

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

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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 most prominent natural parks in the world. It is internationally renowned for its biodiversity, environmental management techniques, and anti-poaching units. Also, tourists come from all over the world to admire its landscapes, plants and animals.

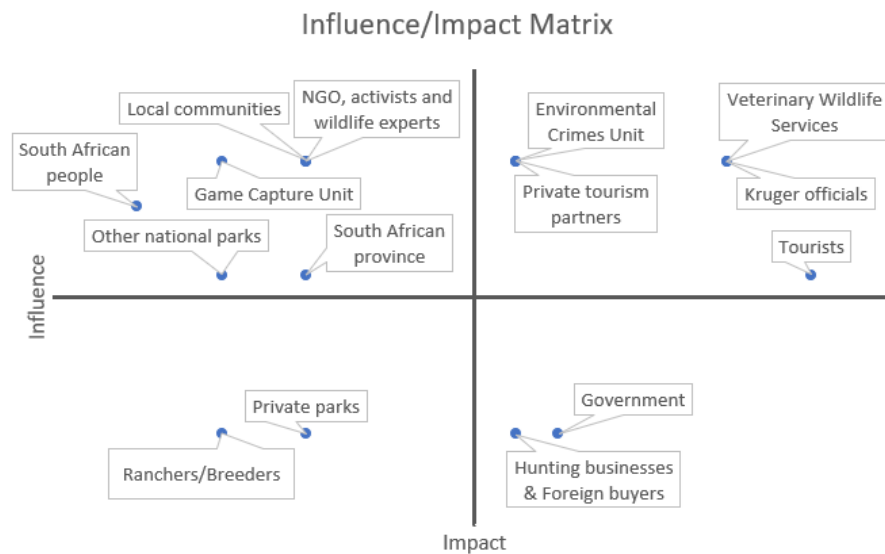
However, after government funding cuts, the park decided to sell rhinos at auctions for the sole purpose of making profits. Kruger Park's first mission should be to work towards wildlife conservation and selling endangered animals for profit does not align with this mission.

How to ensure enduring value for the park while achieving its primary missions despite the funding cuts? This paper aims to answer this question by focusing on maximising natural, human, social and financial capitals to reach sustainability. Indeed, it is essential to build a strategy which includes all capitals because they are highly related. For example, what would happen if the park sold all its rhinos for profit? Eventually, they would extinct and, not only the world would be affected, but the park would also lose a crucial source of income.

Findings, analysis and discussion

Stakeholders

Defining and prioritising 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 VI.1 provides additional details about this classification.



Stakeholders with a more significant influence are in the upper quadrants while those with a higher impact are in the right quadrants.

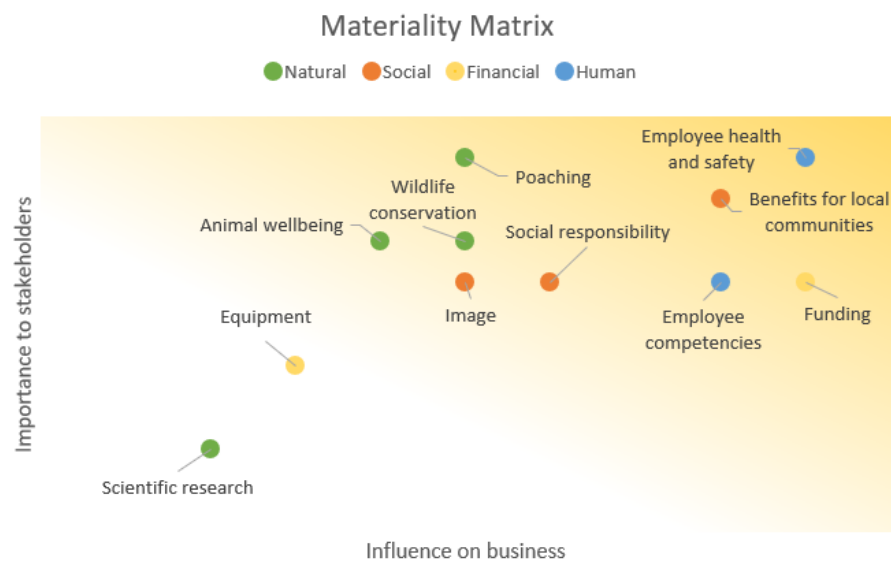
Figure 1: Influence/Impact Matrix. Stakeholders with a more significant influence are in the upper quadrants while those with a higher impact are in the right quadrants.

Materiality assessment

An effective way to select the issues to address is to identify matters that have an impact on the business and are essential to the stakeholders, as shown in the following 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 out-



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.

comes, 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 contribution 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 extinct	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 expert	O7. Educating and capitalising on the park's image

The tables below determine the likelihood of occurrence (L) and the consequence (C) of the threats and opportunities previously mentioned, to serve as a baseline to assess their priority.

Threat	Likelihood	Consequence	Rationale
T1. Lack of funding	Highly Likely	Moderate	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.

Threat	Likelihood	Consequence	Rationale
T2. Hunting businesses monopoly	Highly Likely	High	Hunting businesses drive the demand so high that they would become the only ones affording to buy rhinos during open auctions. The consequence is high as all rhinos would end up killed.
T3. Hunting industry bailout	Probable	Low	This industry represents 7% of the South Africa GDP and can be considered as ‘Too Big to Fail’.
T4. Rhino extinction	Probable	High	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.

Threat	Likelihood	Consequence	Rationale
T5. Death of rhinos during capture	Very Unlikely	Low	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	In 2015, poachers killed 45 rangers worldwide (WWF, 2019), which make this threat probable. Moreover, the death of an employee is one of the most dramatic incidents that could happen to an organisation.

Threat	Likelihood	Consequence	Rationale
T7. Undermining from NGOs	Probable	Moderate	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 can be moderate as it would prevent a specific portion of the tourists from visiting the park.

Opportunity	Likelihood	Consequence	Rationale
O1. Economic independence	Unlikely	High	Most of the national parks worldwide are funded by governments and are seldom for profit. When they are, they make profits out of 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.

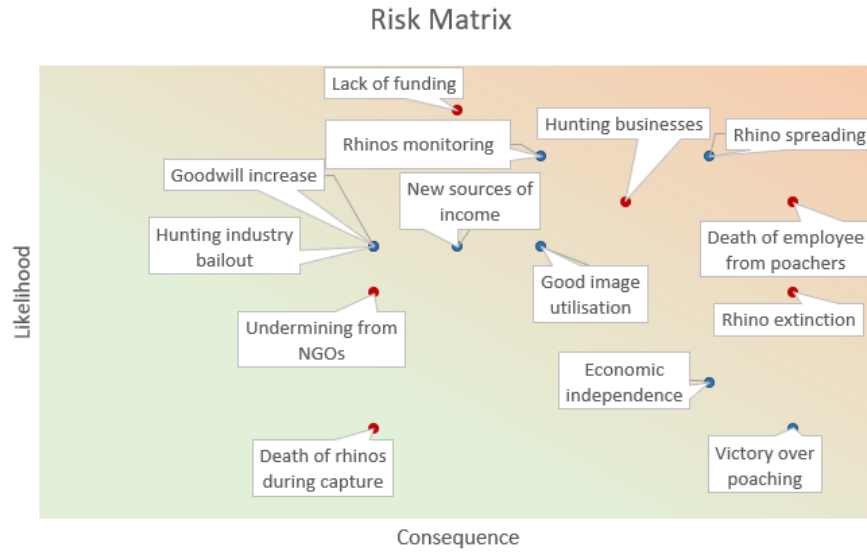
Opportunity	Likelihood	Consequence	Rationale
O2. Rhino spreading	Highly Likely	High	Before selling rhinos for profit, Kruger Park was selling them to other parks for conservation purposes, and their population kept increasing throughout Africa (WWF, 2019). Odds are this trend will continue if the park resumes this practice. The consequence is high as conservation is one of Kruger Park's primary missions.

Opportunity	Likelihood	Consequence	Rationale
O3. Goodwill increase	Probable	Low	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 then probably increase the goodwill of the park, but this alone may not have a significant effect on its business.
O4. New sources of income	Probable	Moderate	If needed, the park will probably find new sources of income, which would have substantial consequences on its ability to be independent.

Opportunity	Likelihood	Consequence	Rationale
O5. Rhinos monitoring	Highly Likely	Moderate	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	Poachers and rangers engaged in an 'arms race' that the poachers, and their extensive funds, are the more likely to win. However, winning this war would be a massive achievement for the park, given the toll it currently pays to poachers.

Opportunity	Likelihood	Consequence	Rationale
O7. Good image utilisation	Probable	Moderate	As stated above, goodwill alone is probably not enough to generate more revenues for the park but strategically utilising this positive image could lift these revenues significantly.

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



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

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.

Recommendations

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

Consequently, the park should vet each potential buyer and make sure their intentions are unequivocally towards wildlife conservation. Kruger Park should encourage Schumpeter's 'creative destruction' by discontinuing old habits to foster innovation and enable overall improvement. Given the financial power of hunting businesses compared to the 'legitimate' alternative buyers (e.g. other national parks), Kruger officials could experience the 'endowment effect' where they consider their current revenues as more valuable than their potential ones.

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.

Monetising 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, but also training programmes that target 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 local economy constitute the economic flow that keeps most people sustained. 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 but not to the detriment of 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 in the decision to deploy it.

To engage local communities and generate enduring benefits, the park could organise 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, targeting young people in priority. Indeed, they are generally more receptive to environmental issues and can also serve as vectors to educate their parents.

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

International entry fee for an adult is currently around 25 USD (SANPark, 2019). For tourists who spent several hundred USD on their plane ticket, this fee is negligible. As rational economic agents, tourists cannot be expected to pay a premium voluntarily, but it seems fair that they support the externality of fighting against poaching and preserving the wildlife.

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 about the reasons. 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 Nature
Monetising competencies	T1, O1, O4	From Human to Financial
Showcasing the park	T1, O1, O4, O7	From Nature to Financial
Leveraging technology	T4, T6, O5, O6	To Social and Nature
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 threat assessment after the implementation of these recommendations. The top-right corner would become free from threat.

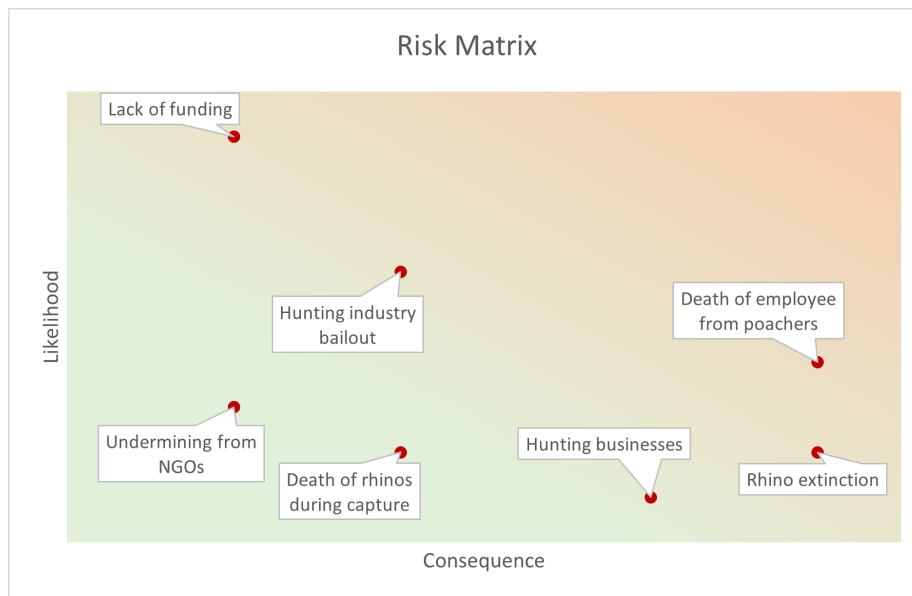


Figure 4: Residual Risk Matrix.

Conclusion

Kruger National Park has reacted to funding cuts by focusing mainly on the financial capital, neglecting the rest. It should now act to bring back a balance between the four capitals. Indeed, besides funding, the main identified material issues include fighting against poaching, bringing benefits to local communities and increasing employees' safety.

The envisioned strategy addresses these issues and increases the population's overall well-being by providing innovative ways to find new sources of revenues while actively working towards wildlife conservation and ensuring the creation of shared value with the local communities.

Appendices

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 optimise 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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