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Legalising the trade in
rhinoceros horn
Le Roux du Toit

CHAPTER 27

Legalising the trade in ranched rhinoceros horn - J.G. du Toit

Background

For more than 30 years the central debate about rhinoceros conservation has revolved around banning the trade in rhinoceros horn. All five species of rhinoceros were put on CITES Appendix 1 in 1977 and international trade in their products was declared illegal. Despite these efforts by mostly Western Governments and NGO's the trade has continued and the evidence presented in this report shows that it is probably increasing. The price of rhinoceros horn is also still rising with prices for white rhinoceros horn in South Africa currently standing at ZAR 150 000 per kg (US$ 20 000). By the time the horn reaches the Far East the price is said to be closer to US$ 40 000 per kg. Rhinoceros horn thus remains a valuable and sought after commodity.

The exploitation of a large population of white rhinoceros, currently in excess of 4000 animals, on poorly guarded private properties in South Africa to feed the market is now underway. By any objective measurement the CITES ban on trade in rhinoceros horn has failed to prevent rhinoceros poaching. During the 32 years that the trade ban has been in place the international conservation community has probably spent in excess of US$ 100 million to save the rhinoceros. Yet during that time at least 12 countries in Africa have lost their rhinoceros populations. The African black rhinoceros population has declined from 65 000 to about 3000. These figures are flattered by the recovery of rhinoceros populations in South Africa and Namibia, and the real comparison is that African rhinoceros populations outside of these two countries have declined to less than 1000 animals in 2009.

In the past the conservation of rhinoceros has largely been the preserve of NGO's and Government agencies acting to preserve a common good. In South Africa today, however, there is a different situation in that the rhinoceros being poached are private property. The owners of this property are mobilising to deal with the threats in an economically based way. Some are investing more money in protecting these assets, others who are unable to fund the protection of their property are selling it either to the live animal market or to the trophy hunting market. The growing market activity in the private sector, and the growing market for translocating rhinoceros indicates that this is so. There is also a realisation that if the value of rhinoceros horn can be captured by the owners, rather than by criminals, they will have more resources to invest in protection of their rhinoceros. Therefore, the idea of regularly harvesting rhinoceros horn from live white rhinoceros on game ranches to supply a legal and controlled trade is now gathering momentum and calls for serious evaluation.

While the majority of rhinoceros owners who were interviewed support the harvesting of rhinoceros horn and a controlled, legal trade this view is by no means unanimous. There are

rhinoceros owners who are dedicated to the conservation of their animals for aesthetic and moral reasons, and who do not support the hunting or commercialisation of the animals. This is a view also deserving of respect and appreciation.

Previous efforts

In 1980 at the founding meeting of the African Elephant and Rhinoceros Specialist Group (later to be split into separate specialist groups) a proposal for the commercial harvesting of rhinoceros horn was made. The proponent was Dr. Leslie Brown – doyen of African field naturalists – and supported by the small South African delegation.

Mainstream conservationists threw the proposal out of court and focused on closing down the trade in rhinoceros horn as documented over the following two decades in numerous reports, books and articles. Much of the campaign and many of the studies were funded by WWF (e.g. Martin 1983, WWF 1991, Leader-Williams 1991). By 1991 WWF was claiming success across the globe, and "winning the war" (WWF 1991). Sadly this has proved to be a dangerous illusion. The trade has continued unabated.

The alternative to a trade ban, however limited, has by contrast demonstrated the value of seeking an economic solution to what is essentially an economic problem. The down-listing of Southern white rhinoceros to Appendix II in 1994, and the concession to allow limited trade (live rhinoceros and hunting trophies) has contributed to the increase and spread of white rhinoceros in South Africa as more and more habitat has been made available to the species. That allowing the private owners of rhinoceros to enter a legal market and trade their animals has stimulated conservation of the species is beyond doubt as the information in above chapters demonstrates.

An elegantly argued case for a legal trade in rhinoceros horn based on economic principles ('t Sas-Rolfes 1995) stirred the debate ahead of the 10th CITES COP in 1997. However, no concerted effort has yet been made to formally promote a legal trade of rhinoceros horn to its principal markets in the Far East (medicinal demand) and Yemen (utility demand) as argued by many conservationists (e.g. Walker 1994). Many rhinoceros owners are convinced, as reported in the surveys of Castley & Hall-Martin (2003, 2005), that a legal trade in rhinoceros horn is inevitable. Some have begun to harvest horn from their animals and stockpile them with a view to future sales.

The way forward

It is beyond the terms of reference of this book to design a legal rhinoceros horn harvesting and trade system. It is also realised that such a system would be complex, that there would have to be inputs from the private rhinoceros owners, the State as the regulating authority and member of CITES, wildlife trade experts like TRAFFIC, economists, conservationists and representatives of the consumers of the horn. It is suggested, therefore, that a joint steering committee be set up by representatives of the rhinoceros owners (PHASA, Wildlife Ranching SA) the State authorities (DEA), WWF-African Rhinoceros Programme, AfRSG, RMG, TRAFFIC, the Peoples Republic of China and Vietnam to evaluate a proposal for the setting up of a legal system of harvesting and trading horn from white rhinoceros in South Africa.

Opponents and allies

Any proposal to trade in rhinoceros horn will be opposed by Western preservationist NGOs who have a voice at CITES Conferences but no financial obligation towards the management or welfare of rhinoceros on the ground. Many of them need a topical issue on which to hang their fund raising efforts. As there will be no elephant issues on the agenda at the next CITES COP in 2010 a campaign to once again "save the rhino" from money-grubbing owners and traders can be expected. Even within the Global WWF family, where there is generally more rational thought than among other NGOs, there can be expected to be differing points of view. These might range from pragmatic support of a sustainable harvesting and trade system, to proponents of outright bans on any trade in animal products.

The Governments of the countries that hold 90% of the world's rhinoceros populations (South Africa, Namibia, Zimbabwe and Swaziland) would probably support the proposal. It will be necessary to lobby the Governments of the main rhinoceros product consuming countries in the Far East (China, Singapore, South Korea, and Vietnam) for their support of a legal, controlled, responsible system. It should surely be possible to cultivate a situation of mutual respect of the positions of the producers and consumers of a product that has almost exclusive cultural value. The Western Governments, and in particular the United States, United Kingdom, Germany and France should also be lobbied for their support, or at least for a neutral position. Kenya, whose wildlife utilisation policy has more in common with animal rights positions than with sustainable use of natural resources, and India, would probably oppose the proposal in principle.

Community leader Benjamin Dipati's first contact with a rhinoceros

While rhinoceros ownership has been largely restricted to white landowners in the past in South Africa this situation is now changing rapidly. There are a growing number of land restitution claims which have resulted in black communities receiving ownership of game ranches with white and black rhinoceros populations. Some of these communities have committed their land to conservation and ecotourism and could also be expected to want to share in the rhinoceros horn trade if it becomes a reality. This could provide a further motivation for conservation, as opposed to subsistence agriculture, as a form of land use supported by rural communities.

Rhinoceros horn growth and yield

Studies carried out on horn growth and horn characteristics of Southern white rhinoceros in South Africa (Pienaar, Hall-Martin & Hitchins 1991) provide sufficient information for projections of the possible production of horn from private land to be made. White rhinoceros horns grow at an average of 50.5 mm per year over all age classes. However horns grow faster in young animals with growth rates for calves (less than one year old) being more than twice the rate of adults. The growth rate slows down with age and in old animals (greater than 25 years) there is very little growth. Young adults (8-20 years) have a horn growth rate of 60 mm per year and this is the age group that would be most likely used for horn production. The mean anterior horn mass of adult white rhinoceros is 5.16 kg, with the horns of males being heavier (6.12 kg) than females (4.02 kg). Because rhinoceros are constantly rubbing their horns on rocks and trees they wear them down into the typical pointed shape with a sharp tip (Pienaar et al 1991, Pienaar & Hall-Martin 1991) and most of the growth of horn is lost in time. It is the sharp tip that makes the rhinoceros horn effective as a weapon which is far more likely to be employed against another rhinoceros than against predators.

Measuring horn growth in an adult white rhinoceros bull

It is recommended that a large base is left when rhinoceros horns are harvested so as not to damage the area where growth actively takes place. The height of the stump left behind should be at least 150 mm high (above the hairline to avoid cutting into the sinuses) accounting for

up to 2.0 kg of horn. It is likely, therefore that on the first harvest an adult male will yield 3.16 kg of horn, and adult female 2.02 kg of horn, a sub-adult male 2.16 kg and a sub-adult female 1.02 kg of horn. For purposes of discussion it can safely be assumed, therefore, that the average yield per rhinoceros would be 2.09 kg on first harvest. These are conservative yields. It is estimated that the rhinoceros could replace its horn by natural growth to its original size in 3-5 years. To maximise production, however, rhinoceros horns could be harvested every three years and should yield a minimum of about 2.0 kg of horn per rhinoceros in each cycle of three years.

The population structure of the current crop of 4000 white rhinoceros, based on the figures of Castley & Hall-Martin (2005) indicate that 560 animals would be classified as calves and would not be harvested, 2112 would be sub-adults (2-7 years old) and 1328 would be adults (<7 years). It would only be necessary for a maximum of 15% of the sub-adult and adult population (516 animals) to be used for horn harvesting for the first harvest to yield 1078 kg of horn. In the second and third years a different 15 % of the sub-adult and adult population could be harvested and from year four onwards the harvest could return to the original 15%. In total, therefore a constant yield of 1000 kg of rhinoceros horn could be produced from a harvest from 15% of the population.

The maximum number of rhinoceros being poached in South Africa and Zimbabwe is currently about 150 animals per year (both black and white rhinoceros) during 2008. About 80% of these are white rhinoceros yielding a total average of 5.88 kg of horn (Pienaar, Hall-Martin & Hitchins 1991). The 20% of black rhinoceros in the poachers haul would yield on average 2.65 kg per animal (Pienaar, Hall-Martin & Hitchins 1991). These average yields are derived from samples of populations ranging from calves to adults and are, therefore, likely to be a realistic reflection of what poachers are taking. The total illegal harvest of rhinoceros horn from poaching at current levels is, therefore, about 785 kg per year. There can be little doubt, therefore, that a legal harvest from only 15% of the current white rhinoceros population on private land in South Africa could yield 20% more than the amount of rhinoceros horn currently being poached in Southern Africa, without any animals being killed. The 15% level chosen for purposes of this discussion is arbitrary and the actual number of animals utilised for horn harvests would most likely be determined by the market price as influenced by supply and demand. It could potentially be many times more and the rhinoceros industry on private land alone could sustain a harvest of 3000 kg per year into the future. Such a level of production would still leave 55% of the total private white rhinoceros population unutilised for horn production and available for the ecotourism industry where rhinoceroses are expected to have attractive horns and for trophy hunting which will still make a significant contribution to the economics of farming rhinoceros.

Economics

At the current prices being realised in South Africa the legal harvest of horn from 15% of the white rhinoceros population would yield ZAR 150 000 000 per annum (about US$ 20 million) which far exceeds the amount currently spent on rhinoceros protection and conservation from all sources nationally and internationally. The South African rhinoceros population has the capacity to produce more horn than has been factored into

the above arguments. This could be expected to have an impact on the prices realised in the market place. However, even if the price falls by a factor of ten, it would still be worthwhile for the rhinoceros owners to harvest and sell the horn. Economics would then dictate that poaching, which should then be an even higher risk enterprise than it is at the present time, would no longer be worthwhile. The value currently captured by middlemen would be retained by the producers and the consumers.

Biological issues

It has been argued that a rhinoceros with its anterior horn reduced to a stub would be vulnerable to predators, and that cows could not defend their calves. This, mostly, does not apply to rhinoceros on private land in South Africa where there are very few predators. Previous surveys have not recorded any mortalities due to predation, but the current survey lists five immature white rhinoceros killed by lions. A larger percentage of mortalities, however, were due to rhinoceros being killed by adult male rhinoceros, and this figure might be reduced if horns are removed. It is also possible that a rhinoceros with a horn stub may be more vulnerable to a rhinoceros with a full horn in any social conflict. While there is no indication that rhinoceros are in any way inconvenienced by having their horns docked, there may be unexpected social consequences.

Comparisons with the ivory ban

Some conservationists argue that the CITES ban on the trade in elephant Loxodonta africana tusks has been successful, yet recent media reports speak of a resurgence in elephant poaching. Nonetheless, they argue that a continued trade ban on rhinoceros horn would achieve the same success if diligently applied. The fundamental differences between the situation regarding elephants (large numbers still extant, most living outside of formally protected areas and producing a product for which the main market was in the West) and rhinoceros is dealt with in some detail by t'Sas Rolfes (1995). The main use of rhinoceros horn is in traditional Chinese medicines. It is a cultural use by people not reachable by the dramatic public hysteria of the mainstream conservation NGO's of the West. Chinese use small quantities of rhinoceros horn in medicines not because they are perverse and want to destroy rhinoceroses, but because they believe in its efficacy, and have done for several thousand years. Furthermore if rhinoceros horn can be produced in sufficient quantities to satisfy the demand for it, at no risk to the life of the rhinoceros, there would seem to be little logic in trying to ban its use. The consequence of consigning the rhinoceros horn trade to criminals is the decline of rhinoceros populations. The consequence of allowing the owners of the rhinoceros to trade in harvested horn, will be more investment in rhinoceros protection and more habitat for rhinoceros. The question of whether a legal trade in African rhinoceros horn (initially only white rhinoceros, but in time black rhinoceros as well) would be detrimental to the conservation of Asian rhinoceros does require serious attention. It is well known that African and Asian rhinoceros horns are easily distinguishable (Martin 1991, t'Sas Rolfes 1995) and that the prices for Asian horn is many times higher than for African horn. Law enforcement need not, therefore be compromised by legalising African horn. It is also pointed out by t'Sas Rolfes (1995) that Asian horn was not used in Yemen or South Korea or even in Chinese medicines because of the prohibitive price.

Rhinoceros horn stockpiles

It has been postulated in previous reports that the current size of the rhinoceros horn stockpile owned by the private sector is about 3000 kg, while the State institutions held 12 000 kg of rhinoceros horn as at the end of 2007 (Knight 2008). At the current price of ZAR 150 000 per kg in South Africa these stockpiles are worth ZAR 2.3 billion. Most of the private owners of rhinoceros horn would like to sell their rhinoceros horn, the view of the State has not been canvassed. Clearly, however, the legal sale of rhinoceros horn has the potential to generate significant revenue for the individuals and organisations protecting most of the world's white rhinoceros and black rhinoceros.

Philosophy

Several private initiatives are currently being circulated in South Africa to promote the idea of a legal harvest and trade in rhinoceros horn. None of these, however, carries the weight of authority and leadership that could be provided if WWF were to champion this cause, or at the very least give it careful consideration. We can do no more than quote, once more, an opinion expressed some time ago by the leading players in the field of wildlife trade and control: **"Rhinoceros face a grave crisis and those who purport to hold the survival of the five species above everything else must be prepared to examine all available options with open minds and a will to seek lasting solutions.....including acceptance of the possibility that restricted avenues of trade may be part of the solution."**

Paraphrased from "The Decline of the Black Rhinoceros in Zimbabwe: Implications for Future Rhinoceros Conservation" Tom Milliken, Kristin Nowell and Jorgen B. Thomson. TRAFFIC, Cambridge, 1993.

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