intervention to other areas, to progressively include more trees in future interventions and to encourage other landowners facing similar problems to adopt the "diamond" strategy.

Keywords: baobab, diamond mesh wire, elephants, tourists

INTRODUCTION

Agenda 2030 makes clear reference to the nexus between people, planet and profit (United Nations, 2015). In sustainability models the nexus between the social, economic and environmental dimensions is recognised (Loubser et al., 2016). While issues often seem isolated especially from a pure science perspective, deeper analysis frequently reveals direct or indirect interactions among the social, economic and environmental dimensions on the planet. Sustainable Development Goal number 15 (SDG 15), Target 15.5 advocates for: "Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and by 2020 protect and prevent the extinction of threatened species" (UN, 2015). Baobab trees in the Mapungubwe National Park, Limpopo, South Africa are potentially threatened by

elephant foraging behaviour (Khosa, 2024; Venter, 2022). Baobab damage and responses to it are more than simply a vegetation management issue. The problem encompasses social, economic and environmental dimensions that should be considered in finding appropriate responses to the damage of these trees. Addressing this challenge therefore requires an approach that responds to the nexus between people, planet and profit.

The Kunming-Montreal Global Biodiversity Framework, more recently, reaffirmed the nexus between people, planet and economic prosperity by applying a biodiversity lens urging transformative active action at all levels, recognising the value of scientific and traditional knowledge, and ensuring that stakeholders and practitioners have access to data, information and knowledge (United Nations, 2022). Holistic sustainability management approaches in nature reserves and national parks - particularly those which involve significant role-player participation and assessment of contextual issues - are more likely to respond effectively to sustainability challenges (Hossain et al., 2018; Lockie & Ransan-Cooper, 2015).

Elephants play significant ecological roles yet their presence and behaviour can have direct or indirect impacts on vegetation and on surrounding human activities. Assessment and review of their impact is necessary, as species such as the African elephant (*Loxodonta africana*) is also considered as threatened. Populations of *Loxodonta africana* have increased over the years in national parks in South Africa (Ferreira et al., 2017). The increase was reported to be reaching concerning levels almost a decade ago and have implications for sustainability management in the park. Three concerns need significant attention. One is the impact of elephants on vegetation in the park, specifically the baobab trees. Two, the park is a tourist attraction and any intervention should not impact on the tourists' experiences in anyway. Three, private farmers and their farmlands within the reserve are exposed to elephants, increasing the potential for human-wildlife conflict (HWC)." This paper provides discussion on the integrated management approach taken by the park management in consideration of the nexus between people, planet and profit to address the elephant damage of baobab trees.

Regular monitoring and assessment are important if biodiversity is to be sustained and to directly or indirectly address social and economic issues. Monitoring and assessment are complex and consists of multiple aspects. While traditional conservation efforts largely relied on quantitative techniques and analysis, qualitative or subjective monitoring and assessment has a valuable contribution to make towards sustainability efforts. Increasingly the recognition of multiple perspectives in conservation research calls for a broader methodological approach (Sutherland et al., 2018). The focus of this paper is on qualitative field research on vegetation and elephant management together with document analysis of three reports (2022, 2024, 2025) that examine intervention strategies aimed at protecting the baobab trees in the Mapungubwe National Park. The key questions that this paper responds to are (1) How has qualitative assessment contributed to addressing the issue of elephant damage to baobab trees in the park? (2) What is a possible effective strategy to address the issue of elephant damage to baobab trees by considering the social, environmental and economic nexus of sustainability?

LITERATURE REVIEW

The African baobab tree, *Adansonia digitata* (commonly known as the baobab tree), is a member of the large indigenous tree species found in the Mapungubwe National Park. It is a multi-purpose tree and is valued for many reasons (Rahul et al., 2015). These include social reasons such as food, medicine and the production of various artefacts. There has been widespread commercial interest in various baobab products and it is reported that there is an increased global demand for food and cosmetic products derived from the baobab tree (Magangavari, 2019). Further, tourists marvel at the huge size and longevity of these trees which can live for centuries, if not exposed to natural disturbances or if social usage is not managed sustainably.

Aside from the social value, baobabs are a source of nutrition to the elephant's diet. The bark is the single biggest important part of the tree as a food source for elephants (Lisao et al., 2017). However, the consumption of the bark has been observed to significantly increase the vulnerability of the trees. Increased elephant populations also further increase the threat to damage. Due to its social value and susceptibility to elephant damage there is a need to conserve the African baobab tree. Habitat management is one such conservation strategy for the sustainable management of forage vegetation (Gross & Heinsohn, 2023; Gobush et al., 2021). However, protection of the baobabs is complex as it requires balancing conservation of the trees with providing adequate nutrient forage for the elephants. Disregarding the role of baobabs as a source of nutrition for elephants may result in elephants seeking sources of food elsewhere, including trespassing on farms within nature reserves. Animals trespassing and causing damage often results in human-animal confrontation or human wildlife conflict (HWC) which has become a socio-ecological challenge in many parts of the world (Montero-Botey et al., 2024; Hussein & Negese, 2021; König et al., 2020). Damage to crops and vegetation also has a negative economic impact on livelihoods and local food security (Hussein & Negese, 2021). While some farmers take an aggressive stance against the elephants such as shooting (La Grange et al., 2022) others also look for more passive strategies to deter these large mammals. However, some of these strategies are labour-intensive and may be costly having economic implications for both farmers and conservation authorities.

Different strategies have been applied to mitigate HWC, and some may be considered within nature reserves for tree protection. Fences are commonly used in wildlife conservation strategies (König et al., 2020; Burudi et al., 2025). These include electric fences, chilli fences, beehive fences, plant barriers (spiny and non-palatable plants) and the deployment of unpleasant olfactory objects or stimuli such as soft virtual boundaries (SVB) on elephant habitual movement pathways (La Grange et al., 2022). However, some methods such as electric fences are costly and raise questions about potential injury to the elephants and its practicality in nature reserves with large tree populations. Chilli fences made with strings laced with chilli paste soaked in an oily medium is an olfactory irritant for elephants (La Grange et al., 2022). However, there are sustainability concerns which include the need for a constant supply of chilli, the cost involved in getting the oily suspension medium and increased monitoring required to replenish the paste (La Grange et al., 2022). Wire fences are reported to be a better option to deter animal intrusions (Burudi et al., 2025). Diamond mesh wire typically used for fencing is installed around the barks of large trees to deter elephant damage (Venter, 2022; Khosa et al., 2025). This paper also explores the effectiveness of such an intervention in reducing elephant baobab damage within nature parks.

Tourism is a social phenomenon and one of the key contributors to a country's economy (Kumar & Rana, 2019). Tourism also contributes to the finances of the Mapungubwe National Park. Tourists, more especially eco-tourists, visit nature reserves for their cultural and aesthetic value, natural beauty, biodiversity and opportunities to observe wildlife (Chan, 2021; Samal & Dash, 2022). However, tourists, value quality service experiences which encompasses emotional, physical and intellectual experiences (Chan, 2021). Hence, the experience of tourists within the park is of significance. Elephant damage to the baobab trees may be obtrusive and strategies to deter such damage to the trees should also consider their potential visual impact on tourist experiences.

There are various conceptual models of sustainable development such as the three pillars model, three overlapping circles model and three nested dependency model with each being subjected to criticism (Herath & Rathnayake, 2019; Purvis et al.,2019; Alam, 2021; Dushenko et al., 2018). However, Agenda 2030 makes categorical reference to three dimensions viz. social, economic and environmental to conceptualise sustainability (UN, 2015) and most models encompass these three dimensions (Purvis et al., 2019; Alam, 2021; Le Grange et al., 2016; Pillay & Govender, 2021). In the analysis of the findings in this study the three nested dependency model was applied. The representation of sustainability dimensions in the three nested

model as compared to three distinct pillars alludes to dependency and the nexus of the social, economic and environmental dimensions (Dushenko et al., 2018). An adapted version of the three nested dependency model (Pillay & Govender, 2021) is shown in figure 1. In this representation, natural refers to the environmental dimension, and the broken circles depicts a relationship between the dimensions rather than a distinction between the dimensions in strategic responses to sustainability issues.

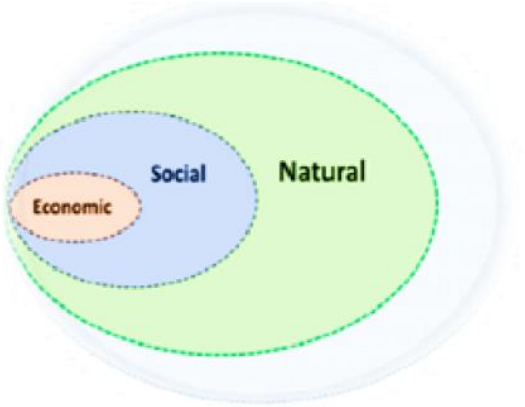

Figure 1. Adapted version of the three nested model (Pillay & Govender, 2021)

Both baobab trees and elephants play valuable ecological roles but are also of interest to the tourism industry and to livelihoods. It is evident from the literature that biodiversity conservation cannot be isolated from social and economic dimensions of sustainability. Hence, monitoring and responding with appropriate interventions to elephant impact on the state of the baobab trees is justified from ecological and anthropological (social and economic) interests.

METHODOLOGY

Overall, this study adopted a mixed method design incorporating both quantitative and qualitative approaches. A survey was conducted in December 2019 on the same 501 trees that had been previously tagged between 2005 and 2009. The individual trees were initially marked using metal tags labelled with unique identification numbers nailed to the trees. These identifiers enabled the accurate location of the same trees by means of a handheld Global Positioning System (GPS) (Garmin GPSMAP 64xx) unit during the 2019 monitoring survey. Each tree was surveyed for evidence of debarking and canopy dieback damage that had occurred within the preceding eleven years.

While the broader study incorporated quantitative measurements, this paper specifically reflects on the qualitative aspects of the study viz. field observations and document analysis. Damage of the trees was assessed through direct visual observations and then categorised using a five-point damage rating scale (Table 1). The approximate age of the impact was inferred using the following colour indicators: grey / black damage suggested it was old damage while reddish/brown damage suggested it was more recent damage. The qualitative field observations and subsequent data analysis respond to research question 1: how has qualitative assessment contributed to addressing the issue of elephant damage of baobab trees in the park?

However, because of subjectivity associated with qualitative studies, there should be efforts to reduce bias and increase accuracy thereby enhancing the credibility and reliability of such studies (van Oudtshoorn, 2019). Trustworthiness and validity of the assessment was accounted for by two researchers who independently conducted the field assessment to minimise bias. This was followed by comparing the scores obtained by each researcher, then combined and averaged to produce a final value. Further, the assessment was not ad hoc but followed classes of damage with clearly defined pre-established criteria (Table 1) and compared to previous data. The trees were also photographed for any further discussion.

Table 1. Debarking classes according to category and utilisation.

Classes	Observable description	Damage rating percentage
1	• No damage	0
2	• Slightly damaged • Trunk still looks fresh, few scars on trunk	1-25
3	• Moderate damage • No ring barking of the trunk, scars deeper or more numerous	26-50
4	• High damage • Trunk is ring-barked with deeper scars but not completely ring-barked	51-75
5	• Severe damage • Trunk totally ring-barked or deeply scarred	76-100
D	• Tree dead or collapsed	Dead
A	• Alive - tree still standing with signs of green leaves	Alive

Document analysis was employed to respond to research question 2: What is a possible effective strategy to address the issue of elephant baobab damage while considering the social, environmental and economic nexus of sustainability? Three reports (2022, 2024, 2025) related to interventions to address elephant baobab damage within the Mapungubwe National Park were analysed. There were no reports available referring to the elephant baobab damage for 2023. The pre-determined criteria for document analysis were: the intervention strategy used, the reported effectiveness of the intervention and the recommendations for its future use. To strengthen the credibility of the document analysis, the interpretation of the findings was reviewed by a conservation researcher and an academic.

Ethical and institutional approval to conduct the study was granted by SANParks management as part of ongoing sustainability management efforts within the Mapungubwe National Park.

RESULTS/FINDINGS

The findings are presented in relation to the two research questions guiding the study. However, the findings should not be interpreted as independent from one another as the outcomes of the qualitative assessment informed the subsequent identification and evaluation of potential intervention strategies.

Research question 1: How has qualitative assessment contributed to addressing the issue of elephant damage to baobab trees in the park?

Using the descriptions applied to field observations (Table 1 presented in the methodology) a holistic assessment of debark damage recorded in 2019 was conducted and compared with findings from the 2009 assessment. Intentional qualitative research observations by field specialists formed the basis of the conservation monitoring process. The qualitative assessment based on observation of damage per tree was compiled into descriptive statistics for the entire sample of trees (n=501). The findings are presented in Figure 2. Overall, the analysis indicates that there was an increase in elephant debarked trees of about 5% from 2009 to 2019 collectively (n=501 trees) across the varying classes presented in Table 1. Although the increase appears modest, it raised further concerns among park management regarding the potential long-term implications, prompting the need to consider possible interventions to address future elephant-induced baobab tree damage. These interventions are explored in the document analysis presented in research question 2.

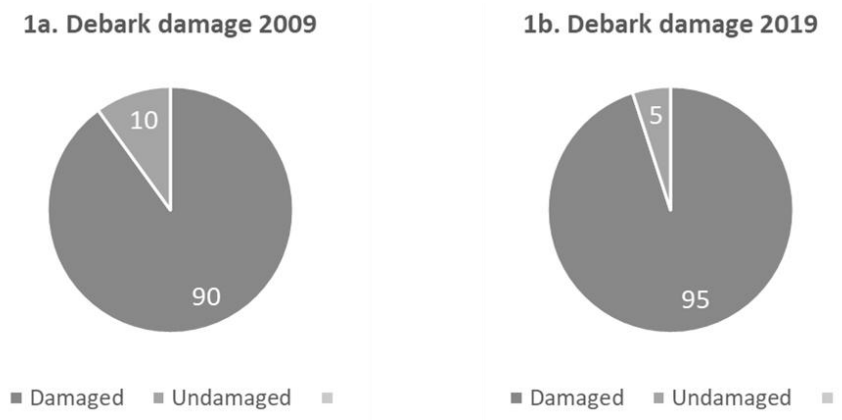

Figure 2. Total debark damage in 2009 (1a) and 2019 (1b)

Research question 2: What is a possible effective strategy to address the issue of elephant damage to baobab trees considering the social, environmental and economic nexus of sustainability?

To identify potential conservation responses and interventions implemented to reduce elephant damage to baobab trees in the Mapungubwe National Park, a document analysis of three reports compiled in 2022, 2024 and 2025 was conducted (see Table 2). For each report the key intervention strategies, their reported effectiveness and the associated recommendations were systematically analysed.

Table 2. Document analysis: Reports related to the baobab elephant damage in the Mapungubwe National Park

	Report Title	Interventions mentioned	Effectiveness of the strategy	Recommendations
R1	Report on the effectiveness of protecting baobab (*Adansonia digitata*) trees from elephant damage using diamond mesh and fermented elephant dung spray. (2022)	• Fermented elephant dung spray • Diamond mesh wire	• Damage evident • Diamond mesh wire: no bark damage	• Dung spray not recommended • Diamond mesh recommended • Expand implementation to other areas • Visually unobtrusive to tourist– visible only few metres away from the tree.
R2	The journey of preserving the iconic baobab species in Mapungubwe National Park (2024)	• Diamond mesh wire • Rock-packing at the base of the trees	• Diamond mesh wire: no bark damage • Rock packing: some damage	• Diamond mesh: recommended • Increased funding required to include more areas and trees • Rock packing: not recommended as a standalone intervention
R3	Evaluating the effectiveness of diamond mesh wire in protecting baobab trees from elephant damage in Mapungubwe National Park (2025)	• Diamond mesh wire installed to the height (3 m) of typical debarking	• Protected trees: no detectable bark stripping and 0% mortality.	• Diamond mesh wire: simple, sustainable, lower cost and highly effective conservation strategy • Scale up to include more trees

Evidence from Report R1 (2022) concludes that fermented elephant dung spray is ineffective compared to the use of diamond wire mesh in preventing elephant damage to baobab trees (Venter, 2022). Notably the report highlights considerations within the environmental, economic and social nexus of sustainability. The diamond wire mesh was reported to be visually unobtrusive to tourists, being noticeable only from a very close distance from the trees and required careful observation. This factor of visibility of the intervention is significant given the importance of tourism to the park and to the broader national economy. Maintaining the aesthetic value of landscapes to tourists is therefore an important consideration especially when

implementing conservation strategies particularly in protected areas where tourism and conservation are inextricably linked. Despite these protective efforts, it was noted in the report that the "Honeymoon" tree, a landscape and cultural feature in a popular tourist site on the Leokwe camp road, showed significant visible elephant damage (Venter, 2022). The report clearly authenticates the need to protect the trees for conservation, social and economic reasons using visually unobtrusive strategies such as diamond mesh wire. Tourists expect their needs to be satisfied to get maximum value from their investments and experiences (Kumar & Rana, 2019). Although fermented elephant dung spray was trialed as an alternative intervention, it was ineffective as trees were still significantly damaged by the elephants. Consequently, the report does not recommend the use of fermented elephant dung-spray as a viable alternative to diamond mesh wire, particularly when economic efficiency and conservation effectiveness are considered.

Report R2 indicates that the park management was under increased public pressure to protect the baobab trees because of its historical and cultural heritage value (Khosa, 2024). Hence, the diamond mesh strategy was expanded to protect more trees. The implementation of rock-packing in the previous five years was also mentioned as an intervention to deter the elephants. Although less damage to the trees was noticed after the intervention of rock packing, its effectiveness was considered lower than that of the diamond mesh strategy. However, in conservation the interventions also need to consider local social issues which could impact on their success. Khosa (2024) categorically reports that the diamond mesh wire had to be spray painted for identification in the case of theft. Theft of the diamond wire mesh could negate conservation efforts and thus increase the costs of implementing the strategy. Report R2 therefore highlights the complex nexus between the environmental (conservation strategies), social and economic dimensions of sustainability.

Report R3 provides further empirical support for the effectiveness of the diamond mesh strategy in deterring the elephants from damaging the baobab trees (Khosa et al., 2025). The findings indicate that trees protected with diamond mesh wire experienced no detectable bark stripping and 0% mortality was recorded. The report concludes that diamond mesh wire represents a simple, sustainable and cost-effective conservation strategy that can be readily implemented and scaled up to protect additional trees. In doing so the report again highlights the nexus between effective conservation strategies and the economic impact within sustainable park management.

Collectively, the findings from the document analysis indicate that the diamond mesh wire strategy represents the most effective and practical intervention currently implemented to protect baobab trees from elephant damage. The intervention demonstrates effectiveness across the environmental, social and economic dimensions.

DISCUSSION

This paper aimed at highlighting the value of qualitative assessment in conservation and sustainability research, while also examining the effectiveness of the "diamond strategy" (diamond mesh wire) as a response to elephant-induced damage to the baobab trees in the Mapungubwe National Park. The findings confirm that qualitative assessment has significant value in augmenting quantitative approaches in conservation monitoring and decision-making. Qualitative observations provided the initial empirical evidence necessary to identify patterns of bark damage across individual baobab trees and to track changes over time. These observations subsequently informed the quantitative aggregation of damage data and enabled park management to identify the need for intervention strategies.

Qualitative assessment strategies are widely used in ecological monitoring where complex environmental conditions may not always be captured through purely quantitative approaches. For example, qualitative veld condition assessments often rely on observational indicators such as vegetation composition,

structural composition and ecological functioning to determine ecosystem health (Van Oudtshoorn, 2019). Such approaches may include photographic analysis and multi-criteria evaluation based on predetermined criteria and estimation. However, qualitative assessments are not arbitrary or subjective processes but are guided by carefully designed protocols that enhance reliability and confirmability (Ahmed, 2024). In this study, the observation tools were developed according to widely implemented guidelines on tree damage as represented in Table 1. Independent assessments by the field specialists reduced the risk of observer bias and misinterpretation and thereby strengthened the confirmability of the data. The initial qualitative observations for each tree formed a critical foundation for subsequent quantitative analysis which informed conservation management decisions, including the evaluation of interventions such as the "diamond strategy".

The findings also highlight the importance of addressing conservation challenges within the broader sustainability nexus between the social, economic and environmental dimensions. Contemporary sustainability frameworks consistently emphasise the interdependence between these dimensions, often conceptualised as the interrelationships between people, profit and the planet. Agenda 2030, clearly articulates this nexus through the seventeen Sustainable Development Goals and through advocacy of an integrated approach to sustainable development (United Nations, 2015). The elephant-induced baobab damage problem in the Mapungubwe National Park clearly illustrates the complexity of such sustainability challenges. While elephant baobab damage appears to be a conservation (environmental) issue, the public and tourists (social) are important stakeholders in deciding on appropriate interventions.

Beyond ecological effectiveness, conservation interventions must also be evaluated within their broader social and economic contexts. Eco-tourism is also envisaged as a conservation strategy to garner socio-cultural, political and financial support for sustainable conservation efforts (Yang et al., 2023). Hence, maintaining the aesthetical value of parks for tourists is also important as tourism is a major source of revenue for protected areas such as national parks. Furthermore, conservation responses should be within reasonable budget allocations of the park and should be effective and sustainable to address the issue. The 'diamond strategy" response at this point seems a viable response for reasonability in costs, effectiveness to deter the elephants from damaging the baobabs in the park and from the perspective of unobtrusive aesthetic value to tourists. Well-known scenic spots within nature parks attract tourists with the motive of sustaining the ecological environment and promoting return to such natural sites (Yang et al., 2023). The "Honeymoon" tree, as previously mentioned is a popular landscape and cultural feature that attracts tourists in the Mapungubwe National Park but has been damaged by elephants (Venter, 2022).

There is no doubt that elephant populations at certain densities could lead to increased tree mortality through their foraging behaviour (Khosa et al., 2023; Foster et al., 2024). A study in the Southeast low-veld of Zimbabwe indicated that there was damage to all baobab trees in areas inhabited by elephants (Khosa et al., 2023). This confirms the need for appropriate interventions to counter damage and to ultimately decrease tree mortality. Qualitative evidence and subsequent quantitative analysis have provided sufficient evidence for the effectiveness of the "diamond strategy" compared to other strategies implemented namely, rock-packing and fermented elephant dung spray. In another study in the Gonarezhou National Park in Zimbabwe, it was concluded that diamond mesh wire fencing was more effective to protect baobab trees as compared to rock-packing and log bands (Foster et al., 2024). The limited effectiveness of rock packing and log bands as observed in the present study, may be explained by its unsteady anchorage which is often moved by elephants or other animals such as baboons (Foster et al., 2024). In the study in the Mapungubwe National Park, assessments revealed that there was zero mortality of the sampled trees protected by the diamond mesh wire (Khosa et al., 2025). The park has up-scaled the use of the "diamond strategy" by including more trees for protection as well as extending the strategy to more areas in the park as reported by Khosa et al. (2025) in Report R3.

As this was an ongoing project, additional trees were tagged and surveyed from 2019 through to 2025 bringing the total number of trees to 650. Furthermore, approximately 100 trees were protected using a diamond mesh wire between 2022 and 2025 for monitoring purposes. Despite its apparent effectiveness, the "diamond strategy" may present potential limitations that warrant ongoing monitoring. It was reported in a newspaper that some elephants may adapt their behaviour by digging up the roots of the trees because of inaccessibility to the bark (Stephen, 2023). Increase in such elephant behaviour, if replicated by others in the park's population is likely to negatively increase the impact on the social, environmental and economic nexus. Inaccessibility to nutrition sources could potentially urge elephants to move into farms within the park, raising issues of HWC. Hence, there is need for continuous close observation and monitoring of the "diamond strategy" to track changes in the elephants' behavior and baobab damage. Perhaps the park's management needs to also explore other strategies which may be effective in co-implementation with the "diamond strategy".

These considerations highlight the importance of continued monitoring and adaptive management in conservation practice. While the diamond mesh strategy currently represents the most effective intervention identified in this study, conservation management should remain responsive to potential behavioural adaptations by elephants and to changing ecological conditions. Future management approaches may therefore need to integrate additional complementary strategies alongside the diamond mesh wire intervention to ensure long-term protection of baobab populations within the park. However, due consideration of the environmental, social and economic nexus is still necessary.

CONCLUSION AND RECOMMENDATIONS

The findings indicate that the "diamond strategy" has addressed the three integrated dimensions of sustainability: environmental, social and economic. The study also demonstrates the value of qualitative assessment through observational approaches in informing scientific decision-making and conservation interventions. In this study, qualitative field observations provided the baseline to eventually decide on the intervention to reasonably satisfy the environmental, social and economic nexus in sustainability approaches. The "diamond strategy", in spite of potential drawbacks such as a change in elephant behavior and the risk of crime-related impacts on installation, is presently the most effective to reduce elephant-induced baobab damage in the Mapungubwe National Park. Its relatively low cost, unobtrusive aesthetic appearance and ease of application further support its use as a conservation intervention. A limitation was that the study was conducted in one national park in South Africa as a longitudinal study. The results could have been different if the similar was done simultaneously and comparatively in other national parks of the country.

The park management and scientists should categorically engage with landowners within and adjacent to the park through meetings to share the assessment of the "diamond strategy" given its unobtrusive aesthetic nature, reasonable costs, effectiveness and easy application. This would encourage landowners to be proactive or upscale efforts to protect baobab trees with diamond mesh wire to counter elephant-induced baobab damage. The proactive approach is also likely to decrease, to an extent, aggressive responses to HWC. Given the potential drawbacks and the implications for the environmental, social and economic nexus, the park management should consider an increase in qualitative monitoring and analysis of field observations of the "diamond strategy" to assess its long-term effectiveness. Further exploration of complementary mitigation strategies within the environmental, social and economic nexus is also recommended to support adaptive management.

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