
A DISCUSSION OF RHINO HORN DOMESTIC TRADE LEGALISATION IN SOUTH AFRICA

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ABSTRACT

On 5 April 2017, the South African Constitutional Court ruled in favour of legalising the domestic trade in rhinoceros horn. The significant poaching crisis currently being experienced in South Africa has caused great concern as rhino and elephant populations move closer to the edge of extinction. The decision by the Constitutional Court, and the ensuing Draft Regulations, have been both celebrated and criticised by individuals from all sectors of society. Those who support the legalisation of the rhino horn trade are in favour of the potential positive outcomes of trade, such as reduced poaching, increased funding and positive financial incentives for private rhino owners. The anti-trade movement argues that inadequate regulations, widespread corruption and insufficient law enforcement capacity will hinder the success of a legalised trade in rhino horn. Multiple aspects of both the pro-trade and anti-trade arguments will be discussed in this article, specifically in relation to the Draft Regulations that govern the domestic trade in rhino horn and the envisioned outcomes of the legalisation of the domestic trade in rhino horn. Although a financially beneficial sustainable trade would be the ideal outcome of legalised trade, lifting the National Moratorium and allowing a full legal trade in rhino horn without adequate enforcement is sure to prove disastrous for the rhino population.

Keywords: Review; rhino poaching; rhino horn trade; legalisation; South Africa.

INTRODUCTION

On 5 April 2017, the South African Constitutional Court ruled that the domestic trade in rhinoceros horn be made legal in South Africa. The South African Department of Environmental Affairs (DEA) had already drafted a set of regulations to govern the domestic trade in rhino horn in February 2017. These regulations have come under fire from every direction – conservationists, wildlife lovers, activists, journalists, but few people are fully aware of the background to the opposing arguments. It is an automatic reaction for many people to oppose trade in endangered species; however, it is also important to discuss the merits behind regulated trade with equal interest.

Those who advocate for the legal trade in rhino horn argue that it has the potential to contribute financially to conservation, reduce demand for rhino horn, and reduce the motivation to poach, while increasing incentives for private land owners to breed rhino. The over-exploitation of wildlife has a significantly negative impact on the economy, however, a well-regulated legal trade based on sound legislation and parameters that aim to ensure a viable legal trade could promote more sustainable management of rhino in South Africa (Bürgener, Snyman & Hauck, 2001: 1). Those who oppose legal trade argue that South Africa is incapable of successfully regulating legal trade in rhino horn due to corruption, ineffective law enforcement, extremely high demand for rhino horn, and insufficient regulatory controls (Bennett, 2015: 56; Brack, 2003: 165; Challender, Harrop & MacMillan, 2015: 249; Foster, 2017: np; Hübschle, 2016b: np; Taylor, Brebner, Coetzee, Davies-Mostert, Lindsey, Shaw & 't Sas-Rolfes, 2014: 10).

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It is important to highlight both sides of the argument so that an informed decision can be made regarding the legalisation of the trade in rhino horn. With many conflicting arguments causing confusion amongst the public, a brief review of the Draft Regulations, journal articles and press releases, as well as an exploration of both pro-trade and anti-trade perspectives, will prove that both viewpoints have merits and disadvantages and that each person may interpret these qualities differently.

BACKGROUND

The debate surrounding the legalisation of wildlife products – particularly rhino horn – is not a new one as both legal and illegal trade have long histories. Large African mammals, such as elephant, lion, leopard and rhino have suffered severely from over-exploitation due to increased demand for their valuable tusks, bones, skins and horns. One of the earliest records of rhino horn use was as Traditional Chinese Medicine, prescribed and used to reduce fevers and treat other illnesses (Leader-Williams, 1992: 4; Herbig & Griffiths, 2016: 130). Rhino horn was also used in the production of the traditional Yemeni *Jambiya* dagger handles (Herbig & Griffiths, 2016: 132; Milliken & Shaw, 2012: 18). The majority of the current demand stems from Vietnam where rhino horn is extremely valuable and is given as gifts to solidify business relationships and advance one's social status (Milliken & Shaw, 2012: 137). According to Milliken and Shaw (2012: 134-136), rhino horn is also consumed in a drink or as a powder by the Vietnamese elite who believe in the healing qualities of the horn. As human populations and economic prosperity in Asia have grown, so has the demand for rhino horn, leading to widespread poaching and exploitation of rhino populations in both Africa and Asia (Hübschle, 2016a: 162).

Prior to the 1800s, multiple rhino species roamed from northern Africa to the South African Eastern and Western coasts (Crawford, 2012: 21), however, increasing international demand for rhino horn has prompted the rapid decimation of rhino populations worldwide. According to Smith and Humphreys (2015: 197-220), the modern rhino poaching crisis in South Africa began with the 'Apartheid Wars' of the 1970s and 1980s, when certain elements within the former South African Defence Force and the former Angolan resistance organisation, UNITA, organised vast networks of smuggling operations involving products such as ivory, rhino horn and diamonds. The scourge of rhino poaching reportedly migrated southwards from Kenya and northern Tanzania in the 1970s to southern Tanzania and Zambia in the 1980s; and finally to Zimbabwe in the 1990s (Leader-Williams, 2003: 97).

A conservationist perspective had emerged in the 1970s, and multiple pieces of legislation were passed in order to protect and conserve dwindling wildlife populations. One of the most significant was the United Nations Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which was established in 1973 and commenced in South Africa in July 1975. CITES aims to control and monitor international trade in wild animals and plants to ensure that trade does not threaten the survival of the species (Bürgener, et al, 2001: 8-9). In 1977, CITES initiated an international trade ban on the commercial trade in rhino horn and horn products that aimed to reduce the threat of poaching by reducing demand for rhino horn products (Di Minin, Laitila, Montesino-Pouzols, Leader-Williams, Slotow, Goodman, Conway & Moilanen, 2015: 546). Although commercial trade was prohibited, the CITES regulations still condoned the legal exportation of rhino horn as hunting trophies from 1979, which encouraged wider rhino ownership (Hübschle, 2016a: 191-195) and may have contributed to the increase in rhino populations.

The escalation of rhino poaching in South Africa began in the 2000s when there was a massive spike in rhino poaching in the country. Since 2007, South Africa has lost over 6 000 rhino to poaching and illegal activities, (Rademeyer, 2016: 3) with the worst year being 2014, when 1 215 rhino were poached in the country (Emslie, Milliken, Talukdar, Ellis, Adcock &

Knight, 2016: 2). Despite the ever-increasing poaching statistics, rhino populations in Africa remained fairly stable thanks to a variety of conservation efforts. Prior to the 1960s, wild game, such as rhino, were systematically killed in an attempt to eradicate the disease-carrying tsetse fly (Crawford, 2012: 21). ‘Operation Rhino’ was initiated in 1961 by Dr Ian Player, who was the Senior Game Warden of the iMfolozi Game Reserve in KwaZulu-Natal, to save the dwindling rhino populations by breeding and translocating white rhino from the Hluhluwe and iMfolozi areas to other parts of Southern Africa and overseas (Crawford, 2012: 20). ‘Operation Rhino’ was lauded as “one of the most successful conservation efforts in Southern Africa” (Crawford, 2012: 20) as white rhino population numbers exploded as a result.

According to Hübschle (2016a: 197), many private land owners and game ranchers were extremely reluctant to buy and keep rhino in the late 1900s due to the high costs and low benefits involved. Their apprehension was most likely linked to the CITES international trade ban (Hübschle, 2016a: 197), which undermined the value of owning rhinos resulting in land most suitable for wildlife being transformed and used for other means, such as livestock farming. Many stakeholders and rhino owners are of the opinion that “the [CITES] treaty was counterproductive to conservation initiatives” in the 1980s and 1990s (Hübschle, 2016a: 197) as it “simply pushed [trade] underground, and into the hands of criminals” (Crawford, 2012: 23). Dr Player openly supported ethical and legal hunting as a way to promote conservation by adding value to live animals and incentivising more land use for wildlife ranching. In Namibia, the creation of incentives for wildlife conservation through legal trade and hunting has resulted in “one of the most successful conservation track records [...] in the world” (Brown, 2017: np). Brown (2017: np) refers to Namibia’s situation as an example of how the “legal, ethical [and well-managed] hunting of indigenous wildlife within sustainably managed populations [...] is extremely good for conservation”. Despite the increasing demand for rhino horn trophies, white rhino populations continued to increase throughout the 1990s and 2000s, supporting the notion that extensive breeding by private rhino owners for trade and trophy hunting helped the white rhino population avoid extinction (Christy, 2017: np).

Until 2009, the domestic trade in rhino horn for hunting trophies was legal in South Africa, provided the appropriate permits were acquired in terms of the National Environmental Management: Biodiversity Act 10 of 2004 (NEMBA) (South Africa, 2004). NEMBA was introduced in 2004 as an amendment to the National Environmental Management Act 107 of 1998 as a more comprehensive “national legal framework for biodiversity regulation” (Craigie, Snijman & Fourie, 2009: 70). Under NEMBA, permits are required for any restricted activity in relation to any listed threatened or protected species, including rhino. According to NEMBA (South Africa, 2004: 18), “restricted activity” refers to hunting, catching, capturing or killing, chopping off, importing, exporting, possessing, breeding, translocating, selling, buying, giving, accepting or otherwise trading in live rhino, rhino horns or any derivatives or products of rhino horn. In other words, absolutely *any* activity involving a rhino in South Africa requires a legal permit – including the immobilisation, dehorning and/or translocation of rhino performed by Veterinary services and private rhino owners.

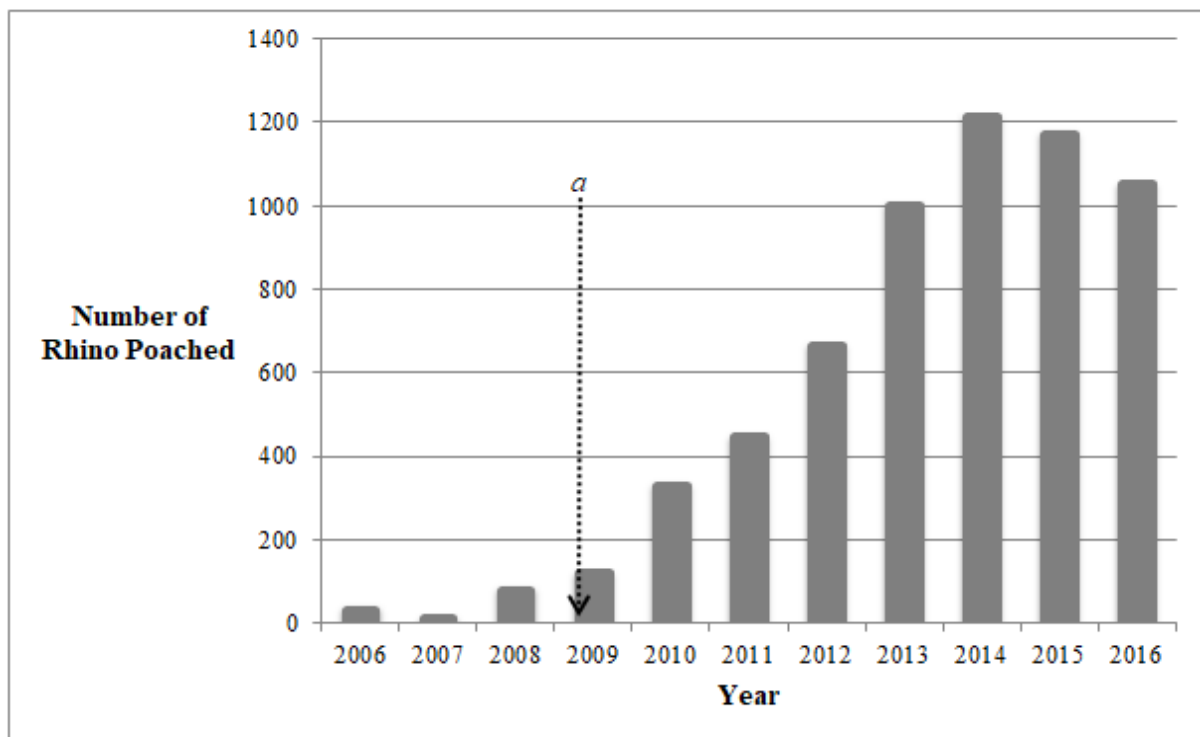
CITES regulations ensure that the export of white rhino hunting trophies is only allowed for “personal or household” purposes (CITES, 1983: 4). In 2003, applications by Vietnamese nationals for South African rhino trophy hunting permits began to increase dramatically and it was suspected that these hunts were being used to acquire rhino horn for the international black market. It was estimated that approximately 48 percent of foreign national rhino hunts in South Africa between 2009 and 2012 were executed by Vietnamese nationals (Milliken & Shaw, 2012: 10). It is unknown how many of these hunts were exploited for illegal purposes, but when the legality of the hunts was questioned, the DEA made significant legislative changes. The Threatened or Protected Species Regulations (ToPS) were implemented in 2007 (South Africa, 2007), followed by the National Moratorium on the Trade of Individual Rhino Horns and any

Derivatives or Products within South Africa (South Africa, 2009) and the Norms and Standards for the Marking of Rhinoceros and Rhinoceros Horn, and for the Hunting of Rhino for Trophy Hunting Purposes in February 2009, which were amended in 2012 (South Africa, 2012).

One of the objectives of the National Moratorium was to ensure that no rhino horns obtained illegally were laundered into the legal trophy hunting trade and then smuggled out of the country and sold on the black market (Taylor et al, 2014: 21). However, because the National Moratorium did not apply to legal hunting trophies, the exploitation of rhinos for hunting trophies continued and even increased in 2010 and 2011. The improved Norms and Standards, amended in 2012, were considered significantly more successful in closing the abovementioned loophole as applications for white rhino hunts dropped from approximately 116 Vietnamese applications in 2011 to only 8 applications in 2012 (Taylor et al, 2014: 46-47).

The National Moratorium was seen as a temporary measure to give the DEA time to “get illegal trade under control” (Taylor et al, 2014: 21) by strengthening “its laws, regulations and systems” (Department of Environmental Affairs, 2017b: np) and developing effective “compliance, regulatory, monitoring and enforcement mechanisms to ensure” better management of the domestic trade (Department of Environmental Affairs, 2017a: np). Although the National Moratorium was positively received by CITES and viewed by many as being a step forward for South Africa, rhino poaching intensified, seeming to support stakeholder opinions that the ban only served to exacerbate the poaching crisis instead of alleviating it (Taylor et al, 2014: 21). Rhino poaching statistics in South Africa (Figure 1) show the uninterrupted increase in poaching after the National Moratorium was implemented in 2009.

Figure 1: Rhino poaching statistics in South Africa, 2006-2016



Note: a = February 2009: National Moratorium implemented.

(Adapted from Taylor et al, 2014: 42).

As illustrated by Figure 1, a significant spike in the rhino poaching statistics was experienced in 2010 after the implementation of the National Moratorium in 2009. Another spike occurred in 2013 when rhino poaching in South Africa exceeded 1 000 rhinos in one year. It cannot be coincidental that this spike occurred after the implementation of the 2012 amendment of the Norms and Standards, which evidently had a causal effect on poaching statistics as legal channels for rhino horn were closed leaving poaching as the only method of obtaining rhino horn. Seventy-three percent of rhino experts questioned by Taylor et al, (2014: 60) believed that the spikes in rhino poaching following 2008 could be attributed to the Norms and Standards closing legislative loopholes, higher demand for rhino horn driven by stronger Asian economies, and the “increasing involvement of [organised] criminal syndicates” in the illegal wildlife trade (Taylor et al, 2014: 60).

The history of trade in rhino horn is both lengthy and complicated. Increased poaching, driven by the extremely high demand for rhino horn, resulted in a significant threat to rhino populations worldwide. The National Moratorium on trade in rhino horn was seen as a short-term solution to the poaching problem, but many were against it. After approximately five years in court, a lawsuit brought against the DEA by private rhino breeders, to lift the National Moratorium, has come to an end.

LIFTING THE MORATORIUM ON RHINO HORN TRADING IN SOUTH AFRICA

In 2012, one of South Africa’s largest private rhino breeders, Johan Krüger, challenged the National Moratorium handed down by the DEA. John Hume, who is believed to own about a fifth of South Africa’s privately owned rhino, joined the case in 2015 (Christy, 2017: np). The lawsuit, which was supported by Wildlife Ranching South Africa and the Private Rhino Owners Association (Department of Environmental Affairs, 2017b: np), was based on the fact that the DEA “failed to adequately notify the public before implementing the ban” in 2009 (Christy, 2017: np).

In preparation for the lawsuit, the DEA initiated a study on the viability of legalising trade in rhino horn in South Africa (Taylor et al, 2014) and appointed a Committee of Inquiry to report on the possibility of proposing legal international trade in rhino horn (Department of Environmental Affairs, 2016b). Both initiatives concluded that, although beneficial, the domestic trade in rhino horn in South Africa would likely be unsuccessful unless a number of issues were addressed and it was proven that effective controls were in place to prevent the laundering of rhino horn into the legal system (Department of Environmental Affairs, 2016b: 11; Taylor et al, 2014: 102-103). The Committee of Inquiry met with various stakeholders between 2015 and 2016 who recommended that the DEA enhance security, implement more community empowerment, improve biological management and demand management strategies, and initiate legislative provisions to incentivise rhino owners (Department of Environmental Affairs, 2016a: 4-7).

On 26 November 2015, the High Court of South Africa ruled in favour of Krüger and Hume on the basis that the DEA “had failed to follow correct procedures when it introduced the moratorium” (Watts, 2017: 2). Minister of Environmental Affairs, Ms Edna Molewa, immediately applied to the High Court and then to the Supreme Court of Appeal for ‘leave to appeal’ the order, but both applications were dismissed forcing the Minister to apply to the Constitutional Court (Department of Environmental Affairs, 2017b: np). The Constitutional Court ruling on 05 April 2017 dismissed the Minister’s application for ‘leave to appeal’ and ultimately ordered that the National Moratorium on trade in rhino horn be lifted (Department of Environmental Affairs, 2017b: np).

Rhino poaching statistics have proven that the international trade ban has been unsuccessful in decreasing demand for rhino horn and reducing the threat of poaching. The only question left to ask is whether sustainable use programmes, that promote the value of live rhinos and incentivise rhino owners, can provide a solution to the ever-increasing threat of rhino poaching. The Constitutional Court ruling has incited much debate surrounding the issue of trade in endangered species and whether the domestic trade in rhino horn in South Africa will have positive or negative outcomes. The following section will discuss the opinions of those who support legal rhino horn trade in South Africa.

ARGUMENTS SUPPORTING THE DOMESTIC TRADE IN RHINO HORN IN SOUTH AFRICA

To reduce price, demand and poaching

Those who support the legalisation of the domestic rhino horn trade in South Africa argue that a well-regulated trade has the potential to reduce the extremely high black market price and demand for rhino horn, as well as reduce the motivation to poach (Di Minin et al, 2015: 552-553; Taylor et al, 2014: 78; Biggs, Courchamp, Martin & Possingham, 2013: 1038). Theoretically, allowing legal rhino horn (acquired through dehorning or natural deaths) to enter the market will reduce demand and force the price of rhino horn on the illegal market down, thereby reducing the motivation to poach.

Those who oppose the legal trade in rhino horn argue that the legal sale of rhino horn in South Africa will be too small to satisfy the accelerating demand in Asia, which will result in increased poaching (Foster, 2017: np; Taylor et al, 2014: 78; Verwoerd, 2017: np). In economics, it is a rule that supply fuels demand, however, it has been established that the trade in wildlife products, such as rhino horn, follows a different law of demand. The extremely high demand for rhino horn is not based on the supply, but rather due to the perception that rhino horn is rare and prestigious (Dean, 2017: np). Leader-Williams (1992: 20-21) reports that the price of rhino horn increased sharply in the 1970s, which has been attributed to the CITES international trade ban, which forced all trade in rhino horn underground, thereby forcing the price up. According to Biggs et al (2013: 1038), “as wildlife products become rarer, their prices soar”, which makes them even more desirable. Supplying consumers with rhino horn through legal trade would make the product more readily available, thereby diminishing the prestige value of the horn (Di Minin et al, 2015: 553). “It is theoretically possible to reduce rhino poaching by supplying a legal source of rhino horn to consumer markets” (Taylor et al, 2014: 78). It has been suggested that if legal traders sell rhino horn at a cheaper, more competitive price than illegal horn, the illegal agents will be forced to decrease their prices in order to remain competitive (Dean, 2017: np). This will ultimately force the price of rhino horn down, thereby eliminating the perception that rhino horn is extremely valuable. Even if legal rhino horn is sold at a much lower price than illegal rhino horn (which can fetch up to R788 000 per kg on the black market), the profits generated would most definitely be large enough to cover protection and conservation costs for the future (Di Minin et al, 2015: 553).

The primary motive for rhino poaching is a financial one, as widespread poverty and insecurity in southern Africa makes poaching an attractive option (Broad, Mulliken & Roe, 2003: 3; Hart, 2016: 7). If the price of rhino horn decreases to such an extent that the financial motive to poach rhino diminishes, the pressure of poaching will be relieved. As poaching is the biggest threat to rhino populations in South Africa, reducing the motivation to poach should be the first priority in alleviating poaching.

Evidence has shown that legal trade in any wildlife product can reduce the incentive for poaching, but only if the laundering of illegal product into the legal system is prevented, the legal supply proves more cost-effective than the illegal supply, demand does not escalate; and legally and humanely obtained products can prove to be a successful substitute for poached

products (Biggs et al, 2013: 1038). If the laundering of illegal rhino horn is not successfully stopped, poaching and smuggling may remain an attractive option in order to avoid permit costs and import taxes (Leader-Williams, 1992: 20). Bennett (2015: 56-57) argues that demand reduction through controlled trade is not feasible due to poor governance in Africa and suggests that the only way to reduce demand for any wildlife resource is to effectively close all trade until the high status of the product falls.

Legalising the trade in rhino horn has the potential to reduce the high demand and black market prices of horn, thereby reducing the motivation to poach, however, it is important to note that this transformation will take time. Unfortunately, with the current rate of poaching, rhino populations do not have much time before they become extinct. Thus, it can be argued that more proactive and advanced protection of rhinos is urgently needed in order to maintain current populations and prevent poaching. Those who support the trade in rhino horn argue that significant funds can be raised from legal sales of rhino horn and that these funds can be channelled into supporting rhino protection and conservation.

To generate funds for conservation

Although somewhat underdeveloped in South Africa, legal trade in wildlife products “has the potential to generate significant income not only for local people, but also for the State” (Bürgener et al, 2001: 1). One of the most popular supporting statements for the legal trade in rhino horn is that it has the potential to generate a large amount of funds that could be redirected into the conservation of rhinos and other wildlife in South Africa. Leader-Williams (1992: 2) theorised that “rhinos could contribute to the costs of their [own] conservation through a legal trade in horn”. Fifty-six percent of private rhino owners studied by Taylor et al, (2014: 77-78) agreed that funds from legally sold rhino horn could be generated to support anti-poaching strategies and conservation programmes.

Rhino horn is considered a harvestable, renewable resource as the horn grows back after it has been sawed off – a process known as ‘dehorning’ (Hart, 2016: 7; Rachlow & Berger, 1997: 85). It is important to note that legal trade in rhino horn does not automatically imply the killing of rhinos (Di Minin et al, 2015: 547; Leader-Williams, 1992: 34). By killing rhinos to get the horn, poachers are essentially ‘killing the goose who lays the golden egg’. Humans do not kill cows for their milk, or chickens for their eggs, therefore, why would rhinos need to be killed for their horns? Studies have shown that transforming rhino horn into a renewable resource could generate substantial income for conservation (Biggs et al, 2013: 1038). A study conducted by Rachlow and Berger (1997) found that, considering the rate of horn regrowth for male white rhinos in conjunction with the price of rhino horn and the costs of dehorning programmes, a considerable profit margin is possible. Looking at the current black market price of rhino horn – between US\$35 000 and US\$60 000 per kilogram (Haas & Ferreira, 2016: 8), which converts to approximately ZAR460 000 and ZAR790 000 respectively – and the estimated costs of dehorning programmes – between R5 000 and R12 000 per rhino (Lindsey & Taylor, 2011: 29) – an estimated minimum gross profit of approximately ZAR448 000 per rhino (*ZAR460 000 minus ZAR12 000*) could be generated from a legal trade in humanely obtained rhino horn. Assuming that the price for rhino horn remains high, which theoretically it should not if the legalisation of trade has the desired effects, the funds raised through legal trade can be channelled in conservation of all wildlife species in southern Africa. If the price for rhino horn does decrease, legalising the trade in rhino horn would have achieved the desired effect so it should not be posed as a problem.

“All conservation programmes involve some measure of costs” (Moyle, 2003: 41), and it is well known that rhinos are very expensive to own as they need to be kept secure and safe from poachers. According to the Committee of Inquiry report, the costs of sustaining high level protection for rhino can range between ZAR700 million and ZAR2 billion per annum

(Department of Environmental Affairs, 2016b: 7). A study conducted by Di Minin et al, (2015: 552) suggested that funds generated from legal sales of rhino horn has the potential to enhance law enforcement to such an extent that the illegal activities of poachers will be heavily undermined. It is an interesting concept to consider, as using legal trade in rhino horn to fund future conservation essentially means that rhinos will not only begin to fund themselves, but will also potentially offer support to local rural communities (Dickson, 2003: 25). According to Bürgener et al, (2001: 29), cooperation and support from resource users, i.e. the local communities, is essential for the effective management of natural resources. Poverty is a widespread issue in southern Africa with multiple initiatives in place to eradicate it. There is a large disparity between the value of rhino horn and the average income of local people, which creates a powerful incentive to poach (Bennett, 2015: 56). If the community can benefit directly from legal rhino horn sales and conservation, it is likely that they may become more motivated to protect the environment and the animals that live there and prevent poaching from escalating further.

The question that remains is why rhinos are being killed for their horns when they are perfectly renewable resources, much like a cow's milk or a chicken's eggs. Due to the current high prices for rhino horn, funds generated from selling humanely obtained rhino horn have the potential to support conservation programmes, anti-poaching strategies as well as local rural communities. Not only is the financial support itself beneficial, but the potential to earn an income from rhinos will ultimately incentivise more people to own and breed rhinos.

To incentivise rhino owners

It has been argued that sustainable trade in a specific wildlife product can provide incentives to conserve wild species and their habitats (Dickson, 2003: 26-28). Paterson (2009: 308) theorises that environmental and conservation management "is all about offering the private sector a combination of incentives, rewards and punishments". Welz (2017: np) is of the opinion that the South African wildlife ranching industry has the potential to save wild species and natural habitats from extinction.

Welz (2017: np) discovered that many countries that do not allow private ownership of wild game have seen wildlife numbers decrease substantially as human populations have grown. Research has shown that private wildlife ownership can improve natural habitats, increase wildlife populations and provide much needed jobs and funds for underdeveloped areas in South Africa (Welz, 2017: np). Brown (2017: np) agrees and states that transferring "conditional rights over the consumptive and non-consumptive use of wildlife" in Namibia led to a positive change in attitude towards wildlife, leading to an extremely successful conservation track record.

As mentioned previously, owning rhino in South Africa is extremely expensive and dangerous. Due to the negative consequences associated with rhino poaching, many wildlife owners are discouraged from owning rhino resulting in less land being made available for rhino conservation, which is leading to decreases in rhino populations. Legalising trade in rhino horn will allow rhino owners to earn an income from their animals, either through their already stockpiled horns, or through dehorning and trading in new horns. The potential to make a profit from rhino could incentivise more people to buy, own and breed rhinos in South Africa, thereby increasing population numbers and decreasing the threat of extinction. According to a study conducted by Di Minin et al, (2015: 550-553), legalising the trade in rhino horn could increase the size of the rhino population, but only if law enforcement is also maximised. Di Minin et al (2015: 547) used the total number of field rangers deployed for anti-poaching activities as an indication of the anti-poaching effort. According to Herbig (2011: 105), reactive law enforcement includes self-generated patrols and observations, focused on securing arrests of offenders. Proactive or preventative law enforcement, on the other hand, involves intelligence

gathering aimed at eliminating the opportunities to commit crime in the first place (Potgieter, Wiatrowski & Roelofse, 2016: 56). The results of the study conducted by Di Minin et al (2015: 552) show that funds generated from the sale of stockpiled rhino horn could contribute significantly towards enhancing law enforcement and security measures. It is unknown whether the study refers to reactive or proactive law enforcement, but it can be surmised that they refer to reactive law enforcement in the form of field ranger patrols and anti-poaching reaction units.

Incentives that encourage the sustainable use of wildlife “are recognised as a valuable tool” (Bürgener et al, 2001: 35) for more effective biodiversity conservation, however, this will only be effective for rhinos if there is a notable reduction in the demand and price of rhino horn. The concept of using legal rhino horn sales to fund law enforcement and conservation programmes can be considered an important aspect to incentivise people to breed rhinos.

Hutton and Webb (2003: 108-118) refer to the international trade in crocodilian hides as an example of how a well-regulated trade could displace illegal trade and promote conservation. By the 1970s, many wild crocodilian populations had been reduced due to high levels of exploitation, leading to the CITES prohibition of the commercial trade in many, if not most, crocodilian species (Hutton & Webb, 2003: 111). However, those who saw trade bans as short-term solutions suggested that developmental programmes be implemented to ensure sustainable harvesting of wild crocodilians “to generate ongoing economic and conservation benefits” (Hutton & Webb, 2003: 112). Due to the early success of many of these programmes, trade was viewed as beneficial for conservation, which resulted in the sustainable harvesting of crocodilians in over 30 different nations (Hutton & Webb, 2003: 117-118). Although it has taken approximately 20 years, the illegal trade in crocodilian products has successfully been replaced by a well-regulated, sustainable trade (Hutton & Webb, 2003: 117). This proves that a well-regulated legal trade in a highly valued wildlife product has the potential to save that species from extinction.

Sustainable harvesting and legal trade have many benefits including the reduction of demand, price and poaching, the generation of funds, and the opportunity to create incentives for breeding programmes. Cooney (2003: 200-204) reiterates that, although legal trade has the potential to displace illegal trade, the primary challenge is to ensure that wildlife trade systems are well designed, well-regulated and well managed. Although the example of trade in crocodilian products shows how successful regulated trade can be, it must be noted that it took 20 years for the true success to show, suggesting that the rhino horn trade will need time to show proof of success. Despite the success of the crocodilian hide trade, there are multiple risks and concerns involved in legalising trade in rhino horn. The relevant viewpoints will be discussed in the following section.

ARGUMENTS AGAINST THE DOMESTIC TRADE IN RHINO HORN

Ambiguous draft regulations

According to Brack (2003: 165), inadequate regulations are one of the primary drivers behind environmental crime. One of the biggest concerns with introducing legal trade in rhino horn in South Africa is that the Draft Regulations for the domestic trade in Rhinoceros Horn, or a part, product or derivative of Rhinoceros Horn drafted by the DEA in February 2017 are not sufficient enough to monitor legal trade alongside the already established illegal trade. The regulations themselves are ambiguous, which causes great concern with regards to their implementation.

The purpose of the Draft Regulations is to “regulate the domestic selling or otherwise trading in [...] or acquiring rhinoceros horn within the borders of the Republic [of South Africa], and the export of rhinoceros horn for personal purposes from the Republic” (South Africa, 2017: 6). There is a problem with this purpose statement as it mentions the export of rhino horn from South Africa, which clearly contradicts the title of the Draft Regulations and

the supposed compliance with CITES regulations. As mentioned previously, the CITES ban on international trade in rhino horn is still firmly in place, meaning that the term ‘domestic trade’ refers to trade within the confines of South Africa. However, according to the regulations themselves, the DEA envisions international export with “a person from a foreign state” (South Africa, 2017: 11) “who is not a citizen [or] a permanent resident within the Republic of South Africa” (South Africa, 2017: 10).

The ambiguity of the regulations is perfectly clear in Section 3(3), which mentions that people who are “contemplated in regulation 6(2) [are limited to exporting] a maximum of two rhino horns, and then only for personal purposes” (South Africa, 2017: 7). The initial reaction to a limitation of exports is positive, but the general vagueness of this statement seems to raise more questions. Pinnock (2017: np) points out that the problem with this statement is that “regulation 6(2)” refers to “a person from a foreign state who visits the Republic of South Africa, regardless of the purpose of such visit” (South Africa, 2017: 11). In layman’s terms, international visitors to South Africa can legally export a maximum of two rhino horns, if it is claimed that these horns will be used for personal purposes. The Draft Regulations also fail to mention the time frame or time period for the limit – is it two horns per applicant, per day, per month, per year, or per visit (Verwoerd, 2017: np)? Although implementing a limit on exports is a step in the right direction, the details desperately need to be refined in order to avoid further confusion. Section 6(1) suggests that the two horn export limit placed on foreign buyers in Section 3(3) does not apply if a foreign individual “owns a rhino” (South Africa, 2017: 10) within South Africa as they will be allowed to export an unlimited amount of that rhino’s horns (Pinnock, 2017: np; South Africa, 2017: 10-11). It is interesting to note that the Draft Regulations make no mention of whether any of the stipulations apply to South African citizens dealing with rhino. Thus, it can be assumed that South African citizens will be allowed to buy, “trade and export as much rhino horn as they please” (Pinnock, 2017: np) without adhering to the two horn limit and without applying for permits (Verwoerd, 2017: np).

Pinnock (2017: np) raises an issue with the term “personal purposes” (South Africa, 2017: 7) as the Draft Regulations fail to explain exactly what this means. All commercial trade in rhino horn has been banned by CITES since 1977, but import and export permits for international trade in rhino horn “for personal, non-commercial purposes can be exceptionally authorized” (CITES Secretariat, 2017: np). It has been claimed that the DEA included the stipulation for ‘personal purposes’ to give the impression that the Draft Regulations do not contravene CITES by allowing commercial trade in rhino horn (Pinnock, 2017: np). However, the CITES Secretariat released a statement in March 2017 saying that, because the Draft Regulations “concern the export of rhino horns by persons who are not citizens or permanent residents of South Africa [...] the exemption for personal [purposes] cannot be applied to them” (CITES Secretariat, 2017: np). Does this imply that the Draft Regulations are not supported by CITES, thereby implying that South Africa is in breach of the CITES agreement? If, according to CITES, the exemption given to exports for personal purposes does not apply to foreigners, then how can South Africa implement regulations that allow this type of export? Additionally, allowing rhino horn exports for personal use portrays support for the recreational and medicinal use of rhino horn, despite there being no scientific evidence to support this. According to a recent media release by the DEA, the Draft Regulations were not intended “to circumvent any CITES process as such [would] be tantamount to non-compliance” (Department of Environmental Affairs, 2017c: np). Although the DEA vehemently denies any intentional transgression of CITES regulations, the ambiguity of the Draft Regulations and the questions they leave unanswered are made glaringly clear in this instance.

According to the Draft Regulations, individuals who are not South African citizens will be allowed to buy and export rhino horn from South Africa, which essentially means that it will be possible to trade rhino horn internationally. Section 5(2)(a) states that a foreign individual

can apply for a permit to buy rhino horn in South Africa as long as “an import permit [...] or a letter has been issued by [the] Management Authority of the applicant’s country of import” confirming that an import permit will be issued (South Africa, 2017: 10). Allowing for a simple letter or written confirmation to be used in place of a legal import permit leaves too much opportunity for forgery and corruption in an industry that is already fraught with such issues. Additionally, Section 3(8) mentions that an export permit can be endorsed, not only by an environmental management inspector, but by “an official from any other border law enforcement agency” (South Africa, 2017: 8). This provision calls for the involvement of a wide range of individuals who may be open to corruption and bribery, which may lead to significant leakages of rhino horn into the illegal market.

According to Section 9(1), people who have sold the rhino horn for which they previously held a possession permit “must return the original possession permit to the relevant issuing authority for cancellation” (South Africa, 2017: 12). This stipulation gives too much responsibility to the permit holder who is sure to avoid cancelling the permit so that they do not have to apply for another one in the future. According to Taylor et al, (2014: 80), it was alleged in 2014 that “some rhino horn owners [were] not [...] complying with the permitting requirements for reporting possession of horns as per the ToPS Regulations under NEMBA”. A number of CITES export permits were not surrendered to the authorities, but were “frequently re-used [...] to accompany additional shipments of rhino horns acquired in South Africa” (Milliken & Shaw, 2012: 58). The assumption here is that the additional rhino horns were obtained illegally and then laundered into the legal rhino horn trade. The fact that export permits were previously not surrendered to the issuing authority is distressing considering that the Draft Regulations put the onus on the applicant and permit holder to return the permit to the issuing authority for cancellation. This seemingly large loophole will most certainly be exploited by unscrupulous individuals seeking to profit from laundering illegal rhino horn into the legal market.

According to Milliken and Shaw (2012: 16-17), who analysed CITES export and import permit data, Vietnam declared receiving 170 rhino horns between 2003 and 2010 while South Africa reportedly exported approximately 657 rhino horn in the same time period. This discrepancy indicates that approximately 75 percent of rhino horn exported from South Africa went undeclared upon importation (Milliken & Shaw, 2012: 58) suggesting that more than half of the rhino horn hunting trophies acquired with legal hunting permits in South Africa were redirected to the black market in Asia. This is a potentially disastrous problem as it shows the ineffectiveness of previous controls and highlights the similarities with the current Draft Regulations.

Morgan Griffiths of WESSA is of the opinion that significant loopholes in the Draft Regulations will result in a substantial rise in poaching in order to cater to the increasing demand for rhino horn in Asia (Foster, 2017: np). It is evident that the Draft Regulations need to be reviewed, edited, refined and strengthened “to ensure no regulatory loopholes exist” (Department of Environmental Affairs, 2017b: np), and to prevent opportunities for forgery, bribery, corruption and laundering of illegal rhino horn into the legal trade system.

Corruption

International conservation crime is reportedly driven by resilient black markets that exploit multiple factors that influence illegal activities. According to Brack (2003: 165), one of the drivers behind the emergence of black markets is enforcement failure due to lack of resources, inadequate infrastructure, lack of political will and expertise, and corruption. Bennett (2015: 56) argues that “well-governed management systems and enforcement could allow for a legal trade [in rhino horn, but this] is not feasible due to one major factor: corruption”.

It is certainly no secret that corruption is a challenge that plagues southern African countries at all levels of society. The term ‘corruption’ can be defined as “the abuse of entrusted power for private gain” (Transparency International, 2016b: np). According to the Corruption Perceptions Index of 2016, South Africa only scored 45 out of 100 for corruption (with 0 being highly corrupt and 100 being very clean) meaning that South Africa is amongst the world’s most corrupt countries alongside Somalia and Greece (Transparency International, 2016a: np). Hübschle (2016b: 38) proposes that corruption is used as “a key strategy of organised [criminal syndicates] to undermine the government, law enforcement and the formal economy”.

The main concern in South Africa is that legal trade, whether well-regulated or not, will open the path for the laundering of illegally obtained rhino horn (Taylor et al, 2014) and allow illegal trade to flourish under the cover of legal trade (Hutton & Webb, 2003: 109). Prior to the implementation of the National Moratorium in 2009, it was discovered that legal hunting permits were being issued for rhino hunts that were not actually taking place, but rather that illegally obtained rhino horns were being labelled as hunting trophies and exported using the hunting permits (Watts, 2017: 10). Due to the current economic status of many public servants in South Africa, such as police and border law enforcement officials, bribery is a common occurrence, and as long as the opportunities for such criminal activities exist, they will be “exploited at all points in a trade chain” (Bennett, 2015: 56). For example, an individual with a rhino horn that has been obtained through poaching or theft of a stockpile need only offer a financially disadvantaged government official a few hundred Rands as a bribe in order to successfully hide the illegal horn amongst legally obtained and correctly permitted horns for export.

The Draft Regulations, as they stand without further review and improvement, contain many opportunities for corruption and bribery and it will become virtually impossible to distinguish between legal and illegal rhino horn if this type of laundering occurs (Bennett, 2015: 57). A significant issue that plagues southern Africa alongside the corruption problem is one of inefficient and inadequate law enforcement due to a lack of resources and ongoing budgetary constraints.

Law enforcement capacity

Efficient law enforcement is vital for a well-regulated wildlife trade (Bürgener et al, 2001: 32). The current situation in South Africa sees conservation officials normally charged with the regulation of biodiversity conservation also having to carry out law enforcement measures in the fight against poaching (Bürgener et al, 2001: 2). Bürgener et al, (2001: 10) state that South Africa’s DEA “has [for many years] lacked the capacity to provide strong leadership [and] coordination” resulting in the underdevelopment of policies concerned with natural resource and environmental management. Sixty-two percent of rhino experts and private rhino owners questioned by Taylor et al, (2014: 76) were of the opinion that legal trade in rhino horn would be unsuccessful due to inadequate permitting controls and insufficient law enforcement capacity, among other things.

Environmental and conservation law enforcement agencies in South Africa regularly face “budgetary and capacity constraints” (Bürgener et al, 2001: 2) due to more conventional forms of crime, such as armed robbery and hijacking, taking precedence. According to Rachlow and Berger (1997: 90), “where funds for law enforcement have been low, rhino populations have declined”. Although not explicitly stated, it is likely that Rachlow and Berger (1997: 90) refer to reactive law enforcement involving anti-poaching units and field ranger patrols. Herbig (2011: 108) defines reactive law enforcement as being “investigation-led” while proactive law enforcement refers to “information-led” policing methods. “More feet on the ground in terms of rangers patrolling the game reserves” is a common poaching prevention method employed throughout the world; however, this is becoming increasingly difficult for the larger game

reserves and protected areas to manage (Griffiths, 2015: 178), both strategically and financially. As Griffiths (2015: 178) points out, it is simply not feasible for a protected area the size of the Kruger National Park to have the required number of rangers patrolling the area due to the resulting salary, housing and mobility costs. The compounded pressure of monitoring a legal trade in rhino horn while trying to police an illegal one will “undoubtedly make enforcement near impossible, allowing criminal syndicates [...] to traffic more horns into the illegal international market” (Christy, 2017: np). It has been argued that South African law enforcement does not have the capacity, the resources or the expertise to successfully regulate and monitor legal trade in rhino horn while continuing to police illegal trade (Foster, 2017: np).

The limited trade in elephant ivory proved that legal trade in wildlife without adequately controlling the pressure of crime and corruption can be disastrous (Christy, 2017: np). In 1997 and 2008, CITES allowed several African countries to host limited sales of stockpiled elephant ivory to China and Japan with the goal of flooding Asia’s ivory markets and driving illegal poachers and traders out (Christy, 2017: np). Verwoerd (2017: np) and Watts (2017: 10) argue that these sales resulted in more elephants being poached and killed as elephant poaching statistics increased dramatically. Biggs et al, (2013: 1039) and Taylor et al, (2014: 98-99) disagree and maintain that there was no empirical evidence to support these claims as the demand for ivory seemed to rise irrespective of the sales. There are allegations that the CITES trade ban on elephant ivory eventually contributed to the reduction of elephant poaching based on the fact that there was a voluntary reduction in ivory demand by users worldwide (Leader-Williams, 1992: 35), however, this may not be the case for the trade in rhino horn as it is clear that the trade bans “have been ineffective” thus far due to the unwillingness of consumers to cease the use of rhino horn (Leader-Williams, 1992: 35).

It is a widely shared view that the CITES trade ban on rhino horn has not achieved its goal (Biggs et al, 2013: 1038; Challender et al, 2015: 249-250; Di Minin et al, 2015: 546; Dickson, 2003: 31-32). Both the National Moratorium and the CITES trade ban on rhino horn products aimed to reduce demand and cease the threat of poaching (Christy, 2017: np; Di Minin et al, 2015: 546), however, it is evident that these bans have possibly had a negative effect on the demand and prices of rhino horn. Although parallels have been drawn between the ivory trade and rhino horn trade (Taylor et al, 2014: 97-101; Verwoerd, 2017: np; Watts, 2017: 10), there are significant differences between the two rendering “comparisons inadvisable” (Taylor et al, 2014: 98). Thus, it must be noted that the current situation with regards to rhino horn trade is considered unique, making it especially difficult to predict the outcomes of legalised trade.

Hutton and Webb (2003: 109-110) argue that concerns related to legal trade are based on the notion that opportunity, combined with human greed, results in over-exploitation, as legal trade in wildlife products often increases the incentives to kill these animals. In order to avoid an uncontrollable illegal trade from developing, opportunities for over-exploitation need to be prevented. The arguments against legal trade in rhino horn centre around one specific factor, corruption. If opportunities for corruption and laundering are not available, there is a strong possibility that the legal trade in rhino horn will be successful, resulting in positive outcomes, such as reduced demand and poaching, increased funding for conservation and increased rhino populations.

DISCUSSION

Cooney (2003: 198) suggests that wildlife trade bans are often ineffective and counterproductive as they have been known to drive the trade underground. There is an abundance of evidence suggesting that trade controls have not stopped the trade in rhino horn, but rather sent it underground where prices and demand for the prestigious product have soared (Challender et al, 2015: 250; Cooney, 2013: 197-200).

Taylor et al, (2014: 101) refer to the trade in elephant ivory as an example of how supply restrictions and once-off sales were unsuccessful and suggest that these “policies are best avoided”. They express the opinion that the National Moratorium on rhino horn trade should stay in place, as lifting it would be likely to lead to increased laundering and smuggling of rhino horn out of South Africa (Taylor et al, 2014: 102). Bennett (2015: 57-58) and Verwoerd (2017: np) support the notion that trade bans are the only means to reduce demand and propose that lifting the National Moratorium and allowing legal trade in rhino horn will only serve to fuel the demand and confuse consumers. Bennett (2015: 57) concludes that both international and domestic markets need to be closed down as they cannot be adequately controlled under the current levels of corruption in southern Africa. Biggs et al, (2013), on the other hand, posit that the trade ban on rhino horn has failed as it restricts the legal supply of rhino horn resulting in the persistent and inelastic demand being met through poaching and smuggling of rhino horn onto the illegal market. Cooney (2003: 200-204) concludes that it is possible for a well-regulated legal trade to displace illegal trade. It is evident that neither the CITES international trade ban nor the National Moratorium prevented the increasing demand, price or threat of rhino poaching in South Africa.

CONCLUDING REMARKS

This article presented a historiography of the South African rhino horn trade and a discussion of the arguments for and against the legalisation of the trade. Although a well-regulated legal trade that benefits both humans and rhinos through financial benefits and breeding programmes would be the ideal option, the current situation in South Africa in relation to the ambiguous Draft Regulations, high levels of corruption and a general lack of law enforcement capacity means that lifting the National Moratorium and allowing legal trade in rhino horn in South Africa without effective enforcement (both reactive and proactive) in place will prove disastrous.

LIST OF REFERENCES

- Bennet, C. 2015. Legal ivory trade in a corrupt world and its impact on Africa elephant populations. *Conservation Biology*, 29(1): 54-60.
- Biggs, D., Courchamp, F., Martin, R. & Possingham, H.P. 2013. Legal trade of Africa's rhino horns. *Science*, 339(6123): 1038-1039.
- Brack, D. 2003. Lessons from the illegal trade in ozone-depleting substances, timbers and fisheries. (Pp 163-178). In S. Oldfield (Ed). *The trade in wildlife: Regulation for conservation*. UK; USA: Earthscan Publications Ltd.
- Broad, S., Mulliken, T. & Roe, D. 2003. The nature and extent of legal and illegal trade in wildlife. (Pp 3-22). In S. Oldfield (Ed). *The trade in wildlife: Regulation for conservation*. UK; USA: Earthscan Publications Ltd.
- Brown, C. 2017. The link between hunting and tourism in Namibia. *Africa Geographic*. Available at: <https://africageographic.com/blog/hunting-tourism-namibia> (accessed on: 26 April 2017).
- Bürgener, M., Snyman, N. & Hauck, M. 2001. *Towards a sustainable wildlife trade: an analysis of nature conservation legislation in South Africa with particular reference to the wildlife trade*. Cape Town: Institute of Criminology.
- Challender, D.W.S., Harrop, S.R. & MacMillan, D.C. 2015. Understanding markets to conserve trade-threatened species in CITES. *Biological Conservation*, 187: 249-259.

- Christy, D. 2017. Game of Horns: Inside the dark world of South Africa's rhino business. *National Geographic Traveller*. Available at: <http://www.natgeotraveller.in/game-of-horns-inside-the-dark-world-of-south-africas-rhino-business/> (accessed on: 14 February 2017).
- CITES. 1983. Convention on International Trade in Endangered Species of Wild Fauna and Flora. Available at: <http://lvsyi.com/documents/convention/Convention%20on%20International%20Trade%20in%20Endangered%20Species%20of%20Wild%20Fauna%20and%20Flora.pdf> (accessed on: 24 April 2017).
- CITES Secretariat. 2017. Background on the issuance of CITES permits in respect of the export of rhinoceros horn. Available at: https://cites.org/eng/news/Background_issuance_CITES_permits_export_of_rhinoceros_horn_15032017 (accessed on: 4 April 2017).
- Cooney, R. 2003. Conclusions: Looking ahead – International wildlife trade regulations and enforcement. (Pp 196-204). In S. Oldfield (Ed). *The trade in wildlife: Regulation for conservation*. UK; USA: Earthscan Publications Ltd.
- Craigie, F., Snijman, P. & Fourie, M. 2009. Environmental compliance and enforcement institutions. (Pp 65-102). In A.R. Paterson & L.J. Kotzé (Eds). *Environmental compliance and enforcement in South Africa: Legal perspectives*. Cape Town: Juta.
- Crawford, J. 2012. White Rhino Saviour. *Wildside Magazine*, 12: 18-23.
- Dean, S. 2017. It is now legal to trade rhino horn in South Africa – but will the ruling save or slay the troubled species? *The Telegraph*, 30 April. Available at: <http://www.telegraph.co.uk/business/2017/04/30/nw-legal-trade-rhino-horn-south-africa-will-ruling-save-slay/> (accessed on: 2 May 2017).
- Department of Environmental Affairs. 2016a. Minister Edna Molewa on the Committee of Inquiry into the feasibility of a legal trade in rhino horn, or not (Press Release).
- Department of Environmental Affairs. 2016b. Committee of Inquiry: Summary report. Available at: https://www.environment.gov.za/sites/default/files/reports/summaryreport_committee_ofinquiry.pdf (accessed on: 29 March 2017).
- Department of Environmental Affairs. 2017a. Minister Molewa highlights progress on Integrated Strategic Management of Rhinoceros (Press Release).
- Department of Environmental Affairs. 2017b. Minister Edna Molewa notes the Constitutional Court decision on the moratorium on the domestic trade in rhino horn (Press Release).
- Department of Environmental Affairs. 2017c. Department of Environmental Affairs clarifies that rhino horn may not be traded internationally (Press Release).
- Di Minin, E., Laitila, J., Montesino-Pouzols, F., Leader-Williams, N., Slotow, R. Goodman, P.S., Conway, A.J. & Moilanen, A. 2015. Identification of policies for a sustainable legal trade in rhinoceros horn based on population projection and socioeconomic models. *Conservation Biology*, 29(2): 545-555.
- Dickson, B. 2003. What is the goal of regulation wildlife trade? Is regulation a good way to achieve this goal? (Pp 23-32). In S. Oldfield (Ed). *The trade in wildlife: Regulation for conservation*. UK; USA: Earthscan Publications Ltd.
- Emslie, R.H., Milliken, T., Talukdar, B., Ellies, S., Adcock, K. & Knight, M. 2016. African and Asian rhinoceros – status, conservation and trade. *Report from the IUCN Species Survival Commission (IUCN/SSC) African and Asian Rhino Specialist Groups and TRAFFIC to the CITES Secretariat*. Available at: https://www.rhinoresourcecenter.com/pdf_files/147/1470753643.pdf (accessed on: 07 November 2016).
- Foster, G. 2017. ConCourt ruling 'could be end of rhinos in SA'. *SA Promo Magazine*. Available at: <https://www.sapromo.com/concourt-ruling-end-rhinos-sa/12675> (accessed on: 13 April 2017).

- Griffiths, M.L. 2015. The illegal trade in endangered animals in KwaZulu-Natal, with an emphasis on rhino poaching. Unpublished dissertation. MA in Criminology. Pretoria: University of South Africa.
- Haas, T.C. & Ferreira, S.M. 2016. Combating rhino horn trafficking: The need to disrupt criminal networks. *PLoS ONE*, 11(11): 1-26.
- Hart, A. 2016. Could legalising the trade in rhino horn save the species? *Biologist*, 63(6): 7-7.
- Herbig, F.J.W. 2011. Informant application in South African conservation crime management: Criminological affordances. *Acta Criminologica*, 24(3): 98-113.
- Herbig, F.J.W. & Griffiths, M.L. 2016. Conservation crime and rhinoceros poaching: from ancient custom to modern dilemma. *Acta Criminologica*, 29(1): 129-142.
- Hübschle, A. 2016a. *A Game of Horns: Transnational flows of rhino horn*. Published Doctorate. University of Köln, Germany. International Max Planck Research School on the Social and Political Constitution of the Economy (IMPRS-SPCE).
- Hübschle, A. 2016b. Security coordination in an illegal market: The transnational trade in rhinoceros horn. *Politikon*, 43(2): 193-214.
- Hutton, J. & Webb, G. 2003. Crocodiles: Legal trade snaps back. (Pp 108-120). In S. Oldfield (Ed). *The trade in wildlife: Regulation for conservation*. UK; USA: Earthscan Publications Ltd.
- Leader-Williams, N. 1992. *The world trade in rhino horn: A review*. UK: TRAFFIC International.
- Leader-Williams, N. 2003. Regulation and protection. (Pp 89-99). In S. Oldfield (Ed). *The trade in wildlife: Regulation for conservation*. UK; USA: Earthscan Publications Ltd.
- Lindsey, P. & Taylor, A. 2011. *A study on the dehorning of African Rhinoceros as a tool to reduce the risk of poaching*. SA: Department of Environmental Affairs.
- Milliken, T. & Shaw, J. 2012. *The South Africa-Vietnam rhino horn trade nexus: A deadly combination of institutional lapses, corrupt wildlife industry professionals and Asian crime syndicates*. TRAFFIC International.
- Moyle, B. 2003. Regulations, conservation and incentives. (Pp 41-51). In S. Oldfield (Ed). *The trade in wildlife: Regulation for conservation*. UK; USA: Earthscan Publications Ltd.
- Paterson, A.R. 2009. Incentive-based measures. (Pp 296-338). In A.R. Paterson & L.J. Kotzé (Eds). *Environmental compliance and enforcement in South Africa: Legal perspectives*. Cape Town: Juta.
- Pinnock, D. 2017. Bombshell hidden in draft rhino regulations. *Conservation Action Trust*. Available at: <http://travel.iafrica.com/bulletinboard/1045792.html> (accessed on: 6 March 2017).
- Potgieter, P.J., Wiatrowski, M.D. & Roelofse, C.J. 2016. Understanding the true meaning of the concept community policing: A final comment? *Acta Criminologica*, 29(1): 47-65.
- Rachlow, J.L. & Berger, J. 1997. Conservation implications of patterns of horn regeneration in dehorned white rhinos. *Conservation Biology*, 11(1): 84-91.
- Rademeyer, J. 2016. *Tipping Point: Transnational organised crime and the 'war' on poaching*. The Global Initiative Against Transnational Organised Crime. Available at: https://globalinitiative.net/wp-content/uploads/2016/07/TGIATOC-Tipping-Point_-_Transnational-organised-crime-and-the-%E2%80%98war%E2%80%99-on-poaching-web.pdf (accessed on: 07 November 2016).
- Smith, M.L.R. & Humphreys, J. 2015. The Poaching Paradox: Why South Africa's "rhino wars" shine a harsh spotlight on security and conservation. (Pp 197-220). In: A. Brisman, N. South, & R. White (Eds). *Environmental crime and social conflict: Contemporary and emerging issues*. London: Routledge.
- South Africa. 2004. National Environmental Management: Biodiversity Act 10 of 2004. *Government Gazette*, 467(26436). 7 June. Cape Town: Government Printing Works.

- South Africa. 2007. National Environmental Management: Biodiversity Act (10/2004): Threatened or protected species regulations. *Government Gazette*, 152(29657). 23 February. Cape Town: Government Printing Works.
- South Africa. 2009. National Environmental Management: Biodiversity Act (10/2004): National moratorium on the trade of individual rhinoceros horns and any derivatives or products of the horns within South Africa. *Government Notice*, 148. 13 February. Cape Town: Government Printing Works.
- South Africa. 2012. National Environmental Management: Biodiversity Act (10/2004): Norms and Standards for the marking of rhinoceros and rhinoceros horn and for the hunting of white rhinoceros for trophy hunting purposes [Amendment]. *Government Gazette*, 304(35248). 10 April. Cape Town: Government Printing Works.
- South Africa. 2017. National Environmental Management: Biodiversity Act (10/2004): Draft regulations for the domestic trade in rhinoceros horn, or a part, product or derivative of rhinoceros horn. *Government Gazette*, 620(40601). 8 February. Pretoria: Government Printing Works. Available at: https://www.environment.gov.za/sites/default/files/gazetted_notices/nemba10of2004_draftregulationsforthedomestictradeinrhinoceroshorn.pdf (accessed on: 3 March 2017).
- Taylor, A., Brebner, K., Coetzee, R., Davies-Mostert, H., Lindsey, P., Shaw, J. & 't Sas-Rolfes, M. 2014. The viability of legalising trade in rhino horn in South Africa. SA: Department of Environmental Affairs. Available at: https://www.environment.gov.za/sites/default/files/docs/rhinohorntrade_southafrica_legalisingreport.pdf (accessed on: 11 September 2015).
- Transparency International. 2016a. Corruption Perceptions Index 2016. [SI]. Available at: https://www.transparency.org/news/feature/corruption_perceptions_index_2016 (accessed on: 5 May 2017).
- Transparency International. 2016b. What is Corruption? [SI]. Available at: <https://www.transparency.org/what-is-corruption#define> (accessed on 5 May 2017).
- Verwoerd, M. 2017. The big problem with legalising rhino horn sales. *News24*, 15 March. Available at: <http://www.news24.com/Columnists/MelanieVerwoerd/the-big-problem-with-legalising-rhino-horn-sales-20170315> (accessed on: 9 May 2017).
- Watts, S. 2017. Failure to prosecute and mixed messages – How South Africa can single-handedly lose the second rhino war. *WildAid*. Available at: <http://www.wildaid.org/sites/default/files/resources/WildAid%20Failure%20to%20Prosecute%20LR.pdf> (accessed on: 18 May 2017).
- Welz, A. 2017. Fenced in: Does South Africa's private wildlife ranching industry hold the key to saving wild species and natural habitats? *Ensis Edge*. Available at: <http://edge.ensia.com/fenced-in/> (accessed on: 9 April 2017).