Balancing Profit and Preservation: Sustainable Strategies for Wildlife Management in South Africa

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Contents

Abstract

This paper analyzes the ethical, economic, and strategic dilemmas faced by Kruger National Park following government funding cuts that led it to sell rhinos at auction. While this decision generated short-term revenue, it contradicted the park's conservation mission and exposed it to reputational and ecological risks. Using stakeholder mapping, materiality assessment, and risk analysis, the paper identifies key threats—including extinction, poaching, and NGO backlash—and opportunities such as international partnerships, technology adoption, and new revenue models. Recommendations focus on rebalancing the park's natural, social, human, and financial capitals through actions like monetizing conservation expertise, fostering eco-tourism and film partnerships, leveraging technology for anti-poaching efforts, and increasing international entry fees. The study concludes that long-term sustainability for Kruger Park depends on aligning its financial strategies with its conservation values and engaging local communities in protecting wildlife.

Introduction

Kruger National Park is one of the world's largest and most biodiverse conservation areas, renowned for its ecological management practices and anti-poaching operations. It attracts millions of visitors each year, contributing significantly to South Africa's tourism economy.

However, recent government funding cuts have forced the park to seek alternative revenue sources, including the controversial decision to auction rhinos for profit. This practice directly conflicts with the park's core mission of wildlife conservation and raises critical questions about how protected areas can remain financially viable without compromising their ecological and ethical responsibilities.

This paper examines how Kruger National Park can ensure enduring value creation while continuing to fulfil its conservation objectives under financial constraints. It proposes a sustainability strategy grounded in the four-capital model (natural, human, social, and financial capital) to achieve long-term balance between economic performance and ecological integrity. These capitals are interdependent: undermining one inevitably weakens the others. For instance, selling rhinos may offer short-term financial relief, but it erodes natural capital, jeopardizes biodiversity, and ultimately diminishes the park's social legitimacy and future revenue potential.

Findings and Analysis

Stakeholders

Defining and prioritizing stakeholders at first allows driving the design and implementation of the recommendations. The following matrix displays the identified stakeholders by their level of influence (active involvement in the park) and impact (ability to effect changes). For convenience, Appendix 1 provides additional details about this classification.

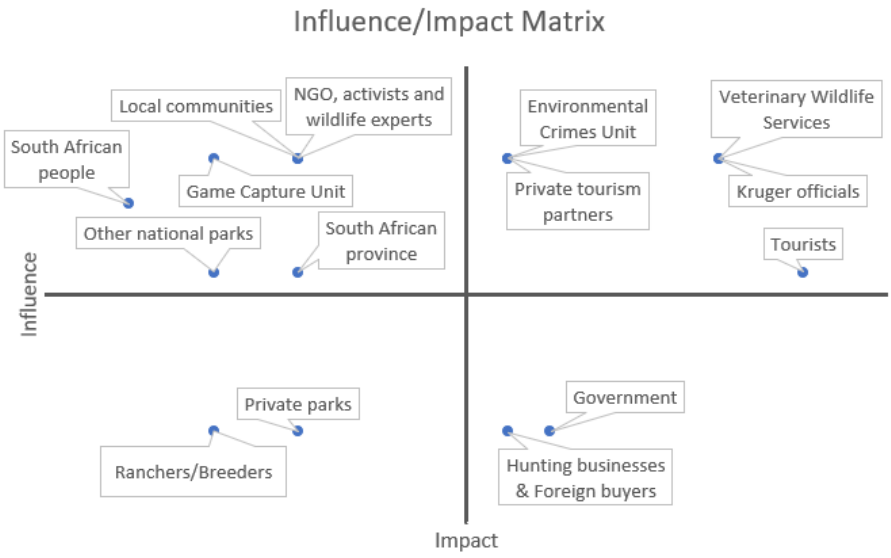
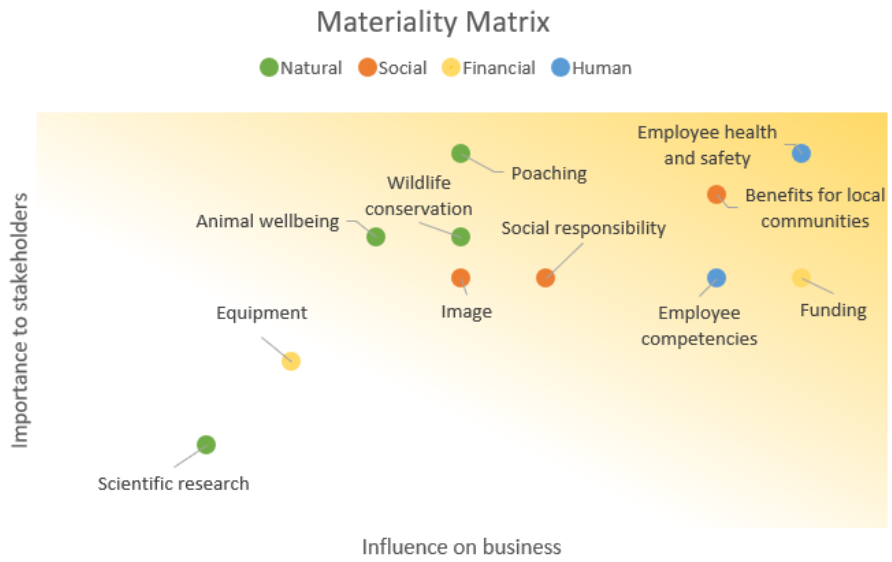


Figure 1: Influence/Impact Matrix. Stakeholders with a more significant influence are in the upper quadrants, while those with a higher impact are in the right quadrants.

Materiality assessment

An effective way to select issues to address is to identify matters that impact the business and are essential to stakeholders, as shown in the following chart.



Issues that matter the most for stakeholders and have a more significant influence on the business lie in the top-right corner of the chart.

Figure 2: Materiality Matrix. Issues that matter the most for stakeholders and have a more significant influence on the business lie in the top-right corner of the chart.

Risk assessment

As illustrated by the half-empty/half-full glass metaphor, each threat comes with an opportunity. Managing the risks reduces variability and uncertainty of outcomes, ensuring the creation of enduring value. The following table summarises the threats and opportunities related to the material issues stated above.

Threat	Opportunity
T1. Stop receiving funds from the government	O1. Ensuring economic independence without asking for contributions from South African taxpayers
T2. Selling all the rhinos to hunting businesses	O2. Spreading rhinos into other areas of the world while making profits
T3. Witnessing the government bailing out the hunting industry	O3. Increasing goodwill by taking a stand against trophy hunting
T4. Driving the rhinos to extinction	O4. Finding new sources of income
T5. Killing rhinos during capture	O5. Monitoring rhino population and understanding its behaviour
T6. Losing employees, killed by poachers	O6. Winning the war against poaching
T7. Being undermined by NGOs and experts	O7. Educating and capitalizing on the park's image

The tables below determine the likelihood and consequences of the previously mentioned threats and opportunities, serving as a baseline to assess their priority.

Threat	Likelihood/Consequence
T1. Lack of funding	**Highly Likely/Moderate consequence** — The lack of funding is almost certain to happen. However, government funding is not the park's primary source of income. Hence, the consequence is moderate.
T2. Hunting businesses' monopoly	**Highly Likely/High consequence** — Hunting businesses drive the demand so high that they would become the only ones able to buy rhinos during open auctions. The consequence is high as all rhinos would end up killed.
T3. Hunting industry bailout	**Probable/Low consequence** — This industry represents 7% of South Africa's GDP and can be considered as 'Too Big to Fail'.
T4. Rhino extinction	**Probable/High consequence** — White rhinos are on the verge of being endangered, while black rhinos already are (WWF, 2019). An epidemic outbreak or a natural catastrophe could be the tipping point for the rhinos' survival.
T5. Death of rhinos during capture	**Very Unlikely/Low consequence** — Animals infrequently die during capture. However, studies have shown that the associated stress threatens their life (Bittel, 2019). If such a situation occurred, the consequence would be low, as the number of rhinos is still sufficiently high.
T6. Death of employee from poachers	**Probable/High consequence** — In 2015, poachers killed 45 rangers worldwide (WWF, 2019), which makes this threat probable. Moreover, the death of an employee is one of the most dramatic incidents that could happen to an organization.

Threat	Likelihood/Consequence
T7. Undermining from NGOs	**Probable/Moderate consequence** — NGOs and wildlife experts already raised their voices against Kruger Park selling rhinos to the highest bidder (Strickland, 2019). It will not take long before they publicly undermine the park and induce outrage if such practice continues. The consequence could be moderate, as it would prevent a specific portion of tourists from visiting the park.

Opportunity	Likelihood/Consequence
O1. Economic independence	**Unlikely/High consequence** — Most of the national parks worldwide are funded by governments and are seldom for profit. When they are, they make profits from mining activities and brand partnerships (e.g. Coca-Cola) (Dolack, 2015). Kruger Park could be a trailblazer if it managed to ensure economic independence while keeping the focus on its core missions.
O2. Rhino spreading	**Highly Likely/High consequence** — Before selling rhinos for profit, Kruger Park was selling them to other parks for conservation purposes, and their population kept increasing throughout Africa (WWF, 2019). Odds are this trend will continue if the park resumes this practice. The consequence is high as conservation is one of Kruger Park's primary missions.

Opportunity	Likelihood/Consequence
O3. Goodwill increase	**Probable/Low consequence** — Big-game trophy hunting had a bad press in the last decade. For instance, the death of Cecil the lion generated a wave of indignation and led Emirates Airlines to ban the transport of hunting trophies on its flights (Howard, 2015). Taking a stand against trophy hunting would probably increase the park's goodwill, but this alone may not have a significant effect on its business.
O4. New sources of income	**Probable/Moderate consequence** — If needed, the park will probably find new sources of income, which would have substantial consequences on its ability to be independent.
O5. Rhinos monitoring	**Highly Likely/Moderate consequence** — The park's services already monitor rhinos heavily through RFID chips implanted during capture (Strickland, 2019), gaining a better understanding of the rhinos' behaviour and fighting against poaching more efficiently.
O6. Victory over poaching	**Very Unlikely/High consequence** — Poachers and rangers engaged in an 'arms race' that the poachers, and their extensive funds, are more likely to win. However, winning this war would be a massive achievement for the park, given the toll it currently pays to poachers.
O7. Good image utilization	**Probable/Moderate consequence** — As stated above, goodwill alone is probably not enough to generate more revenues for the park, but strategically utilizing this positive image could significantly lift these revenues.

The following matrix illustrates the priority of all items defined above, with the most crucial ones lying in the top-right corner.

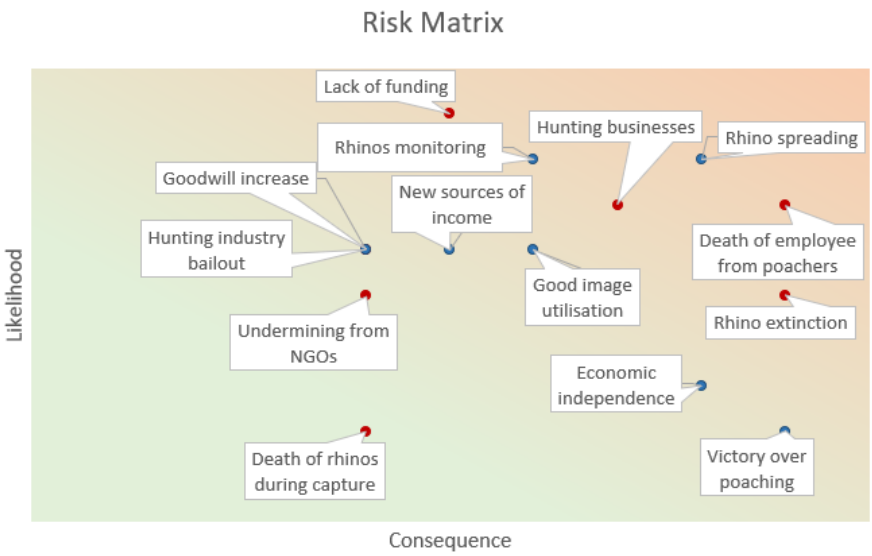


Figure 3: Risk Matrix. Red dots indicate a threat, while blue ones indicate an opportunity. The gradient serves as a marker to represent the priority of the item.

Discussion

The case of Kruger National Park highlights the inherent tension between economic survival and ecological preservation faced by many conservation institutions. The park's decision to sell rhinos for profit exposes the fragility of relying primarily on financial capital to sustain operations. While such measures may offer temporary relief, they risk undermining the park's long-term capacity to deliver on its conservation mandate by eroding natural and social capital.

The four-capital framework, encompassing natural, human, social, and financial resources, illustrates how sustainability depends on balance rather than substitution. When one form of capital is prioritised disproportionately, the others inevitably weaken. In Kruger's case, converting wildlife into financial assets jeopardises biodiversity, diminishes public trust, and threatens future income from tourism and research partnerships. Likewise, the human and social dimensions of sustainability are strained by ranger fatalities, limited community engagement, and increasing scrutiny from international NGOs.

This imbalance also reflects a deeper structural issue within conservation governance. As public funding declines globally, protected areas face mounting pressure to behave like commercial enterprises, blurring the boundary between ecological stewardship and market logic. Kruger Park's experience demonstrates that financial independence achieved at the cost of moral legitimacy or ecological degradation cannot constitute true sustainability. Instead, long-term resilience depends on maintaining coherence between purpose and practice, aligning institutional identity, stakeholder expectations, and environmental responsibility.

Recommendations

An organization can achieve long-term engagement of its stakeholders only by addressing their intrinsic motivations, which implies an alignment between the organization's mission and behaviour. This alignment is not optimal at Kruger Park, and the situation must change to prevent the risk of losing employees and partners.

Consequently, the park should implement a rigorous vetting process for potential buyers to ensure that all transactions align with its conservation mission and ethical standards. However, this may prove challenging in practice. Given the financial strength of hunting businesses compared to more conservation-oriented buyers such as other national parks, Kruger officials may be tempted to prioritise short-term revenue over long-term sustainability. This tendency reflects the *endowment effect*, where decision-makers overvalue existing income streams and resist changes that could yield greater future benefits.

The following plan aims to encourage innovation and provide the park with substantial long-term positive outcomes. However, the park must continuously readapt its programmes in response to feedback.

Monetizing competencies

Since its creation, the park has developed world-class competencies in the fields of capture, translocation, anti-poaching, disease prevention and management. Under the supervision of its services, the wildlife is thriving, the number of rhinos is continually rising, and poaching is decreasing (WWF, 2019).

The park could export these skills to generate revenues through consultancy and intervention services, as well as training programmes targeting local and global wildlife practitioners.

Showcasing the park

Another potential stream of revenue could come from the entertainment industry. Kruger Park could follow the steps of New Zealand and showcase its breathtaking nature in cinema theatres. Since the shooting of "The Lord of the Rings", the number of tourists in New Zealand has increased by 50%. Also, it boosted the local economy through the creation of businesses (e.g. production studios) that still thrive today (Pinchefsky, 2012).

Entrepreneurship and the local economy form the economic flow that sustains most people. Creating a new cinema-related ecosystem near the park could generate substantial revenues while having long-term positive effects. Naturally, filming crews should preserve the natural capital and comply with strict rules, as they did in New Zealand.

Leveraging technology

The analysis showed that poaching is crucial to address without compromising the rangers' safety. Technology innovation could be a solution to both these issues. For instance, infrared captors could detect poachers entering the park and ease their capture. However, the social and environmental effects of the technology should be factored into the decision to deploy it.

To engage local communities and generate enduring benefits, the park could organize a "hackathon" to find innovative ideas against poachers. A committee composed of wildlife experts, Kruger rangers, South African technology experts and socially responsible investors could assess the best project and offer investment schemes for the winner.

Raising awareness

The war against poaching cannot be won by the rangers alone. They need the support of the entire country. Thus, the park must develop a programme to raise awareness throughout South Africa, prioritizing young people. Indeed, they are generally more receptive to environmental issues and can also serve as vectors to educate their parents and older relatives.

Moreover, the park could create shared value by providing them with job opportunities to prevent them from being tempted by a "career" in poaching. Indeed, a significant portion of the underprivileged young men in South Africa sees poaching as the only way to support their families (Burleigh, 2017).

Increasing international entry fees

The international entry fee for adults is currently about 25 USD (SANParks, 2019), a negligible amount for visitors who have already spent several hundred dollars on airfare and accommodation. While tourists cannot be expected to pay higher prices voluntarily, it is reasonable that they contribute more directly to wildlife protection and anti-poaching initiatives. A modest fee increase would therefore align visitor contributions with the park's conservation goals without discouraging tourism.

For instance, a 20% increase in the international entrance fee (to 30 USD) would probably not change the volume of tourists, especially if the park informs them of the reasons for the increase. On the other hand, it could increase the park's income by 2 million USD (Strickland, 2019).

Summary

The table below summarises the key recommendations alongside the threats, the opportunities and the capitals they address.

Recommendation	Threats & opportunities	Capital flows
Vetting potential buyers	T2, T4, T7, O2, O3	From Financial to Natural
Monetising competencies	T1, O1, O4	From Human to Financial
Showcasing the park	T1, O1, O4, O7	From Natural to Financial
Leveraging technology	T4, T6, O5, O6	To Social and Natural
Raising awareness	T4, O2, O6	To Social and Human
Increasing international entrance fees	T1, O7	From Social to Financial

The following chart displays the expected residual threat assessment after the implementation of these recommendations. The top-right corner would become free from threat.

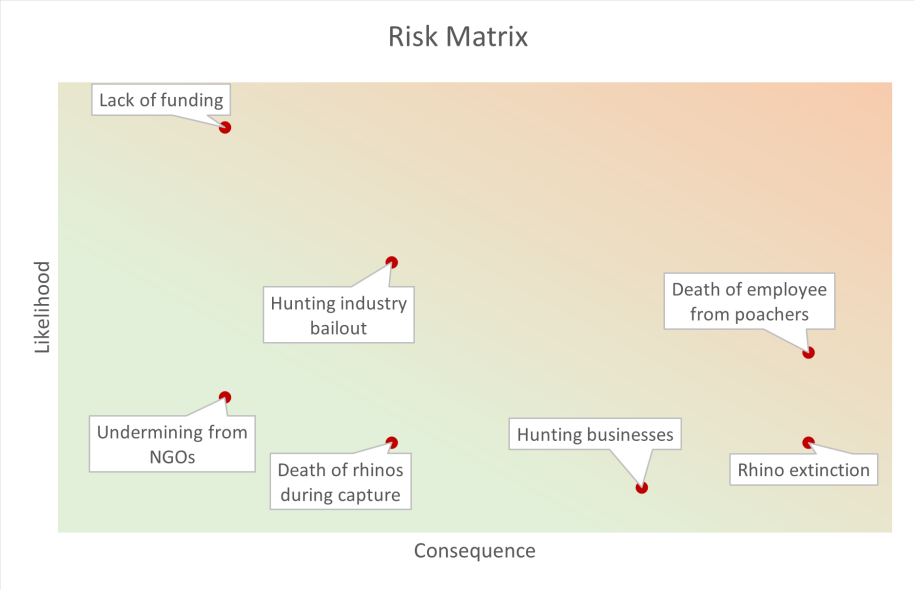


Figure 4: Residual Risk Matrix.

Conclusion

Kruger National Park has responded to funding cuts by prioritizing financial survival, often at the expense of its broader mission. To ensure long-term sustainability, the park must rebalance its focus across the four forms of capital: natural, human, social, and financial. Beyond securing revenue, its priorities should include strengthening anti-poaching efforts, improving ranger safety, and fostering tangible benefits for surrounding communities.

The proposed strategy addresses these dimensions by diversifying income sources while reinforcing conservation values. By monetizing expertise, leveraging technology, and engaging local stakeholders, Kruger Park can generate new streams of revenue that align with its environmental mission. This integrated approach promotes both ecological resilience and social well-being, ensuring that financial independence supports the park's role as a global model for sustainable wildlife management.

Appendices

Appendix 1. Stakeholders of Kruger Park

Type	Stakeholder	Influence	Impact	Notes
Internal stakeholders	Kruger officials	High	High	-
Internal stakeholders	Veterinary Wildlife Services	High	High	They have a voice about how to optimize resources and generate revenue for SANParks through sales
Internal stakeholders	Game Capture Unit	High	Low	-
Internal stakeholders	Environmental Crimes Unit	High	Medium	They can decide how to use their resources to fight against poaching
Authorities	Government	Low	Medium	They are less involved in the park, and their funding is important, but not the only source of income for the park
Authorities	South African province	Medium	Low	They are responsible for enforcing hunting regulation but are understaffed
Authorities	Local communities	High	Low	-

Type	Stakeholder	Influence	Impact	Notes
External concerned parties	NGO, activists and wildlife experts	High	Low	-
External concerned parties	South African people	High	Low	-
Commercial partners, consumers and buyers	Private parks	Low	Low	-
Commercial partners, consumers and buyers	Other national parks	Medium	Low	-
Commercial partners, consumers and buyers	Ranchers/Breeders	Low	Low	-
Commercial partners, consumers and buyers	Hunting businesses & Foreign buyers	Low	Medium	Their money gives them power over the park
Commercial partners, consumers and buyers	Private tourism partners	High	Medium	They rent the available parcels of land in the park
Commercial partners, consumers and buyers	Tourists	Medium	High	They are still the primary source of income for the park

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