



On the judicial annulment of the ‘domestic’ trade moratorium in South African rhinoceros horn: a law and economics perspective

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Abstract

The legalization of rhino horn ‘domestic’ trade in South Africa potentially unleashes market forces featuring new entry, new tastes and new rhino horn products. This risks escalating the rhino-poaching crisis further. It is argued that institutional contradictions have been engendered by the South African High Court ruling in *Kruger and another v Minister of Water and Environmental Affairs and others [2015] JOL 34725*, whose assumptions are shown to be highly restrictive and seemingly poorly informed about the true nature of demand for rhino horn and the dynamics of poaching. The shortcoming in the legal decision-making pertains to not taking account of the absence of any evidence for the existence of domestic demand for rhino horns in South Africa. The key arguments presented herein align with support for the reinstatement of the rhino horn trade moratorium, as well as administrative measures implemented effectively to contain the poaching crisis.

Keywords Rhino horn trading · Trade ban · Trade moratorium · High Court of South Africa · Residual demand · Smuggling

JEL classification K11 · K32 · K42 · Q20

1 Introduction

The governance of biodiversity, and in the context of this study, specifically white and black rhinos (*Ceratotherium simum* and *Diceros bicornis* respectively), can be formally conceived of as a ‘wicked policy’ problem. Wicked policy problems have

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been described as being not resolvable by linear, deterministic and uni-disciplinary solutions because there is no obvious identifiable best approach to resolving them (Gray and Gill 2009; Hartmann 2012; Rittel and Webber 1973). Any linear and deterministic solution will have several perverse consequences. Characteristically among such problems are divergent ideologies and solution positions that several different interest groups put forward. Wicked problems, therefore, require consensus building and the use of transdisciplinary processes (ecological, economic, community development, education and training development) for the setting up of reasonable and functional governance regimes.

The apparent fundamental problem of exclusion of species from a society's portfolio of biological assets may lead to various outcomes. This includes biological asset disinvestment, reallocation of institutional (management) services away from the biological asset and reallocation of habitat (land, water) from the biological asset to alternative biological assets (or other human activities) that have a higher return (Kontoleon et al. 2007; Swanson 1994). Since institutional services are scarce resources and base resources (habitat) are likewise scarce, they have many alternative human uses. A biological asset that does not earn a competitive return to warrant allocation of services and life-support resources to its cause will likely experience disinvestment and stock mining. The capacity to develop adequate institutional services depends on the rigour of the proposed solutions, which in turn depends on transdisciplinary understanding (ecological, economic, institutional, educational, community development etc.) of the dynamics of the poaching crises. This paper suggests that the decision of the South African court to reverse a 7-year domestic trade moratorium in rhino horns does not feature any marks of a decision process that was meaningfully informed by a transdisciplinary understanding of the rhino poaching crisis.

This paper is organized in the following manner. The next section sets out the legal arguments deployed in effecting a reversal of the rhino horn domestic trade moratorium in South Africa. Section 3 deploys a simple theoretical sketch to tease out what are very restrictive implicit assumptions in the court ruling to lift the moratorium. Unintended economic and ecological consequences from the ruling are highlighted in the following section. The final section summarises the arguments made and offers some concluding reflective remarks, along with the beginnings of some proposed remedies.

2 Court reversal of the domestic trade moratorium

The South Africa High Court ruling, which was confirmed by the Supreme Court of Appeal and the Constitutional Court, demonstrates paradoxes of policymaking in the presence of 'wicked policy' problems. It also posed a significant question that underpinned the court's reasoning and answered it with two *obiter dicta*. These were (1) that the reversal of the trade moratorium was inconsequential on rhino horn poaching outcomes and (2) that institutional failure in biodiversity governance is the underlying problem in the rhino horn-poaching crisis. The court's decision, in *Kruger and another v Minister of Water and Environmental Affairs and*

others [2015] JOL 34725, nullified the domestic rhino horn trade moratorium not on grounds of unconstitutionality, illegality, irrationality or unreasonableness, but on the ground of *lack of substantive due process in the determination and imposition of the moratorium*.

2.1 Background to the case

South Africa has the largest population of White Rhino (*Ceratotherium simum*) and Black Rhino (*Diceros bicornis*) in the world; however, it continues to face poaching on an unsustainable scale.¹ Approximately two-thirds of the rhino population inhabit a number of state (publicly owned) parks and scientific reserves and the remaining third are located in a large number of smaller private reserves. In response to the poaching crisis across publicly owned land and privately owned land within its national borders, the South African government put in place a moratorium on the domestic trade in rhino horns on the 13th February 2009. While the state does deploy public resources to protect rhino herds, law-abiding private reserve owners have been largely reliant on relatively high cost private security measures (Collins et al. 2015). Aligned with the moratorium, such measures have been observed to imperil the profitability of private reserves. This has led to some less than law-abiding private reserve owners to be complicit in poaching activities (or more accurately ‘staged’ poaching and ‘staged’ permit—backed hunting activity) to boost revenues (Rademeyer 2012). Accordingly, there is increasingly active consideration of other tactics and regulatory models to protect herds and develop sustainable income streams for public and private reserves (see, for example, Collins et al. 2015; Rubino and Pienaar 2017, 2018; Rubino et al. 2018).

Data shows that whereas 13 rhinos had been poached in South Africa in 2007 by 2009 this figure had risen to 122 (Save the Rhino 2019). The moratorium announced by the South African government was enacted following amendments to the ‘Threatened’ or ‘Protected’ Species Regulations published in February 2007 (amended in January 2008).

The challenge against the moratorium was led by John Hume and Johan Kruger, two South African rhino farmers and traders within South Africa of rhino horn. Hume, owner of the largest rhino farm (where he currently holds a stock of some 1500 rhino) aims to breed 200 rhino a year believing that his type of large scale rhino farming is ‘the recipe... to save the rhino from extinction’ (Richardson 2017). Central to their claim was that the Minister of Environmental Affairs had acted without ‘consulting’ rhino breeders and that as a result, the pre-moratorium consultation had been inadequate. In terms of the Government’s attempt to comply with the required consultation process, the Minister had published a notice in the *National Gazette* (Government Gazette 31301 Notice 835 of 8th August 2008), but not in any nationally distributed newspaper as additionally

¹ For an ongoing country-by-country record of poaching facts drawn from official and non-governmental organization sources see PoachingFacts (2020). See also Save the Rhino (2019).

required by law, inviting the public to comment. It was considered that the notice was worded vaguely and without reasons for the action, such that no reasonable person could have raised any meaningful objection. The plaintiffs' argument was that the moratorium was a *taking of property without just compensation* and that it was a taking away of their right to engage in a trade of their own choice. While the court did not comment much on the validity of this claim, it noted that "the moratorium has substantial [economic] consequences" (p. 10) on the plaintiffs. The court simply stated that it was "not necessary to express a final view on the right to property as enshrined in section 25 of the Constitution. It suffices to mention that a valid point is made on the right of property and deprivation thereof occasioned by the moratorium" (p. 30).

The Minister's rationale for instituting the moratorium was:

... to stem the flow of rhino horn into the international market and indirectly to curb the demand for horn and horn products which in turn may reduce poaching... The rationale behind the moratorium on domestic sale in rhino [was] two-fold. Firstly, to curb and reduce poaching of rhinos and secondly, to comply with the international market ban under CITES (p. 13).

The Department of Environmental Affairs had set in place an assortment of measures that could curb the rhino horn poaching crisis, not least,

...an audit of all existing stocking of rhino horn, ... [ensuring] that every [audited] horn is tagged with a micro-chip, that DNA testing has been conducted in the horn, and that all is measured, weighed, marked and captured on a national database management by the Department... enhance security at South Africa's ports of exit... The provinces and other departments in the security cluster are improving their ev-ordination [*sic*] on law enforcement issues (pp. 28–29).

These envisaged measures are examples of investments in institutional (management) services, using modern day technologies and inter-agency coordination mechanisms, to be able to effectively raise the transaction costs of poaching and thus help to reduce the rate of extinction of rhinos. In view of these measures, the court reasoned that,

...it is the implementation which is a problem and in my view, the problem in the implementation can only be placed at the Minister's door steps.... Put differently, what disastrous implications would be brought about by the immediate lifting of the moratorium? I cannot think of any. The solution appears to lie in the effective implementation of applicable and envisaged measures (pp. 36–37).

The court understood that it was not demand reduction through a moratorium, but rather investment in adequate management services and effectively implementing the measures, that would stem the rhino horn haemorrhage in the long run. It is in this context that we pose the question: Is the lifting of the trade ban inconsequential? We argue that the court's *obiter dictum* has several unintended perverse

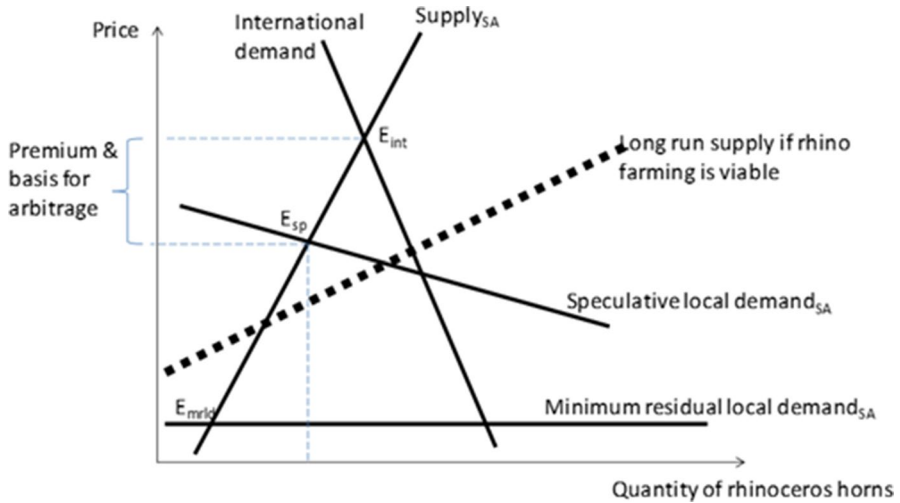


Fig. 1 Co-existing varieties of demand for rhino horn in South Africa

consequences, not least potentially accelerating extinction of rhinos, signalling future market potential and fostering a sustained misunderstanding of domestic rhino horn demand. We, nonetheless, also argue that the second *obiter dictum* identifying institutional failure as the fundamental cause of the crisis is a broadly credible diagnosis. In what follows we develop an economic argument evaluating the court's decision and its implications for rhino horn poaching.

3 Restrictive implicit assumptions in the court's reasoning

In the following argument, we use Fig. 1, to weigh the assumptions of the court in arriving at the foregoing verdict. First, there is no evidence whatsoever of any truly 'local' or 'domestic' demand for rhino horn within South Africa. Why the judge did not grasp this fundamental point, or was unwilling to grasp this point, is open to speculation. Use of powdered rhino horn as a part of Traditional Eastern or Chinese medicine within South Africa is not remotely significant. Currently, it could not sustain a viable domestic market in its own right. That said, we cannot also completely discount the possibility that some extremely wealthy households may wish to possess a horn to use, for example, as a decorative doorstop. Accordingly, what is misleadingly termed as local or domestic demand is in fact, by far, mostly speculative demand. This is because the ultimate objective is to sell the horn for a higher return elsewhere and crucially beyond South Africa's borders. Some private reserve owners and corrupt Government officials who have been complicit in cross border illegal smuggling of rhino horn (Rademeyer 2012) would be understandably keen to sustain

the fiction that there does exist a genuine domestic market. Such a market helps to feed the illegal export trade. A fictional domestic market simply makes it easier to launder legally traded items and divert them into an illegal export supply chain.

However, to take account of the less than negligible medical and decorative doorstep domestic market we denote in Fig. 1 a very small portion of this local demand as ‘residual’—that is to say the genuine domestic market is extremely shallow. Lastly, there is international demand that is actually driving the poaching crisis. Figure 1 shows that the price premium between domestic rhino horn price and international rhino horn price provides incentives for poaching for rent seekers.² Since foreign demand is relatively inelastic, an increase in transaction costs of trading rhino horn domestically would shift the supply curve to the left, but quantities demanded internationally will decrease by a far smaller magnitude compared to quantities demanded domestically (Crookes and Bignaut 2015, 2016; Crookes 2017; Harvey 2016).

However, the court’s reasoning seems to assume, first, that legalizing the domestic rhino horn trade will automatically undermine illegal rhino horn markets. Second, it assumes that rhino horn bans are completely ineffective. Third, the buoyancy of the illegal rhino horn market emerges as a consequence of shortages created by the ban itself. Logically, this would mean legalizing the rhino horn trade will increase supply to the extent that illegal trade becomes unviable. This notion is extensively explored by Conrad and Lopes (2017) who show that reducing the price of rhino horn would not be effective at curbing poaching, without simultaneously increasing poacher costs. They find, however, that increasing poacher costs is not a realistic policy option since these costs are largely beyond the control of decision-makers. The sensitivity of price to poaching effort are also found to have limiting implications for other methods advanced to reduce the value of rhino horn, such as synthetic rhino horn marketization and de-horning schemes.

Fourthly, the ruling assumes that legal rhino horn traders will willingly work together with law enforcement authorities to undermine the illegal market for rhino horn. There is also an assumption in this judgment that there is separability of domestic and international trade as well as between legal and illegal rhino horn markets. Lastly, the court assumes that institutional failure is to be blamed for the poaching crisis. This last assumption is in large measure true. Had institutional effectiveness been more evident, then the moratorium would likely have been more effective.

That said, the history of CITES-based literature convincingly concludes that legalization of the trade in endangered species has only hastened the extinction process (Aguayo 2014). Instead, this body of work supports the view that a trade ban coupled with effective enforcement has led to population recovery for many endangered species. Arguably, the incorporation of China as an official ivory trade partner

² Rhino farming (a theme that is beyond the scope of the current paper) has been argued to be potentially able to contribute to reducing the size of the rhino horn price premium and thus reduce the severity of the poaching crisis. However, there is no consensus that this is the case in other endangered species domestic trade ban contexts. Findings have been, to say the least, mixed (see, for example, Kirkpatrick and Emerton 2010; Abbott and Van Kooten 2011; Conrad 2012; Tensen 2016).

by the CITES Standing Committee, could have contributed in some measure to the escalation of the poaching crisis (Bennett 2015). Further, the rhino horn auction of August 2017, which is a direct outcome of the court's ruling does not seem to have brought poaching down at all (Harvey 2017).

4 Unintended consequences of the court ruling

It can be plausibly contended that the extinction process is likely to be hastened by the lifting of the ban, simply because it creates incentives for new players to enter the market. To a greater extent, this is because inseparability of legal and illegal horn is patently a genuine possibility. Legalization reduces the transaction costs of laundering illegal horn into the legal horn stream (Aguayo 2014). This arises since legalization reduces transaction costs of accessing the legal horn market.

In a related vein, legalization of the rhino horn trade, signals future market potential (more market entry). New users, new rhino horn products and new distribution networks are likely to emerge. The market is likely to vastly expand. This leads to a very important further point, which is the weakness of the assumptions made in the court's reasoning process. While the current size of the market for rhino horn is unknown, the predictable outcome of legalization is some expansion in the market size. Potential demand is likely to increase, and this points to the problem of the unknown sensitivity of transaction costs to changes in the quantity demanded of rhino horn. Care should have been taken to realise that domestic demand for rhino horn in South Africa is, in practice, almost non-existent—effectively just comprising a minimal residual demand. Most of the 'domestic demand' is actually for speculative purposes and principally intermediate in nature, for selling further on to the international market through illegal smuggling channels i.e. bypassing the international trade ban. Speculative forces can be powerful in endangered species product markets (Harvey et al. 2017). Besides, without the knowledge of the price at which illegal traders are willing to abandon the illegal market, it is pointless to make restrictive assumptions about the structure of the market and the behaviour of players.

Finally, the lifting of the domestic trade moratorium sends confusing signals to the market and runs the risk of undermining the efficacy of demand-reduction campaigns in the real consumer markets in East Asia.

5 Summary and concluding remarks

The South African Department of Environmental Affairs annually releases statistics on the number of rhino poaching arrests. The most recent full year of these show that between 1 January and the 31 December 2018, 769 animals were poached. In the same year, 365 alleged rhino poachers and 36 alleged rhino horn traffickers were arrested across South Africa (DEA, Republic of South

Africa 2019). The South African Department of Environmental Affairs has more recently published its half year figures from the 1st to the 30th June 2019 (DEA, Republic of South Africa 2019) which show that during the period of January to June 2019, the number of rhino poached countrywide in South Africa was 318. This was a decrease compared to the same period in 2018 when 386 rhino were killed for their horns. Although the level of poaching has fallen since its peak in 2014 (1215 rhinos poached according to DEA figures) this does not mean that the South African rhino population is thriving and it is the Kruger National Park (which is owned and managed by the South African state) which historically continues to be at risk. While this could be attributed to its extensive geographic boundaries (Save the Rhino 2019), it has recently been mitigated by substantial targeting of state counter poaching resources through the delineation of ‘intensive protection zones’ within the park. However, this has been observed to lead to spatial displacement of poaching effort to other parks or private reserves (Mahr 2016; Somerville 2017).

Despite the South African success in reducing poaching in recent years, rhino populations across the country are struggling to keep pace with current poaching rates while in some areas the populations are declining (DEA, Republic of South Africa 2019). While the South African government’s Integrated Strategic Management of Rhinoceros plan is delivering successes in terms of the number of arrests linked to rhino poaching and smuggling, the Department of Environment, Forestry and Fisheries reports that “organised crime groups are exploiting rural, economically marginalised communities, neighbouring rhino reserves, particularly those in Mozambique and are undermining efforts at good governance and democracy, stimulating corruption and introducing other forms of serious crime in these areas.”

While there are a number of government led initiatives in rural communities which about the National Parks, aimed at educating local youths in the need to protect South Africa’s wildlife (and the rhino in particular) there is an argument that a more robust and militarised approach to rhino conservation is needed (Asiyanbi 2016; Barbora 2017; Massé and Lunstrum 2016; Verweijen and Marijnen 2018). Indeed, the South African government has already introduced military style technologies in its bid to protect its iconic wildlife. This includes the introduction of Intensive Protection Zones (IPZ) within National Parks equipped. The IPZs are equipped with Tactical Operations Centres which utilise military style sensor technology linked to fast responding reaction teams which are further connected to other law enforcement agencies (DEA, Republic of South Africa 2019). This integrated agency approach is already reaping rewards for South Africa’s law enforcement. On the 9 January 2019 at ORTIA Cargo terminal, several cargo companies were approached by a joint team comprising members of the Police, the Hawks, customs and excise and the Department of Environmental Affairs’ Environmental Management Inspectorate (Green Scorpions). The team was supported by K9 sniffer dogs to detect illegal wildlife trade products. Following the positive reaction of one of the detector dogs to a shipment destined for Dubai, 116 kg of rhino horn pieces were discovered hidden under laminated wood (DEA, Republic of South Africa 2019).

The militarisation of conservation is a much debated subject. Indeed, the Kruger National Park has and continues to adopt military techniques to protect its iconic

species, including the rhino while the historic use of military techniques and weapons threaten the wildlife it is trying to conserve (Lunstrum 2015). For the Kruger, the need for militarised protecting of the rhino came hand in hand with increases in cross-border poaching. As poaching incursions from Mozambique increased so did the military style training of the Kruger's rangers.

South Africa National Parks (SANParks) has introduced an additional 150 rangers inside Kruger who receive paramilitary style anti-poaching training. These new units operate in small groups employing tactical military skills (Lunstrum 2015). Ranger teams are supported by the Environmental Crime Investigation (ECI) Unit, a dedicated paramilitary style anti-poaching organisation which is equipped for longer-term covert operations within the Kruger National Park and intelligence gathering beyond the park's borders (SANParks 2015).

The Kruger National Park is of vital importance to South Africa. As well as the rich ecology, its economic importance to the country is significant (more than one million tourists visit the park each year). It continues to share a long border with Mozambique. Recently, this border has been transformed through the development of the Great Limpopo Transfrontier Park in 2002. This has led to the removal of large stretches of the apartheid-era fence, enabling the free movement of wildlife, and the opening of the Giriyondo Border Post which has enabled the cross-border movement of tourists (Lunstrum 2013). However, alongside these undoubted benefits, the South African/Mozambique border is also the centre of the growth of rhino poaching. The increase in cross border poaching activity sees rhinos killed in South Africa, the majority in the Kruger National Park by Mozambican poachers. Horns are then taken back across the border where poaching syndicates are increasingly using Mozambican ports to ship rhino horn to the lucrative Asia market (Lunstrum 2015).

Poachers that are caught are typically prosecuted using offences such as trespassing or illegal firearm possession. Additionally, many arrested poachers evade the justice system by making bail and then fleeing to neighbouring countries such as to Mozambique (Lunstrum 2014). With no extradition treaty in place between South Africa and Mozambique, these individuals never face trial.

Since judicial rulings create new systems of rights and privileges, the arguments presented herein suggest that such decisions need to be informed by a more trans-disciplinary process to minimise the dangers of creating perverse incentives. The legalization of rhino horn trade in the 'domestic' market of South Africa serves to set in motion consequential market forces that can escalate the poaching crisis in ways that spell doom to rhino species.

It is therefore important to re-institute the trade moratorium in South Africa while effectively implementing the assortment of administrative and regulatory measures that the South African Minister for Environmental Affairs has outlined for effective governance of rhinoceros horn. In addition, to enable prosecutors to charge alleged poachers with the primary act, a change in legislation is imperative. Additionally, the "escape route" to Mozambique needs to be tackled and this requires an extradition treaty to be put in place.

Finally, there remains the question of whether the militarisation of conservation within South Africa and the Kruger National Park in particular is a false dawn. The

Kruger lies in an area that has witnessed terrible historic conflict. Following the end of the Mozambican war in 1994, powerful military grade weapons have been left behind. Despite the efforts of international NGOs to collect and destroy them, many remain and have fallen into the hands of the poaching gangs. The wartime AK-47s are not used to kill rhino, hunting rifles are more than adequate for that, but to use against rangers protecting the wildlife. Meanwhile, since the 1980s the militarisation of rangers has continued. What began with arming rangers against the weapons of elephant poaching gangs has led to poachers in turn becoming increasingly heavily armed themselves. As this arms race has continued, concern amongst commentators has grown (Annecke and Masubelele 2016).

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