



Stakeholder perspectives on the value and challenges of private rhinoceros ownership in South Africa

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ABSTRACT

The value of private sector rhinoceros conservation in South Africa is a topic of much debate, often fueled by controversies surrounding trade in rhinoceros horn. We used semi-structured interviews ($n = 16$) to assess perceptions of private rhinoceros owners and other stakeholders regarding the value of the industry and its challenges. All stakeholders attested to the conservation value of privately-owned rhinoceroses and identified poaching as the main challenge. Most of the private owners identified the lack of legal international horn trade as driving the escalation in poaching, whereas other stakeholders perceived a wider range of contributing factors. The rhinoceros owners mostly favored international trade in rhinoceros horn, whereas non-governmental organization representatives were broadly opposed. Other stakeholders noted both positive and negative outcomes. Our results suggest greater collaboration between private sector stakeholders and government agencies will be essential for consensus around future management policies, especially concerning divisive options such as trade.

KEYWORDS

Private landowners;
stakeholder analysis;
poaching; horn trade;
wildlife conservation

Introduction

As the effectiveness of state management of wildlife is debated (Damania & Hatch, 2005), more conservation actions are likely to be delegated to private landowners. Private lands host a considerable proportion of endangered terrestrial species, including some that are absent or not appropriately represented within designated protected areas (Wilcove et al., 2004). Private landowners in South Africa, for example, conserve a large proportion of the wild rhinoceros population, holding around 42% of the total southern white (*Ceratotherium simum simum*) and black (*Diceros bicornis spp.*) rhinoceros populations (Emslie et al., 2019). Southern white rhinoceroses make up the majority (91%) of the privately-owned population, with the smaller black rhinoceros comprising only 9% (Knight, 2017).

Private rhinoceros owners, therefore, have a potentially important contribution to make to rhinoceros conservation. However, there are few peer-reviewed studies of the motivations and perceptions of private rhinoceros owners in the country (Rubino & Pienaar, 2018a, 2018b), and there is little understanding of the variation in perceptions among those involved in the wider rhinoceros industry, including tourism. This study aimed to add to the small body of work on this topic (e.g., Cousins, Sadler, & Evans, 2008; Pienaar, Rubino, Saayman, & van der Merwe, 2017; Rubino & Pienaar, 2018a, 2018b; Wright,

Cundill, & Biggs, 2016) by investigating the perceptions of a range of stakeholders within the private rhinoceros owning industry. This study considered perspectives on both conservation value and trade in rhinoceros horn among the wider industry involved in rhinoceros ownership.

Given the substantial increase in poaching in recent years (average of 14 rhinoceroses poached in South Africa per year between 1990 and 2005 to more than 1,000 per year between 2013 and 2017; DEA, 2019; Milliken & Shaw, 2012), we expected poaching to be a major challenge facing private rhinoceros owners, so we investigated what they perceived their challenges to be and why they believed the poaching situation has reached its current level. There is also a perception that the wider public (Rubino & Pienaar, 2018b) and non-governmental organizations (NGOs) (Wright et al., 2016) do not understand the conservation contribution of private rhinoceros owners. For that reason, we were also interested in investigating the potentially differing perspectives of other industry professionals who may have alternative views, especially representatives from NGOs and from staff who are likely to work more closely with guests (e.g., field guides) and local communities (e.g., field guides, anti-poaching staff). Given the range of current pressures on the private rhinoceros industry, we also investigated perceptions around future options and challenges. This work provides additional views of the current and future state of the private rhinoceros industry throughout South Africa, incorporating the views of both rhinoceros owners and wider stakeholders.

From February 2009 (Case 57221/12, 2015) to March 2017 (Case CCT/121/16 2017), domestic trade in rhinoceros horn was not permitted within South Africa, with some industry insiders claiming that the current poaching situation has been exacerbated by this national moratorium (Milliken & Shaw, 2012; Taylor et al., 2014). The Department of Environmental Affairs had been investigating the feasibility of submitting a request to the 17th CITES Conference of Parties (CoP) to reduce restrictions on the international trade of rhinoceros horn (DEA, 2015). However, at a cabinet meeting on April 13, 2016, it was agreed that South Africa would not submit such an application. This decision from the DEA was generally welcomed by conservation charities (Save the Rhino, 2016) and widely condemned by private rhinoceros owners (Rhino Alive, 2016). This disparity in opinions between NGOs and private rhinoceros owners is one factor that we wished to examine in this analysis of stakeholders.

We utilized semi-structured interviews with a range of representatives from the private rhinoceros-owning industry to assess the thoughts of the wider industry on the value of private rhinoceros conservation, their perceptions of challenges to that value, and what they perceived to be the future of the private rhinoceros owning industry within South Africa. We were interested not only in the perceptions of owners and managers, but also individuals and organizations who are able to influence public perceptions of private rhinoceros conservation (field guides, anti-poaching unit [APU] staff, NGO representatives). We aimed to investigate the opinions of both private rhinoceros owners and managers, and those of the wider private rhinoceros industry to identify areas of commonality and discrepancies in their thoughts about private rhinoceros conservation and the future of the industry. In doing so, we built on the work of Pienaar et al. (2017), Rubino and Pienaar (2018a, 2018b)), and Wright et al. (2016) by interviewing the wider industry about a range of pertinent topics.

Methods

Private rhinoceros owners and managers were identified for interviews from those who completed a previous online questionnaire. Of a total of 10 potential owner and manager interviewees initially expressing an interest in further involvement, we selected six due to the range of properties they represent. Three breeding properties were selected based on a range of sizes (from 150 ha to 8000 ha) and stocking densities (3.78 rhinoceroses km² to 28 rhinoceroses km²). Three properties open to visitors were also selected based on the same criteria (area: 250 ha to 6300 ha; stocking density: 0.34 rhinoceroses km² to 2.4 rhinoceroses km²). One of the visitor-focused properties was part of the Associated Private Nature Reserves (APNR) adjacent to Kruger National Park, and so the owner managed rhinoceroses that move onto his land from the national park, but did not himself stock his land with the species. Another landowner was not a rhinoceros owner at the time, but was developing a management plan to keep rhinoceroses and emailed directly indicating a willingness to contribute to this research.

Remaining interviewees were identified through a combination of convenience sampling and snowball sampling based on referrals from previous interviewees (Bryman, 2012). Five field guides with a range of experience working on multiple private properties across South Africa were interviewed, as was an experienced anti-poaching operative. Representatives of NGOs involved in private rhinoceros ownership were also interviewed, including the founder of an NGO that provides conservation internships and funding for anti-poaching activities, an ecologist and research manager, and a former field guide now involved in managing research and education projects across South Africa (total $n = 16$).

Although we acknowledge the potential for voluntary response bias in this way of sampling, where the views of those who chose to participate may vary from those who did not (Taylor, Lindsey, & Davies-Mostert, 2015), the sensitivity of the subject matter meant it was difficult to recruit interviewees otherwise. Consistent with Pienaar et al. (2017), Rubino and Pienaar (2018a, 2018b), and Cousins et al. (2008), because our sample size was small, we present our findings here not as quantitative results representative of all individuals working in the private rhinoceros ownership industry, but as reflective opinions of select individuals within the field. Security concerns made it challenging to increase the sample size, but our sample includes important (e.g., NGO) stakeholders in this topic (Wright et al., 2016). We have represented the views of professionals working within the private rhinoceros ownership industry who are likely to impact public opinion of the industry and the challenges it faces.

All interviewees were given acronyms (private rhinoceros owner, PRO; private rhinoceros manager, PRM; potential private rhinoceros owner, PPRO; NGO representative, NGO; field guide, FG; and anti-poaching unit representative, APU). Interviews were conducted in person during the following periods: (a) July and August 2016 (PRO1-4, PRM1, PPRO); (b) July 2017 (NGO2, FG1-5); and (c) July 2018 (NGO3, APU). A Skype interview was conducted with NGO1 in October 2016. The APNR landowner (PRM2) was unavailable for an interview, so they completed written answers to the interview questions in July 2016. Interviews were conducted in English and lasted between 10 and 72 minutes, with the mean being just under 28 minutes (median = 22 minutes).

During the semi-structured interviews, we asked a number of pre-determined questions:

- Why did you decide to keep rhinoceroses in the first place and what challenges have you faced in doing so in the past? (asked to private owners only)
- Do you think private rhinoceros owners have contributed to rhinoceros conservation?
- What do you think has contributed to the poaching situation?
- What is your relationship with the local community? (asked to owners only)
- How do you think local communities interact with private rhinoceros owners? (asked to non-rhinoceros owners only)
- What are your views on how the government has managed the rhinoceros poaching situation to date?
- What do you think about the opening of domestic and international trade?
- What future can you foresee for rhinoceroses in South Africa?

Interviewees were encouraged to discuss topics further, so deviations from the predetermined questions were common (Bryman, 2012). All interviews were transcribed, anonymized, and initially coded by the first author. Codes were then discussed between the authors to identify the themes discussed below (Bryman, 2012).

Results

Stakeholder perceptions are presented in relation to three main themes: (a) conservation of privately-owned rhinoceroses, (b) poaching, and (c) future of rhinoceroses in South Africa, including the international trade in horn. Illustrative quotes have been provided.

Value of Private Rhinoceros Conservation

Most owners referred to their “passion” for the species as their reason for keeping rhinoceroses, with others also highlighting their attractiveness to tourists and importance in maintaining ecosystems. Only PRO3 admitted to being driven purely by financial motives, describing himself as “collecting them (rhinoceroses)” and noting:

When it's extinct, CITES says “oh well!” Then I can take all my horns and sell them to who I want ... Then my kids will be able to sell it for half a million a kilo.

PPRO described his motivation as one of restoring the natural habitat by stocking native species rather than farming domestic livestock. He believed the potential to secure an income from rhinoceros conservation would allow him to continue his current efforts to create community ownership of the wildlife on his land.

All private owners and managers commented that rhinoceroses are generally easy animals to keep with only minor concerns in the past regarding drought and the potential for inbreeding; issues that are not specific to just rhinoceroses. All private owners and managers felt they contributed to the conservation of rhinoceroses in South Africa through the protection and growth of their populations. Interviewees who were not private owners or managers were generally enthusiastic about the role of private ownership:

They've allowed for extra space for the rhino populations to move into. They're educating the public into the plight of the rhinoceros. Without [a] doubt, the private landowners are definitely aiding the conservation of rhinoceros. [NGO3]

If you have the rhinos and you are a private owner, you have the funds to protect them. [FG3]

NGO2, however, questioned the value of private owners isolated from larger parks:

They don't seem to ever go back into large parks. Genetically, I think it's not well managed.

Poaching

When asked about their thoughts on why rhinoceros poaching had increased significantly in the last decade, most interviewees focused on one or two factors.

Demand! It's very simple. [PRO3]

I think it's because the rhino numbers actually grew to such an extent that they were more easily accessed throughout South Africa. [NGO3]

Private rhinoceros owners tended to focus on the 2009–2017 moratorium that prevented legal trade of rhinoceros horn within South Africa:

The only reason why South Africa was surviving and the rhinos were increasing was because legal trade was allowed. [PRO1]

The moratorium was only noted as an issue by two other interviewees (FG3 and FG4).

Others noted an increase in rhinoceros horn's value as a status symbol:

It is a fallacy to think that the Chinese only use rhino horn for traditional Chinese medicine. They do use a huge portion of that for jewelry. [NGO1]

It's become a status. It's become like a "you're the man" if you have this. [FG2]

Only field guides and NGO3 considered the local socio-economic environment to be a concern, noting that local unemployment and lack of opportunity may drive some people toward poaching as a means of generating income.

Most owners and managers did not consider local communities to be a threat to their rhinoceroses, with only PRO3 and PRM2 implicating local people in poaching on their property. PRO1 talked about animosity from local people, but also emphasized how the presence of rhinoceroses contributed to educational and employment opportunities for the local community. PPRO also discussed employment opportunities and community ownership of the rhinoceroses that he wishes to stock.

Private owners and managers, field guides, and APUs were concerned about information leaking out from their employees and visitors to poachers beyond local communities:

Almost 100% of cases, rhino poaching cases, there's always inside information going out. [PRO1]

It has been an issue in a lot of cases. They tend to give a lot of information away and sometimes unknowingly or unwittingly. They'll be talking on their phone and the neighbors will pick it up and word gets passed on and eventually information gets into the wrong hands. [APU]

All interviewees felt that the government response to the poaching crisis could be improved:

Terrible; in 10 years, poaching has increased from 20 to 1200 per year and South Africa has lost 6000 rhinos. That is by definition proof that the government is not coping. [PRO3]

I think their efforts may be sitting at 40%. I don't think there's enough political will. [NGO1]

Future of Rhinoceroses in South Africa

Few interviewees were positive about the future of rhinoceroses in South Africa:

It feels pretty hopeless most of the time. [PRO4]

I think we might lose all our rhinos. [PPRO]

FG1, FG2, FG5, APU, NGO2, and NGO3 all felt that rhinoceroses can be saved, but believed they would be in a similar situation to the early years of the 20th century, with all rhinoceroses held in a single population and protected there. Some were concerned about the possibility of rhinoceroses being held in single species breeding facilities:

I think rhinos are going to be in these very small populations that are very highly controlled and highly protected. [NGO2]

Move everybody to the same area and then try and breed them again. [FG1]

There's going to be captive rhinos that are bred in captivity and farmed. [APU]

Although the private owners and managers were most negative in the future they see for rhinoceroses in South Africa, they were all determined to continue keeping them for as long as financially possible. All owners and managers highlighted the spiraling costs of protecting rhinoceroses from poaching as the main factor that may cause them to disinvest in rhinoceroses, with some also mentioning safety concerns. Several owners independently brought up the possibility of trade in rhinoceros horn as a means of providing the necessary income to protect the species, before they were questioned on the topic of trade.

Legal Trade in Rhinoceros Horn

Several owners stated that there was no reasoning for internal trade without international trade, as the market for horn lies outside South Africa. International trade was noted by several respondents as a means of generating income to fund anti-poaching activities.

Only two of the owners and managers interviewed were against the trade in horn (both national and international), with PRO4 highlighting that the issue was just one aspect of organized wildlife crime. FG5, NGO1, and NGO2 were also vehemently against the possibility of trade in rhinoceros horn, with both NGO1 and NGO2 discussing at length the issues of demand and the ability of South Africa's rhinoceros population to meet that demand. Other interviewees were generally more nuanced in their opinions, with NGO3, FG1, FG2, FG3, FG4, and APU all agreeing that although they would prefer for there not to be trade in rhinoceros horn, they could see why it would be beneficial in the short term

as demand reduction programs were believed to be too long-term to protect the rhinoceros in the immediate future. All interviewees, regardless of their opinions toward trade, felt that if it were to happen, then appropriate policies and procedures must be in place. None believed that the current South African government processes would secure the future of rhinoceroses through effective management of international trade.

Discussion

Value of Private Rhinoceros Conservation

Consistent with findings by other authors (Rubino & Pienaar, 2018a, 2018b; Selinske, Coetzee, Purnell, & Knight, 2015; van der Waal & Dekker, 2000), most owners/managers identified their interest in conservation and passion for rhinoceroses as their reason for keeping their stock. Most did not focus on the potential income that could be generated from the species, supporting the assertion that profit is a secondary concern (Langholz, Lassoie, Lee, & Chapman, 2000). Although Rubino and Pienaar (2018b) identified private rhinoceros owners' frustration with international NGOs, those within South Africa, alongside other industry professionals interviewed here, generally considered private owners to be beneficial for rhinoceros conservation. Further engagement by private owners with NGOs outside South Africa may help to improve their international image.

Poaching

When asked to elucidate on why the situation had reached its current state, the reasons were varied and broadly split among the stakeholders. Previous studies have indicated a belief within the wildlife industry that the moratorium was to blame for increased poaching (Milliken & Shaw, 2012; Taylor et al., 2014), with Taylor et al. (2014) suggesting that it is "reasonable to consider a possible link between them" (p. 42). Milliken and Shaw (2012) suggested that this link may be due to the legal domestic supply illegally supplying foreign markets before the moratorium. Whether the removal of the moratorium will reduce poaching is unknown, but the ability of private owners to trade horns may now produce some limited income that many respondents felt they needed to continue protecting stocks.

Taylor et al. (2014) also identified the high demand, high price, increased income in end-user states, and depleted populations in some other rhinoceros range states as being among the driving factors for the increase in rhinoceros poaching; all factors that were identified by interviewees in our study. The field guides were more likely to consider socio-economic issues within South Africa that may lead local people to become involved in ground level poaching. Multiple studies have considered the influence of local people on wildlife protection with Kideghesho (2008) noting that poaching may serve as self-compensation for the costs associated with living in close proximity to wildlife. Others have considered the impact of distributing benefits from wildlife to local communities to improve relationships, including the education of community groups and school children (Langholz, 1996), and providing employment (Kaltenborn, Nyahongo, Kideghesho, & Haaland, 2008; Langholz, 1996), which were noted by interviewees. One community factor that did concern stakeholders was the potential for information to be passed to poachers by staff, potentially degrading relations between reserves and local communities.

The lack of trust in the government and its ability to stabilize the situation was clear from the responses to interviews. The private owners do not receive government support (Langholz, 1996; Rubino & Pienaar, 2018b) and do not perceive the government as supportive or effective in this manner. This finding mirrors those of Rubino and Pienaar (2018a, 2018b) and Pienaar et al. (2017). Without concerted government efforts to redress the perceptions of corruption and policy inadequacies, the perception of government ineffectiveness seems unlikely to improve.

Future of Rhinoceroses in South Africa

Respondents were generally pessimistic in their thoughts on the future for rhinoceroses in South Africa. Many of the private owners and managers had considered disinvesting in rhinoceroses due to financial pressures of protecting them from poaching and the potential risks to them and their families (Rubino & Pienaar, 2018a; Wright et al., 2016).

Some interviewees also considered that rhinoceroses may end up reared in intensive farms, whereas others felt that rhinoceroses may eventually become extinct. Increased rarity of rhinoceroses would increase the value of their commodity and so further increase their drive toward extinction (Angulo, Deves, Saint Jaimes, & Courchamp, 2009), after which CITES regulations would not apply (Bulte, Mason, & Horan, 2003). Increasing value before extinction would make it beneficial for owners themselves to contribute to the decline; a notion defined as “banking on extinction” (Mason, Bulte, & Horan, 2012, p. 180).

Legal Trade in Rhinoceros Horn

To prevent the negative outcomes predicted above, many of the owners were strongly in favor of international trade in rhinoceros horn, which is consistent with the findings of Rubino and Pienaar (2018a, 2018b) and Wright et al. (2016) who also found strong support for trade among owners and managers.

The opposing opinions of conservation-orientated NGOs and private owners regarding the ethics and practicalities of trade in rhinoceros horn, although not unexpected, does raise some considerable difficulties in developing a coherent plan for future rhinoceros conservation that will secure widespread support. Wright et al. (2016) also found this disparity and suggested that improved dialogue between NGOs and owners may improve understanding of the utility of short-term trade in conjunction with demand reduction programs.

How trade could be implemented was not formally discussed with interviewees, but informal discussions with rhinoceros owners have indicated support for a central selling organization (CSO), similar to that previously utilized for diamonds by the De Beers Group (Milliken & Shaw, 2012). The low opinions held by the interviewees regarding the government suggest that it is unlikely a state-backed agency would be supported in managing trade, a finding supported by Rubino, Pienaar, and Soto (2018) who identified a government-backed CSO as less popular than one managed by a wildlife industry body.

Conclusion

The conservation value of private rhinoceros ownership is generally accepted within the private rhinoceros-owning industry. Greater integration with state-protected areas, through the sharing of research and good practice, or through increased stock transfer, alongside greater engagement with international NGOs may help to increase the visibility of that value to those outside of the industry. Such engagement may also reduce concerns and disparity regarding potential trade in rhinoceros horn.

Although the rhinoceros managers and owners tended to focus on the lack of supply of horn as the major factor contributing to the current poaching crisis, NGO representatives tended to focus on high demand. Other interviewees were more likely to consider the impact of socio-economic conditions that may lead local people to become involved in rhinoceros poaching. We recommend further research on the socio-economic conditions of local communities around poaching hotspots to investigate this suggested factor. With minimal sales of rhinoceros horn now taking place within South Africa, it may also be possible to ascertain whether the lifting of the moratorium has any impact in the long term.

To build trust and reduce the perception that the government response to the poaching escalation has been poor, we would encourage increased collaboration between private rhinoceros owners and government departments. Engagement with private owners in developing policies to challenge rhinoceros poaching would further improve this perception.

To ensure the future survival of rhinoceros within South Africa and the continued engagement of private owners in rhinoceros conservation, we advocate greater collaboration and improved communication among all stakeholders (e.g., agencies, NGOs, private owners).

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