



## The South Africa – Viet Nam Rhino Horn Trade Nexus:

A deadly combination of institutional lapses,  
corrupt wildlife industry professionals  
and Asian crime syndicates

By Tom Milliken and Jo Shaw

with contributions from  
Richard H. Emslie, Russell D. Taylor  
and Chris Turton

### A TRAFFIC REPORT



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White Rhino.

TIM JACKSON/AFRICA GEOGRAPHIC

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## ABBREVIATIONS AND ACRONYMS USED

ACSA	Airports Company South Africa
AFP	Agence France-Presse
AfRSG	African Rhino Specialist Group
ANC	African National Congress
AROA	African Rhino Owners Association
ASEAN-WEN	Association of Southeast Asian Nations Wildlife Enforcement Network
AWF	African Wildlife Foundation
BMP	Biodiversity Management Plan
BRREP	Black Rhino Range Expansion Programme
CAWT	Coalition Against Wildlife Trafficking
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CHASA	Confederation of Hunters Associations of South Africa
CoP	Conference of Parties
CSV	Centre for the Study of Violence and Reconciliation
CTGST	Commercial Taxidermists and Game Skin Tanners of South Africa
DEA	Department of Environmental Affairs
DEFRA	Department of Environment, Food and Rural Affairs
DPCI	Department of Priority Crime Investigations
ECWG	INTERPOL Environmental Crime Working Group
EKZNW	Ezemvelo KZN Wildlife
EMI	Environmental Management Inspector
ESPU	Endangered Species Protection Unit
EWT	Endangered Wildlife Trust
FIFA	Fédération Internationale de Football Association
GDARD	Gauteng Department of Agriculture and Rural Development
IUCN	The World Conservation Union
KNP	Kruger National Park
KZN	KwaZulu-Natal
KWS	Kenya Wildlife Service
MARD	Ministry of Agriculture and Rural Development
MINMEC	Provincial Ministers of Executive Councils for Environment Affairs and the Director Generalband Minister of DEA
NEMA	National Environmental Management Act
NEMBA	National Environmental Management: Biodiversity Act
NGO	Non-Government Organization
NPA	National Prosecuting Authority
NPB	Natal Parks Board
NWCRU	National Wildlife Crime Reaction Unit
NWO	Northern Wildlife Organisation
ORTIA	O.R. Tambo International Airport (Johannesburg)
PERC	Political and Economic Risk Consultancy
PH	Professional Hunter
PHASA	Professional Hunters Association of South Africa
POCA	Prevention of Organized Crime Act
PROA	Private Rhino Owners Association
RESG	Rhino and Elephant Security Group
RhoDIS	Rhino DNA Index System
RMG	Rhino Management Group
SADC	Southern African Development Community
SAGRO	South African Game Ranchers Organization
SANDF	South African National Defence Force
SANParks	South African National Parks
SAPS	South African Police Service
SAPHCOM	South African Professional Hunting Committee
SARS	South African Revenue Service
SAVA	South African Veterinary Association

SAVC	South African Veterinary Council
SCI-AC	Safari Club International – Africa
SSC	Species Survival Commission
TASA	Taxidermy Association of Southern Africa
TCM	Traditional Chinese Medicine
TOPS	Threatened or Protected Species
TRAFFIC	The wildlife trade monitoring network
UNEP	United Nations Environment Programme
UNDP	United Nations Development Programme
USD	United States Dollar
VGL	Veterinary Genetics Laboratory
VND	Vietnamese Dong
WAZA	World Association of Zoos and Aquaria
WCS	Wildlife Conservation Society
WCMC	World Conservation Monitoring Centre
WESSA	Wildlife and Environment Society of South Africa
WRSA	Wildlife Ranching South Africa
WTA	Wildlife Translocation Association
ZAR	South African Rand

*Exchange rates for South African Rand (ZAR) and Vietnamese Dong (VND) into United States Dollars (USD) are indicative and were calculated during drafting of the report between January 2011 and June 2012.*

## EXECUTIVE SUMMARY

This document summarizes TRAFFIC's comprehensive overview of events and dynamics currently driving an escalating illicit trade in rhino horns from South Africa to Viet Nam. Whilst it is recognized that there are other dimensions to the rhino horn trade within Africa and in Asia, this examination of the two principal countries serves to bring into focus many prominent characteristics of a still unfolding wildlife trade crisis of global importance. The story for South Africa is a data-rich narrative that underscores the intense preoccupation and commitment of that nation regarding rhino conservation. In contrast, almost no empirical data exist for understanding the Vietnamese side of the equation, which comes into focus primarily through a growing body of observational and anecdotal accounts. Regardless of any shortcomings, it is hoped that this effort will make a valuable contribution towards understanding the salient factors both in source country and end-use market that underlie the current rhino crisis. In turn, this knowledge should lead to remedial strategies, actions and interventions that serve to mitigate and prevent further losses of Africa's iconic but threatened rhino species.

### THE SITUATION AT THE SOURCE: SOUTH AFRICA



A White Rhino *Ceratotherium simum simum* cow and calf.

South Africa, a vast country spanning the bottom of the African continent, unquestionably has the world's most successful conservation record for rhinos. In 2011, this country alone conserved 83% of Africa's rhinos and nearly three-quarters of all wild rhinos worldwide. As one of the most biologically diverse nations globally, South Africa has long promoted biodiversity conservation through the sustainable use of natural resources. In fact, the country's constitution enshrines these principles, calling for: "a prosperous, environmentally-conscious nation, whose people are in harmonious coexistence with the natural environment, and which derives lasting benefits from the conservation and sustainable use of its rich biological diversity". With such an enabling environment, it is not surprising that, since the 1960s, there has been a marked shift to wildlife-based land-use amongst private landowners, and today game ranches in South Africa cover an area nearly three times the collective size of all national and provincial protected areas on State land. Wildlife in general, but rhinos in particular, have benefitted tremendously from these visionary natural resource policies. But the country's superlative conservation record of more than a century is under threat. Ironically, the fate of South Africa's rhinos is now inextricably linked with market forces in Viet Nam, a country that recently saw its own rhino population slip into ignominious extinction.

### RHINO NUMBERS

In sharp contrast, all specimens of the southern subspecies of White Rhinoceros *Ceratotherium simum simum* originate from a remnant population of 20 to 50 animals that have been protected in the Hluhluwe-iMfolozi Game Reserve since 1895. South Africa now conserves 18 800 White Rhinos, which represents nearly 95% of Africa's total White Rhino population. The remarkable recovery of the Southern White Rhino via Natal Parks Board's "Operation Rhino", which pioneered wildlife translocation and other important management strategies, remains one of the world's greatest conservation triumphs. Part of this achievement rests with the country's private sector who account for a growing proportion of the national White Rhino population. Estimates from 2010 indicate that approximately 25% of all White Rhinos in South Africa are privately owned. South Africa is justifiably proud that the Southern White Rhino is now listed in the IUCN Red List's Near Threatened category and, although conservation dependent, the subspecies is no longer regarded as a threatened or endangered species.

Africa's other rhino species, the Black Rhinoceros *Diceros bicornis*, has not fared nearly as well. The estimated 100 000 Black Rhinos in Africa in 1960, prior to the first catastrophic rhino poaching crisis, were nearly wiped out and plummeted to just 2410 animals by 1995. Since then, numbers have more than doubled to 4880 animals in 2010, but this species is still considered Critically Endangered in the IUCN Red List. A different story has unfolded in South Africa, however, where Black Rhino numbers have shown a steady increase since the 1980s. South Africa now conserves an estimated 1915 Black Rhinos – more than any other range state – and nearly 40% of all wild Black Rhinos alive today. Again, the private sector has played a major role in Black Rhino conservation, holding approximately 22% of South Africa's current population.

### LAWS AND POLICY

In recent years, legislation relating to wildlife conservation in South Africa has undergone revision to reflect political changes in the country and the increased interest in game ranching and private wildlife ownership. Historically, nature conservation in South Africa was governed at the provincial level, but since 2004 wildlife management has been regulated nationally by the *National Environmental Management: Biodiversity Act, Act 10 of 2004* (NEMBA). In addition, *Threatened or Protected Species Regulations* (TOPS) were implemented on 1 July 2007 to provide a national standard for the protection and utilization of listed threatened or protected species in South Africa, including all White and Black Rhinos, regardless of whether they constitute owned or wild populations or are located on private, State or communal land. However, the stringency of these regulations has caused considerable tension amongst local, provincial and national stakeholders, with some claiming that the level of compliance necessary is excessive, to the point of being unworkable.

Sport hunting of White Rhinos in South Africa resumed in 1968 at a time when only 1800 rhinos populated the entire country. Over the next four decades, White Rhino numbers in South Africa increased by an order of magnitude and, rather than hindering population growth, trophy hunting is widely regarded as having been a positive force by contributing to biological management, range expansion, the generation of revenue for conservation authorities and incentives for wildlife conservation for a broad range of stakeholders. The hunting industry and spin-off services directly employ some 70 000 people, mostly in rural areas. There are about 500 trophy hunting outfitters and some 3000 professional hunters who are supported by hundreds of wildlife professionals, including game capture and translocation specialists, wildlife veterinarians and taxidermists. Rhinos are a key component of the game industry. For example, from 2008–11 White Rhino sales generated over ZAR236 million (approximately USD35.5 million) for the main wildlife sales organizations, represented by two wildlife authorities and one private auction company. South Africa's wildlife industry is highly developed and constitutes a dynamic and viable economic enterprise competing favourably with agriculture and other forms of land use.

In October 1975, South Africa became a Party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the 15th nation to join the Convention. Since 1977, all rhino species have been in Appendix I of CITES, which prohibits commercial international trade in rhinos and their products and derivatives, including hunting trophies. In 1994, the White Rhino population of South Africa was listed in Appendix II with an annotation that states: "for the exclusive purpose of allowing international trade in live animals to appropriate and acceptable destinations and hunting trophies. All other specimens shall be deemed to be specimens of species included in Appendix I and the trade in them shall be regulated accordingly". Following this decision, the number of White Rhinos auctioned and sport hunted in South Africa has steadily increased and, from 1995 through 2011, an estimated 1000–1300 White Rhinos have been hunted.

## WHITE RHINO TROPHY HUNTING

Since resumption in 1968, South Africa's hunting market has traditionally been dominated by hunters from North America and Europe, both continents with longstanding sport hunting traditions. For some 35 years, rhino hunting unfolded without apparent abuse. From 2003, however, there has been an insidious increase in non-traditional hunters, especially Vietnamese nationals, who purposely began to exploit loopholes in South Africa's legislation to obtain hunting trophies for a revived rhino horn trade in Asia. Flat-footed and slow in response initially, the South African government has since implemented a successive series of measures imposing ever more stringent rules on White Rhino hunts in an attempt to curtail the abuse. For example, rhino hunts are now restricted to one hunt per hunter in each 12-month period of time, government personnel must witness each hunting event, rhino horns cannot be exported as part of a hunter's personal baggage, the hunter's home country must demonstrate sufficient legislation to ensure the trophies remain "non-commercial personal effects", each rhino horn trophy has to be micro-chipped and DNA samples taken for inclusion in the Rhino DNA Index System at the Veterinary Genetics Laboratory in Pretoria. Controls on taxidermists were also strengthened. On another related policy front, since 2011, all live rhino exports to *ex situ* locations are restricted to members of the World Association of Zoos and Aquariums, following concerns over recent exports to China which appeared to be part of an undisclosed commercial rhino farming venture for producing rhino horn medicines for the Chinese market in the future.

## ILLEGAL TRADE IN RHINO HORN

Rhino horn sourcing by organized crime syndicates in South Africa has taken many forms. Rhino owners and managers are constantly acquiring horns as retrievals from animals that died from natural or management-related causes or as recoveries from poached animals or seizures. All such horns are obliged to be registered with government and become part of the national rhino horn stockpile, which, since April 2012, utilizes a database system developed by TRAFFIC. Through 2010, South African government reports indicated just over 15 tonnes of rhino horns, including 12% in the possession of private owners. Since 2009, however, serious discrepancies in the volume of horn officially held by the private sector have been documented. It is strongly believed that unscrupulous wildlife industry players started selling unregistered "loose" horns to Asian crime operatives who were actively engaged in illegal rhino horn export operations to end-use markets. In responsive action, the South African government placed a temporary, but still standing, moratorium on national sales of rhino horns in February 2009 to curtail this practice.

Theft is another source of illegal rhino horn. As the value of rhino horn has increased, exhibited horns have increasingly been subjected to robberies throughout the country. At least 65 rhino horns have been stolen from public display within South Africa and a minimum of 46 horns have been taken from European institutions. Further feeding into this illicit trade, some corrupt wildlife industry individuals also began illegally dehorning live rhinos without the required permits and selling the horns to Asian buyers. Removal of horns from tranquilized rhinos has been shown to work as an effective deterrent to poachers in some instances, but dehorning live rhinos without the relevant permits for the purpose of obtaining horns for illegal trade is a development unique to South Africa.

A major source of horn supply for the illicit trade has been the rhino trophies derived from "pseudo-hunting" of White Rhinos by non-traditional hunters. Whilst this phenomenon effectively surged from 2006 onwards, serious doubts about the presence of Vietnamese nationals in sport hunting began to emerge earlier. Stories of hunters who were completely unable to shoot or disinterested in having trophies mounted for display first began to circulate in 2005. Later, an exposé of Thai sex-workers recruited as "hunters" was another sensational episode in the "pseudo-hunting" scam. From 2007 through 2009, Vietnamese hunters were second to U.S. sportsmen in terms of the number of rhino hunts conducted in South Africa. Between July 2009 and May 2012, Vietnamese accounted for 185 (or 48%) of the 384 foreign nationals who hunted rhinos in South Africa. It is estimated that, since 2003, Vietnamese hunters have paid more than USD22 million to hunt rhinos in South Africa. In 2009, the Professional Hunters Association of South Africa notably warned its members to avoid Vietnamese clients because of ongoing abuses and the questionable legality of their hunts. Finally, in April 2012, following at least 400 White Rhino hunts, South Africa's Department of Environmental Affairs moved to suspend any further issuance of hunting permits to Vietnamese hunters.

## ILLEGAL KILLING OF RHINOS

The most shocking aspect of the illegal trade in rhino horn has been the poaching of live rhinos on a brutal scale. For 16 years, between 1990 and 2005, rhino poaching losses in South Africa averaged 14 animals each year. In 2008, this figure rose to 83 and, by 2009, the number had reached 122 rhinos. In 2010, poaching escalated dramatically throughout the year, nearly tripling the toll and reaching 333 rhinos killed. In 2011, the total again climbed to a new annual record of 448 rhinos lost. The most recent data released by the government show that 251 rhinos have already been killed through 20 June 2012, a figure that extrapolates to a predicted annual total of 532. Together with Kruger National Park, three provinces, Limpopo, North West, KwaZulu-Natal and North West, which collectively account for nearly 90% of South Africa's rhino numbers, have consistently been hardest hit, representing over 75% of all poaching incidents in the past five years.

Detailed analysis of daily rhino losses in quarterly increments from 2010 to June 2012 show a progressive escalation through 2010, a levelling off to more than one rhino a day during most of 2011, but a major spike from the end of 2011 into the first quarter of 2012. The timing of this marked increase in rhino poaching rates partly coincided with a strike by field rangers in Kruger National Park between 3 February and 30 April 2012. Since April 2012, there has been a significant drop, a development that may be linked to the end of the strike and recent arrests of key syndicate players in Johannesburg. Looking at the same data to compare quarterly patterns, the period from October through December consistently shows the highest rate of poaching in each year and it can be seen that within each quarterly grouping the rate of poaching has increased. Thus, predictive statements about how poaching rates will play out through the rest of 2012 are only indicative. Yet, despite these unprecedented annual losses, the number of both White and Black Rhinos in South Africa continues to grow, as the number of births still exceeds the number of deaths, even when poaching mortalities are taken into account.

## LAW ENFORCEMENT AND RHINO CRIME

Regardless, the continuing year-on-year increase in illegally killed rhinos represents an unprecedented conservation crisis for South Africa. It also has underscored a new, very worrying dimension. Typically, rhinos are killed by shooting with guns, usually AK-47 assault rifles. More recently, however, a growing number of rhinos have been killed by a single shot from a high-calibre weapon characteristically only used by wildlife industry professionals or, less frequently, have been darted with immobilization drugs and had their horns removed. The use of such equipment, and other evidence that has even suggested the presence of helicopters at crime scenes, represents a completely "new face" in terms of rhino poaching. Such developments underscore the emergence of corrupt game industry insiders into rhino poaching. Rogue game ranch owners, professional hunters, game capture operators, pilots and wildlife veterinarians have all entered the rhino poaching crisis and become active players. This is a unique and devastating development in South Africa, severely tarnishing the image of a key stakeholder in the rhino equation even if the majority of private rhino owners and wildlife industry personnel remain committed to protecting rhinos and supporting rhino conservation.

By the same token, the complicity of South African national and provincial officials undertaking or enabling illegal trade has been documented. In terms of killing rhinos, four government rangers were arrested in Kruger National Park in 2012 and, at the Atherstone Nature Reserve in Limpopo, the reserve manager committed suicide after allegedly being implicated in five rhino deaths. Provincial administrators have repeatedly turned a blind eye to "pseudo-hunting", especially in North West and Limpopo provinces, and allowed rhino hunts to transpire that violate TOPS regulations. Concerns that officials in some provinces provide poaching gangs with intelligence have made some private sector owners reluctant to report mandated information on their live rhino numbers or rhino horn stockpiles. High-ranking wildlife officials have been exposed for having undisclosed interests in hunting operations that benefitted from receiving rhino hunting permits. Irregularities concerning the issuance of export permits for rhino trophies and live animals, and ensuring that all rhino hunts on private land are approved and documented at the national level, are perennial issues of tension between provincial officials and the Department of Environmental Affairs. Such transgressions, however, have been the exception rather than the rule. Following a slow start, national officials have accorded the rhino crisis the attention that it deserves, addressing problematic issues and tightening legislation and regulation as required.

Overall, South Africa's rhino horn trade has rapidly evolved into a sophisticated, efficient and highly-adaptive phenomenon that loosely links various combinations of rogue wildlife industry players,

government rangers or officials who can be coerced, compromised or corrupted into illegal activity, and Asian criminal operators. Of 43 documented arrests of Asian nationals for rhino crimes in South Africa, 24 were Vietnamese (56%) and 13 were Chinese (28%), with the remainder from Thailand and Malaysia. Furthermore, at least three officials based at Viet Nam's Embassy in Pretoria have even been documented participants in rhino horn trafficking.

Illicit rhino horn trade occurs along a trade chain that extends from the poacher at the site level in Africa through a series of middlemen buyers, exporters and couriers at local and international levels to an end-use consumer in a distant country, which today is usually Viet Nam. Using a conceptual framework to map criminal relationships, the South African National Wildlife Crime Reaction Unit has identified five distinct levels at which rhino horn trade syndicates are operating within and outside of Africa. The first three levels function nationally and represent the illegal killing of rhinos (Level 1), local buyers and couriers who receive the horns from the poachers (Level 2), and national couriers, buyers and exporters who consolidate horns from all sources: poaching, stockpile sales, thefts and illegal dehorning, as well as "pseudo-hunting" activities (Level 3). Linking Africa to distant markets, international buyers, exporters, importers and couriers (Level 4) are then responsible for the movement of horn to rhino horn dealers and consumers in the end-use markets (Level 5). These rhino crime syndicates are typically multi-national operations that also engage in criminal activities such as drug and diamond smuggling, human trafficking and trading other wildlife products like elephant ivory and abalone.

### SOUTH AFRICA'S RESPONSE

South Africa has progressively scaled up its response to rhino crime. In March 2009 a National Biodiversity Investigator's Forum was established and, in February 2010, a National Wildlife Crime Reaction Unit was launched to enhance data collection, information exchange and collaboration between law enforcement officials at provincial and national levels. A national strategic plan for addressing the rhino crisis is now being implemented in a stepwise manner. Led by the South African National Parks, the purchase of MEMEX, a sophisticated but expensive information management tool, introduces state-of-the-art software for data management and higher level analysis. The National Prosecuting Authority has made rhino crime a priority and, by late 2010, dedicated rhino crime prosecutors were appointed in each province to plan and execute more expansive legal strategies so that, in addition to the basic rhino crime, racketeering, money laundering, fraud, corruption and tax evasion charges are added to the mix. The South African Police Service's Asset Forfeiture Unit has also been employed to seize assets from those charged with serious rhino crime, which in one recent case involved the seizure of ZAR55 million (approximately USD7.3 million) of property. In August 2011, the South African National Defence Force was first mobilized to fortify security in Kruger National Park. Plans call for over 200 military personnel to augment the 500 anti-poaching staff under park administration, although this level of support may still fall short of required manpower densities for combating rhino crime effectively. Private security and anti-poaching units have also proliferated, and some rhino owners have resorted to injecting dye and poison into the horns of living rhinos or entirely removing horns to deter poachers. And finally, there has been a groundswell of public support and fund- and awareness-raising around the rhino poaching crisis, both in South Africa and internationally.

All of these actions may now be paying off. So far, the arrest rate in 2012 of those involved in rhino crime is nearly twice that of 2010 and 2011. This success is primarily attributed to increased intelligence activities, better analysis of data, greater communication and collaboration between different government departments and improved co-ordination. Moreover, during the second quarter of 2012, there have been a number of high-value arrests of Vietnamese and other Asian nationals believed to be operating as international exporters, playing senior roles in illegal rhino horn crime circles. These developments have coincided with a significant decline in the rate of rhino poaching in South Africa since April 2012 which may be linked to the plethora of recent arrests, successful intelligence-based investigations, and general disruption of the trading syndicates behind the carnage.

At the same time, penalties may finally be moving into deterrence territory. Bail is now rarely allowed and African nationals successfully prosecuted for the illegal killing of rhinos have received custodial sentences, typically of 10 years, with added penalties for trespassing into protected areas and illegal possession of firearms. Couriers or suspects transporting horn out of South Africa are receiving sentences of five to 12 years in prison and are often additionally charged with fraud, tax evasion, Customs or permitting offences for which further fines or prison terms are imposed. And the prospect of asset forfeiture also looms large for those with wealth from illegal sources. On the other

hand, it is worth noting that a number of important cases are ongoing which involve high-profile private sector individuals charged with serious rhino crime. None of these individuals has yet been convicted and punished, but the outcome of these cases could be pivotal for the future of South Africa's rhinos. If convicted, and given prison sentences commensurate with what has recently been imposed upon Asian nationals, others in the private sector may be deterred from becoming embroiled in the illegal rhino horn trade trap.

In terms of solutions, some private and government stakeholders are actively calling for the legalization of international trade in rhino horn, including the provincial conservation agency, Ezemvelo KZN Wildlife. While this issue remains unresolved and hotly contested at the present time, if South Africa ever wishes to conduct a legal rhino horn trade internationally, the country must win two-thirds majority approval at a future CITES Conference of the Parties. A legal trade proposal will need to identify participating trading partners and stakeholders; outline the structure, trading protocols and regulatory mechanisms in both source and consuming countries; describe security and marking systems to prevent mixing of legal horns and products with those of illegal origin; detail reporting, registration and stock inventory obligations; address the use of revenues generated; and describe public awareness activities to foster compliance and understanding. The Parties may choose to activate a "panel of experts" or some other body to vet the proposal, determine the acceptability of trading partners and/or audit implementation. A mechanism to stop trade in the face of compliance failures or unintended consequences will be required. Thus, the debate around legal international rhino horn trade will need to move beyond experimental theories and evolve into a solid functional specification outlining the mechanistic features and precise detail of a holistic trading system connecting both source and consumer countries. Only then can a meaningful discussion of this highly contentious topic begin to transpire.

## RECOMMENDATIONS

With the best conservation record for rhinos in the world, why is South Africa now gripped in a rhino crisis of unthinkable dimensions? In fact, a unique set of circumstances and a new criminal coalescence of players lies behind the carnage in this country. A potent mix of unscrupulous wildlife professionals, some corrupt government officials and hardened Asian criminal syndicates has converged to create the "perfect storm" for wreaking havoc on the country's rhino populations. To combat the illegal trade of rhino horn and associated threats to rhino populations, South Africa is urged to:

- Sustain strong **high-level political will** to make addressing rhino crime a non-negotiable, high-profile national priority;
- Address **capacity and resource constraints** affecting conservation authorities at national, provincial and site levels;
- Urgently design and implement a **secure, national, electronic permit system** for all activities related to threatened and protected species, specifically rhinos, that links to other databases on live rhino and horn stockpiles;
- Continue to support the implementation of **mandatory registration, marking and DNA sampling** of all legally-owned or held rhino horn stocks;
- Develop and enact **bilateral treaties** to promote **collaborative law enforcement action**;
- Ensure that **appropriate penalties**, which serve as an **effective deterrent** are given to those convicted of rhino crimes;
- Investigate the option of **denying** those charged with outstanding rhino crime cases **continued legal access to permits**;
- Improve **capacity for investigations, intelligence gathering and analysis**, and **communication and collaboration** between law enforcers at local, provincial, national and international levels;
- Tighten law enforcement activities at all **ports of entry and exit** from South Africa to better detect the illegal movement of rhino horn;
- Ensure **effective monitoring and regulation of sport hunting** of rhinos;
- Develop **better regulation** of professionals within the wildlife industry;
- Continue to designate rhino crime cases to **specific prosecutors** in each province; and
- Take an **objective and strategic** approach to assessing the long-term outcomes of any future interventions in relation to global rhino conservation objectives and trade.



## THE SITUATION IN THE END-USE MARKET: VIET NAM



Confiscated rhino horns in Viet Nam.

**D**emand in the Socialist Republic of Viet Nam, a Southeast Asian nation of nearly 87 million people and the world's 13th largest nation, is believed to be driving the rapacious illegal trade in rhino horn today. As a new generation economic powerhouse, Viet Nam's increasingly political-ly-unfettered economy is projected to be one of the world's fastest growing markets by 2025. Over the past decade, unprecedented levels of disposable income and lax government policy have awakened the trade in rhino horn. At the same time, rapidly changing attitudes in modern Viet Nam, where 65% of the population is under the age of 30, are fuelling a booming market for luxury products and giving rise to behaviour predicated upon conspicuous consumption. Viet Nam imported USD10 billion worth of luxury products in 2010 and, in many respects, the current trade in rhino horn is another aspect of indulgent, status-conscious consumption.

### RHINO NUMBERS

When this study commenced, like South Africa, Viet Nam was a rhino range State, harbouring continental Asia's only surviving population of Critically Endangered Javan Rhinoceros *Rhinoceros sondaicus annamiticus*. By early 2010, however, the last animal had been poached for its horn. The presumed extinction of an entire rhino subspecies has transpired with almost no recognition of the tragic dimensions of this biodiversity loss by the Vietnamese government. Regardless, Viet Nam's revived rhino horn trade had long shifted to new sources in Africa, and for nearly a decade the country has been the paramount destination for a resurgent illegal commerce out of Africa, especially from South Africa, where Vietnamese criminal operatives have become firmly embedded in the trade.

### RHINO HORN USES AND CONSUMERS

Rhino horn usage in Viet Nam has an ancient history, partially linked to traditional Chinese medicine of the immediate neighbour to the north, and partially charting a uniquely independent Vietnamese course. Now, both Western and traditional medicine are promoted by the government, but the scale of traditional medicine remains significant with at least 48 hospitals and institutes, over 240 departments

in central and provincial hospitals, and more than 9000 health centres reportedly licenced to practise traditional medicine. Historically, rhino horn usage in Viet Nam is associated with reducing temperature, especially internal heat in the blood, and purging the body and blood of toxins. The list of treatable ailments ranges from high fever, delirium and severe headache to measles, convulsion, epilepsy and stroke. Between 2002 and 2007, at least five comprehensive Vietnamese-language traditional medicine pharmacopoeias were published which feature sections on rhino horn as medicine.

There is, however, a wide and important gap between what the traditional belief systems purport to be the curative properties of rhino horn and the modern palliative applications that contemporary Vietnamese dealers push as the medicinal value of an animal product that is most closely related to horse's hooves. Indeed, rhino horn is now promoted as treatment for life-threatening diseases such as cancer, and this trade is underpinned by persistent urban myth and dubious hype indicating miraculous cures and remission following treatments. Reports of use of rhino horn as a panacea for cancer and other serious ailments were acknowledged by Vietnamese officials at an international meeting of the Coalition Against Wildlife Trafficking in Johannesburg in September 2011. Cancer causes the deaths of some 82 000 Vietnamese each year, according to the International Agency for Research on Cancer, and is indisputably a major growing health concern in the country. On the other hand, there is no clinical evidence of rhino horn having any pharmacological value as treatment for cancer in the peer-reviewed medical literature anywhere in the world. Although rhino horn remains widely associated with cancer treatment in Viet Nam, some local NGOs, including Education for Nature-Vietnam, report that such usage may be more limited than originally suspected.

At the same time, other information strongly suggests that the promotion of rhino horn as a cure for terminal illnesses in reality represents a cynical marketing ploy to increase the profitability of the illicit trade by targeting desperate, and often dying, people. Evidence of rhino horn "touts" deliberately seeking out individuals suffering from cancer in hospital settings underscores a controversial, if not predatory, aspect to rhino horn promotion in Viet Nam today. The exposure of real life experiences – failed treatment and unethical victimization – holds potential for changing public perceptions about the validity of rhino horn as medicine for serious illness, but publicity of this nature is only just beginning to emerge in the Vietnamese media.

Beyond the terminally ill, there are at least three other important rhino horn user groups in Viet Nam. In fact, the most obsessive usage of rhino horn today is completely unrelated to illness at all. Belief in rhino horn's detoxification properties, especially following excessive intake of alcohol, rich food and "the good life", has given rise to an affluent group of habitual users, who routinely mix rhino horn powder with water or alcohol as a general health and hangover-curing tonic. There is a strong, socially-bonding element to such consumption which typically unfolds at group functions, including so-called "rhino wine associations" in which other Asian expatriate business elites participate. This group of consumers also includes men who have embraced the curious notion that rhino horn functions as a cure for impotence and an enhancement to sexual performance. Use of rhino horn as an aphrodisiac in Asian traditional medicine has long been debunked as a denigrating, unjust characterization of the trade by Western media, but such usage is now, rather incredibly, being documented in Viet Nam as the media myth turns full circle. Collectively, this group personifies the cultural concept of "face consumption", whereby extravagant usage of something rare and expensive becomes a means to flaunt wealth, status and success amongst friends and associates. These consumers probably account for the greatest volume of rhino horn used in Viet Nam today and procurement usually transpires through informal channels, including internet distributors and social networks, often with links to government officials. Popular websites drive this usage with an endless stream of slick come-on slogans: "to improve concentration and cure hangovers", "rhino horn with wine is the alcoholic drink of millionaires", and rhino horn is "like a luxury car". This group generally uses rhino horn in the absence of a doctor's advice, and secondary industries supply paraphernalia for self-medication, specifically special rhino horn grinding bowls with serrated surfaces that are unique to Viet Nam.

A third consumer group represents a recent trend amongst middle to upper income young mothers who keep rhino horn at hand for home preparation of medicines to treat high fever, especially that which occurs in children. This usage also represents self-medication, but it transpires within the general framework of traditional medicine and may include some degree of consultation with medical practitioners. Social media and chat rooms serve to link these concerned mothers as a group.

And finally the fourth consumer group embraces the cultural imperative of giving expensive gifts as a means to curry favour with socio-economic or political elites. Thus, many rhino horns are apparently

purchased and offered as high-value, status-conferring gifts, indeed the ultimate “gift of life” so to speak. Related to gift giving is evidence that rhino horn is sometimes being used as an acceptable currency for luxury products, for example, in partial payment for a new car.

## LAWS AND POLICY

Any trade in rhino horn is ostensibly illegal under Vietnamese law. *Government Decree 32/2006/ND-CP on the Management of Terrestrial Endangered, Precious and Rare Species of Wild Plants and Animals*, of 30 March 2006, makes it illegal to hunt, shoot, trap, capture, keep, slaughter, endanger, exploit and use for commercial purposes, transport, process, advertise, trade, use, hide, export or import listed species, including Viet Nam’s native rhinos, or their products. Viet Nam has been a signatory to CITES since 1994, the 121st Party to the Convention. *Decree 82/2006/ND-CP on Management of Export, Import, Re-export, Introduction from the Sea, Transit, Breeding, Rearing and Artificial Propagation of Endangered Species of Precious and Rare Wild Fauna and Flora*, of 10 August 2006, covers international trade in endangered or threatened fauna and flora listed under CITES. For all CITES Appendix I species, including all non-indigenous rhino species, this law prohibits trade unless accompanied by valid CITES permits. Convictions pursuant to these laws can result in fines of up to VND500 million (approximately USD29,000), non-custodial reform (i.e. non-detention re-education) for up to three years, and/or from six months to seven years imprisonment.

With respect to the importation of legal rhino hunting trophies from South Africa, Viet Nam has recently instigated a policy requiring: a CITES export permit from the country of origin; the hunting permit issued by the country of origin; a copy of the passport of the Vietnamese hunter to verify presence in the country where the rhino was hunted; and a residence certificate issued by the local police. These documents, and consultation with South African authorities, may result in importation, but horn trophies are not eligible for trade and are taxed at the rate of 3% of their value calculated at USD25 000 per kg. South African authorities have, since 2010, routinely sent their Vietnamese counterparts the relevant information contained on CITES export permits in advance of legal export.

Many agencies and branches of government are involved in Viet Nam’s management and law enforcement structure with regard to rhino horn trade. The CITES Management Authority, under Viet Nam Administration of Forestry in the Ministry of Agriculture and Rural Development, is responsible for CITES Management. The Ministry of Public Security’s Environmental Police are charged with investigating rhino horn trade infractions, while the Ministry of Finance’s Department of Customs plays a key role monitoring the import and export of goods. The Ministry of Industry and Trade’s Department of Market Control has responsibilities for policing traditional medicine markets that illegally dispense rhino horn. Forensic testing of rhino horn is apparently possible at the Viet Nam Criminal Sciences Institute in the Ministry of Public Security, and at the Institute of Ecology and Biological Resources in the Viet Nam Academy for Science.

## ILLEGAL TRADE IN RHINO HORN

As an illegal commodity, rhino horns are secretly traded, albeit a relatively “open secret” in many local traditional medicine and wild meat markets. Increasingly, rhino horns are being sold through retail outlets unrelated to the traditional medicine community. Internet trading through business and social networking sites is common, while other informal channels and personal connections serve political, economic and social elites in the trade. In some cases, hospital staff or other individuals function as rhino horn “touts”, actively seeking consumers amongst terminally ill patients. At the same time, there are large numbers of fake rhino horns on the market and fraud remains endemic.

The availability of rhino horns in Viet Nam has changed appreciably over time. Market surveys in 1990/1991 found rhino horn to be noticeably absent. Over the past decade, however, rhino horns have been imported directly from Africa, and local demand has grown remarkably. Although Vietnamese government officials have confirmed that there is no trophy hunting tradition in the country, the first 10 Vietnamese rhino hunts in South Africa commenced in 2003. According to CITES export data, from 2003 through 2010, 657 rhino horns were legally exported from South African as trophies to Viet Nam, but that country’s import data only show 170 rhino horns, indicating that 74% of the trade went undeclared. The failure to adequately account for legal rhino horn trophies not only fosters rampant illegal trade, but Viet Nam has lost nearly USD2 million in tax revenue. Beyond sport hunting, illegal trade networks supplying Viet Nam have also acquired hundreds of rhino horns from other illegal sources in South Africa, including poaching, theft and unregistered stocks held in the private sector. Personnel

affiliated with the Vietnamese Embassy in South Africa have also been complicit in the trade.

Rhino horns are continually arriving in Viet Nam through a diversity of channels, including airline routes that connect Johannesburg with Hanoi or Ho Chi Minh City via Hong Kong, Bangkok, Kuala Lumpur and Singapore. Maputo in Mozambique also seems to be emerging as a new staging base for rhino horns moving out of Africa to Viet Nam. Most smugglers are young or middle-aged males, and some have reportedly made multiple trips as regular couriers. Land routes from neighbouring Lao PDR have also been used to smuggle rhino horns (possibly from Thailand) into Viet Nam. There is very little evidence suggesting that rhino horns are moving from Viet Nam to China: only two seizures involving three horns have been documented to date.

Rhino horn trade remains a highly sensitive issue in Viet Nam allegedly owing to the direct involvement of senior government figures. Anecdotal reports of government complicity in allowing “free passage” and “protection” continue to surface; Vietnamese diplomats in Africa and officials at international airports apparently function as important sources of rhino horn; while certain dealers and users in Viet Nam often claim protective immunity from law enforcement actions because of their local connections. The corruption monitor Transparency International ranks Viet Nam within the top one-third of countries of concern in terms of its corruption perception index. The fact that the public sector is much larger than its private counterpart and average government salaries remain low, is often cited as a key factor contributing to corruption in Viet Nam.

Rhino horn seizures are nonetheless occurring, mostly at the international airports in Hanoi and Ho Chi Minh City, but also at border crossings along the Lao border and, rarely, in the marketplace. The government has reported that, by mid-2009, some 100 kg of rhino horns had been seized, and, from 2004 through 2008, there were at least 10 cases of illegal selling of rhino horn in domestic markets. But there is no evidence of any recipients of legal hunting trophies ever subsequently being prosecuted for failing to prevent their trophies from entering commercial trade. In fact, Viet Nam lacks a credible system for tracking legal hunting trophies to ensure they do not enter trade. Further, none of these seizures appears to have led to broader investigations that identify the criminal syndicates behind the trade. And finally to June 2012, no rhino horns have reportedly been seized in Viet Nam since 2008, although the data in South Africa tell a remarkably contradictory story of record numbers of rhinos illegally killed, Vietnamese hunters applying for trophy hunts, and Vietnamese nationals arrested with illicit rhino horns.

## RECOMMENDATIONS

Whilst it is acknowledged that the situation continues to be dynamic and evolving, hence knowledge gaps inevitably remain, and the roles and dimensions of other countries in the trade (such as China and Thailand) remain out of focus at this point in time, the growing body of evidence clearly indicates that Viet Nam is the world’s leading destination and consumer of rhino horn. Moreover, this highly unfortunate status is unlikely to change any time soon unless Viet Nam moves to:

- Demonstrate **strong political will** to make rhino horn crime a national priority;
- Review and strengthen **legislation and penalties** concerning illegal rhino horn trade;
- Address **infractions** regarding **legally-imported rhino horn trophies** from South Africa that have subsequently entered commercial trade;
- Curtail **internet advertising** and trading in rhino horn;
- Address the issue of **“fake” rhino horns** in the marketplace;
- Develop and implement **bilateral treaties** to promote collaborative law enforcement action with South Africa and others;
- Develop a **strict regulatory mechanism** to track legal rhino horn trophies;
- Employ **effective law enforcement strategies** in the market place;
- Commit adequate **financial and human resources** to fighting rhino horn crime;
- Support ongoing **research and monitoring**;
- Promote **demand reduction activities**; and
- Undertake **clinical trials and peer review research** on the medicinal properties of rhino horn as a step towards promoting alternative substances.

# INTRODUCTION

Africa's rhinos have faced two catastrophic crises over the past 50 years. The first crisis extended from the late 1970s through the mid-1990s and saw most rhino populations decimated through relentless waves of poaching to support traditional rhino horn trades for medicine in Asia and the production of dagger handles in Yemen. Many rhino range States saw their Black Rhinoceros *D. bicornis* populations completely disappear or plummet to levels that were a mere shadow of the thousands that had previously existed. From an estimated 100 000 animals throughout Africa in 1960, Black Rhino numbers collapsed to an historic low of only some 2410 animals by 1995 (Emslie *et al.*, 2007), including the near extinction of the western subspecies of Black Rhino *D. b. longipes*. The northern subspecies of the White Rhinoceros *C. s. cottoni* fared even worse and was completely obliterated throughout its range save for a small remnant population – numbering about 30 – in the Democratic Republic of Congo's Garamba National Park on the border with Sudan. Comparatively speaking, the southern subspecies of the White Rhinoceros *C. s. simum* suffered far less attrition during this period as most populations were found in either South Africa or Namibia. These two nations stood as the exception to the rule and averted most of the negative impacts of the first rhino crisis due to an unwavering government commitment to rhino conservation, diligent investment in protection and biological monitoring, and a strong alliance between non-governmental organizations (NGOs), local communities, private and public sector stakeholders to promote common objectives.

Under the force of a concerted international outcry, poaching pressure and illegal trade gradually abated. CITES served as the global vehicle for focusing international action and systematically pushing major consuming countries in Asia and the Middle East to instigate and implement rhino horn trade bans. The threat of sanctions under the United States' *Pelly Amendment* to the *Fishermen's Protection Act of 1967*, an important piece of national conservation legislation that provides a Congressional process for bilateral sanctions to be imposed against countries seen to be undermining international species conservation policy, added targeted teeth and muscle to the effort. By the mid-1990s, almost all major traditional consuming countries/territories in Asia, including China, Hong Kong, Japan, South Korea and Taiwan, had rhino horn trade bans in place and meaningful demand reduction efforts took tangible shape. Finally, remaining rhino range States in Africa, often with international donor or NGO financial and technical support, moved to bolster law enforcement operations to protect rhinos, including a number of large-scale dehorning operations and the consolidation of vulnerable rhino populations into sanctuaries or intensive protection zones in many countries.

As a result of these major and concerted conservation efforts, the decade following the mid-1990s held the promise of revival for Africa's beleaguered rhino populations once again. Indeed, numbers gradually began to edge upwards and, by 2010, Black Rhino numbers had doubled to 4880 animals (Emslie, 2011a). At the same time, the Southern White Rhino positively flourished with ever-increasing numbers and expanding range, generating important revenues from wildlife tourism, live animal sales and limited sport hunting for key stakeholders. Throughout East and southern Africa – apart from sporadic but nonetheless catastrophic flare-ups of civil war in places like Garamba National Park, which reportedly wiped out the last population of Northern White Rhino (Milliken *et al.*, 2009b) – rhino conservation in Africa generally made important strides towards recovery over the ensuing decade. The threat posed by large-scale rhino poaching and unfettered rhino horn trade largely receded to become a background concern, allowing conservation efforts to focus upon biological management of meta-populations, range expansion and reintroductions to enhance the recovery of rhino species in Africa.

But any optimism for an unqualified conservation success story has now been seriously compromised, if not shattered. A second rhino crisis is now upon us, causing unprecedented rhino losses in Zimbabwe and South Africa, two of the world's undisputed strongholds for the species. Fears that large-scale rhino killing might spread to other parts of Africa are not unwarranted given the history of the rhino horn trade being underpinned by a progressive poaching conflagration successively affecting one rhino population after another. The prospect of a spreading global poaching contagion even threatens the three Asian rhino species, whose status in the wild is more precarious than Africa's rhinos. The emergent rhino horn trade between South Africa and Viet Nam stands as the most serious challenge to rhino conservation in Africa over the past 15 years and threatens to undermine decades of conservation achievement. Indeed, the fact that this second rhino crisis has been precipitated by a previously dormant and generally overlooked minor Asian market for rhino horn, and that the most significant losses are occurring in a



Black Rhino *Diceros bicornis* dehorned cow and young calf.

country where the White Rhino is the emblem of the nation's greatest conservation success in modern history, is all the more shocking.

In many respects, Viet Nam's emergence as the leading driver behind a new wave of rhino carnage represents a remarkable, unexpected development and manifests many contemporary attributes that defy previous approaches for addressing rhino horn as medicine in an Asian setting. This report was undertaken to document the scale and characteristics of the new illicit trade linking Africa with Asia. It is crucial to assess and understand the characteristics and motivation of this phenomenon if remedial strategies, actions and interventions are to meet with success in curtailing rhino poaching in South Africa. The record in terms of effective law enforcement actions still needs to be clearly established and, if possible, "lessons learned" captured for future application. Further, it is well established that organized wildlife trade crime groups are actively responding to increased law enforcement with an adept resilience and adaptability. To the extent possible, it is important to document current *modus operandi* and underlying dynamics in order to understand and meet future challenges. Essentially, South Africa is at a crossroads and it is not yet clear whether the country will be able to arrest the unprecedented assault upon its rhinos.

At the other end of the trade chain, this report also examines the use and consumption of rhino horn in Viet Nam, which since 2003 has rapidly grown to become the world's largest recipient of both legal and illegal sources of horn from South Africa. Regardless, rhino horn trade and usage in this market has largely remained an undocumented mystery. It is of paramount importance to document the domestic forces that drive demand in Viet Nam and the response of the Vietnamese government, especially its law enforcement agencies, to this challenge. This report offers the first, in depth, contemporary study of the situation in Viet Nam. Whilst it makes an important contribution to our understanding of that market, far more work needs to be done on this topic in Viet Nam specifically and throughout Asia more generally. Better knowledge of the structure of the consuming market is a pre-requisite if holistic solutions to illegal trade and usage are to be found and effective, collaborative law enforcement actions promoted.

In summary, rhino conservation in Africa is once again in the grip of an overwhelming crisis that has the potential to wipe out the incremental gains of the past 15 years. This report provides a comprehensive overview of the still-emerging events and dynamics that underpin the escalating illicit trade in rhino horn from South Africa to Viet Nam. Whilst it is recognized that there certainly are other dimensions to the rhino horn trade, both within Africa and in Asia, by drilling down deeply into the two principal countries, this study brings into focus the most prominent aspects of a still unfolding phenomenon. It is hoped that this effort will make a valuable contribution towards understanding the factors behind the present carnage and, in turn, point the way toward solutions that serve to mitigate and prevent further losses of two of Africa's most iconic species, the Black and the White Rhino.



Southern White Rhinos *Ceratotherium simum simum*.

TIM JACKSON/AFRICA GEOGRAPHIC

## METHODS

In South Africa, data and historical information for this study were initially gathered through a series of meetings and personal interviews with key individuals in national and provincial environmental wildlife agencies in Bloemfontein, Cape Town, Johannesburg, Nelspruit, Polokwane, Pretoria and Skukuza (see “Acknowledgements” for a full list of individuals contacted). These efforts were augmented by a comprehensive literature search to obtain published reports of the rhino conservation story in South Africa and ongoing internet searches to stay abreast of breaking media, journalistic and other accounts of a wide range of rhino conservation and trade issues. Trade data on legal exports of rhino horn and other products were acquired on-line from the UNEP-WCMC CITES wildlife trade database. Further, the Department of Environmental Affairs (DEA), South African National Parks (SANParks) and provincial wildlife agencies all provided data and statistics on the conservation status of Black and White Rhinos on State and private land, poaching and anti-poaching operations, horn stockpiles, sport hunting of rhinos and details of illicit trade and crime syndicates. The Law and Policy Unit of the Endangered Wildlife Trust (EWT) made available invaluable data on rhino horn thefts and seizures, as well as details of arrests and prosecutions of those involved in rhino crime. Attendance at important rhino meetings and conferences also yielded critical data and information, including the Rhino Security Workshop held in Skukuza, Kruger National Park, under the auspices of SANParks, EWT and the Wildlife and Environment Society of South Africa (WESSA) in June 2009; the IUCN/SSC African Rhino Specialist Group meeting held at Mokala National Park in South Africa in March 2011; the African Wildlife Forum organized by Safari Club International in October 2011; the South African White Rhino Biodiversity Management Plan meeting held under the auspices of DEA in October 2011; the Private Rhino Owners Association Rhino Summit held in November 2011; the South African Parliamentary Hearings on Rhino Poaching in January 2012; the Rhino Emergency Summit held by the African Wildlife Foundation (AWF) and Kenya Wildlife Service (KWS) in Nairobi in April 2012; the EWT Rhino Expert workshop in April 2012 and the first National Rhino Conservation Dialogue Workshop held by DEA in May 2012.

Additional information was acquired during the South Africa/Viet Nam rhino horn trade missions, which TRAFFIC staff organized and fully participated in. The week-long series of meetings between South African and Vietnamese government law enforcement officials occurred in Viet Nam in October 2010 and South Africa in September 2011. These bilateral exchanges produced some important insights and increased understanding on the trafficking in rhino horn between these two countries. The latter exchange coincided with the Rhino Horn Trafficking Workshop of the Coalition Against Wildlife Trafficking (CAWT), organized by TRAFFIC in East/Southern Africa and funded by U.S. Department of State and the U.K. Department of Environment, Food and Rural Affairs (DEFRA), in Johannesburg during September 2011. This event, which included delegates from Kenya, Malaysia, Mozambique, South Africa, U.K., U.S. and Viet Nam, and presentations from China and Canada, served to put illegal rhino horn trade into a globalized context.

In Viet Nam, TRAFFIC’s research was primarily undertaken via a comprehensive review of literature on recent seizures, media reports on the trade, other information available on the internet in either English or Vietnamese, and an analysis of trade records in the UNEP-WCMC CITES wildlife trade database. Since 2009, TRAFFIC staff have periodically held discussions with Vietnamese medical practitioners and academics working in related biological and social sciences to collect information on the perceptions of consumers and the characteristics of the domestic rhino horn trade. Early attempts to discuss rhino horn trade issues with the relevant government agencies yielded little information initially. Since then, the Forest Protection Department under the Ministry of Agriculture and Rural Development, which is the primary agency responsible for controlling wildlife crimes, as well as the Anti-Smuggling Unit under the General Department of Customs, the Protocol Department of the Ministry of Foreign Affairs and the Office of INTERPOL in Viet Nam have all become more engaged on this issue.

In March 2010, the Vietnamese CITES Management Authority, in response to the TRAFFIC/IUCN rhino document presented at CITES CoP15, produced an information document highlighting recent actions taken by the Vietnamese government on a range of rhino horn trade issues. Thoughtful discussions with the Vietnamese government led to the South African delegation of law enforcement officers visiting Viet Nam on rhino horn trade issues in October 2010, and a return trip of Vietnamese officials to South Africa in September/October 2011. During these events, dialogue with Vietnamese government and industry officials was forthcoming and informative, yielding significant information for this study. Further, a draft Memorandum of Understanding (MoU) between South Africa and Viet Nam to collaborate on natural resource management, wildlife protection and law enforcement was an important output from these deliberations.

# RHINO POPULATIONS IN SOUTH AFRICA AND VIET NAM

At the outset of this study, both South Africa and Viet Nam shared a common identity as rhino range States. Although tens of thousands of kilometres apart, and separated by oceans and continental landmasses, both nations hosted rhino populations, albeit different species, as part of their indigenous fauna for millennia. But beyond that commonality, the rhino conservation paths of these two countries have diverged sharply. On one hand, South Africa holds the most impressive conservation record for rhinos of any rhino range State globally. From only having a single remnant breeding population of Southern White Rhinos numbering 20 to 50 animals in 1895, the country now holds 18 800 White Rhinos, which represents 93.2% of Africa’s total White Rhino population (Emslie, 2011b). As of the beginning of 2011, South Africa conserved 82.7% of all rhinos (both Black and White Rhinos) in Africa and nearly three-quarters of the world’s wild rhinos. On the other hand, and at the other end of the spectrum, Viet Nam’s own vestige rhino population, the rarest of all extant subspecies, was only rediscovered as recently as 1988, but by 2011 was recognized as extinct.

Ironically, South Africa’s superlative rhino conservation record of more than a century is now being threatened and the fate of its rhinos seems inextricably intertwined with market forces in Viet Nam, a country that recently saw its own rhino population slip into ignominious extinction.

## BLACK RHINO POPULATIONS IN SOUTH AFRICA



Black Rhino, South Africa.

Over the past 50 years, Black Rhino numbers throughout the African continent have experienced a precipitous decline. In 1960, it was estimated there were perhaps 100 000 wild Black Rhinos in Africa, yet the catastrophic poaching crisis described above reduced this to a low of only 2410 animals by 1995 (Emslie *et al.*, 2007) (Figure 1). The 97% decrease in African Black Rhino numbers represents one of the most dramatic crashes of any large mammal species in recent history.

However, the pattern in Black Rhino numbers seen in South Africa is markedly different to that of much of the rest of Africa (Figure 2). In 1933, South Africa only had about 110 Black Rhinos in two populations, which at the time represented less than 1% of the world population. Since 1980, Black Rhino numbers in South Africa have shown a steady increase and today South Africa conserves more Black Rhinos than any other rhino range State, with a total of 1915 animals at the beginning of 2011 (Emslie, 2011b). Namibia is the only other rhino range State where Black Rhino numbers have shown a steady increase from 1980 to the present.

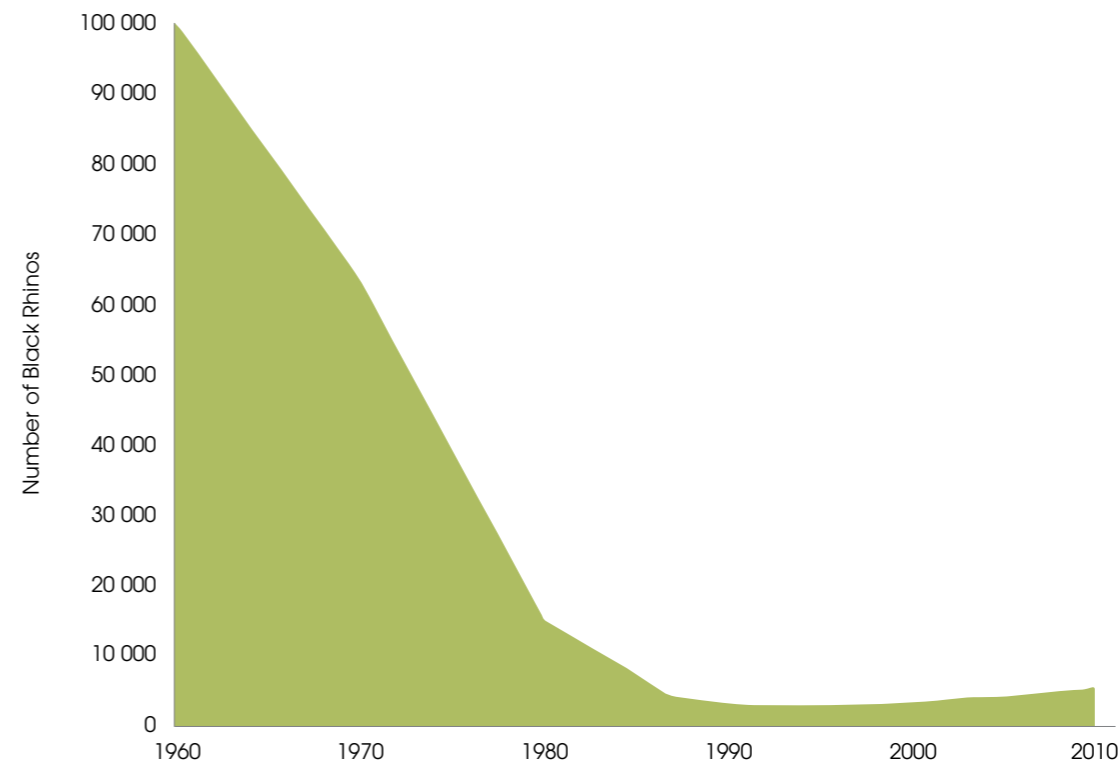


Figure 1 Number of Black Rhinos in Africa from 1960 to 2010 (data from R. Emslie)

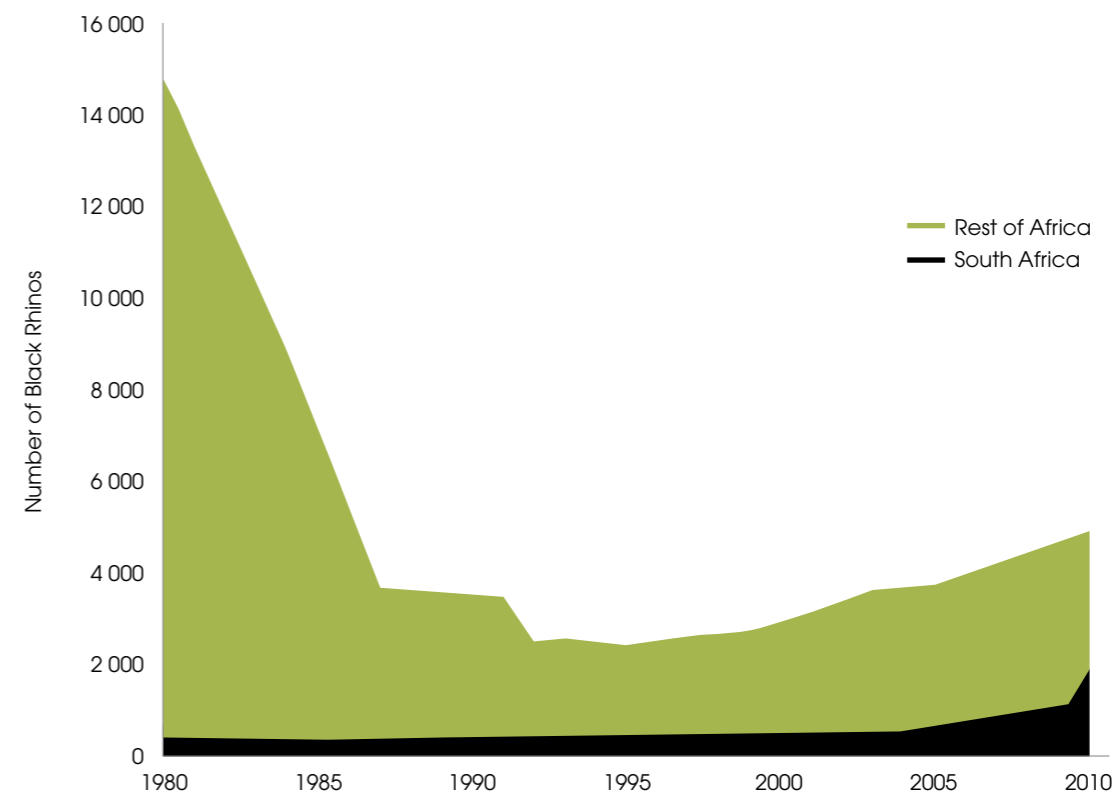


Figure 2 Trends in total Black Rhino numbers in South Africa and in the rest of Africa between 1980 and 2010 (data from R. Emslie)

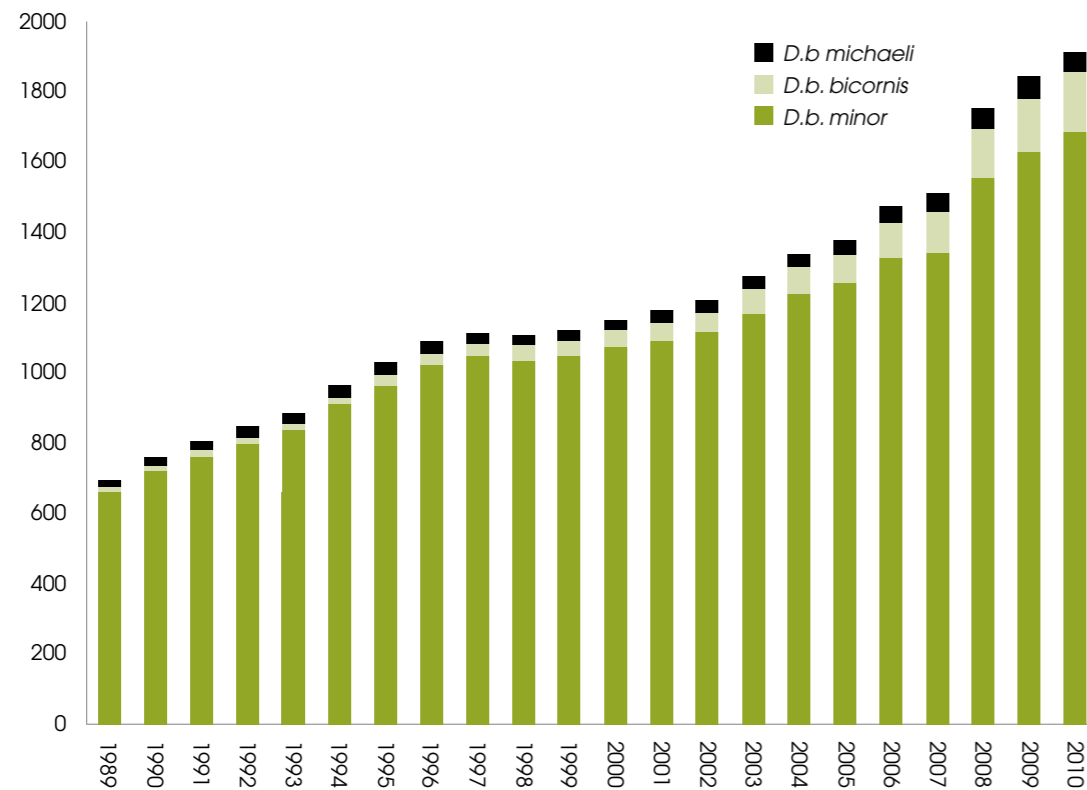
Black Rhino Subspecies	Numbers of Black Rhinos (1992)			Numbers of Black Rhinos (2010)		
	South Africa	Africa	Percentage (%)	South Africa	Africa	Percentage (%)
<i>D. b. minor</i>	771	1432	53.8	1684	2220	75.9
<i>D. b. bicornis</i>	20	519	3.9	171	1920	8.9
<i>D. b. michaeli</i>	28	489	5.7	60	740	8.1
<i>D. b. longipes*</i>	0	35	0	0	0	0
<b>Total</b>	<b>819</b>	<b>2475</b>	<b>33.1</b>	<b>1915</b>	<b>4880</b>	<b>39.2</b>

**Table 1** South Africa's Black Rhino population by subspecies in relation to total estimated Black Rhino numbers in Africa in 1992 (Brooks, 1992) and as of 31 December 2010 (Emslie, 2011b).

\* The fourth Black Rhino subspecies, *D. b. longipes* which previously occurred in West and Central Africa, was confirmed extinct in the IUCN Red List in November 2011 (Emslie, 2011c).

Furthermore, South Africa is also the only rhino range State to be conserving all three extant Black Rhino subspecies: *D. b. minor*, *D. b. bicornis* and the out-of-range *D. b. michaeli*. In addition to conserving nearly 40% of Africa's total estimated Black Rhino numbers, South Africa is the main stronghold for the *D. b. minor* subspecies, conserving over three-quarters of the wild population (Table 1). The proportion of all three subspecies conserved by South Africa has increased since 1992.

Since 1997, South Africa's Black Rhino population has been steadily growing at around 4.8% per annum (Knight, 2011). The largest single population of Black Rhinos in South Africa is found in Kruger National Park (KNP), where the most recent survey conducted south of the Olifants River in 2009 estimated 627 animals (or between 588 and 666, taking into account error associated with estimating population abundance) (Ferreira *et al.*, 2011). Figure 3 illustrates the continued growth in numbers of all Black Rhino subspecies in South Africa since 1989. It should be noted that the increase in 2008 is due to a change in survey methodology in KNP using helicopter block counts which provide more accurate information than the previous method.



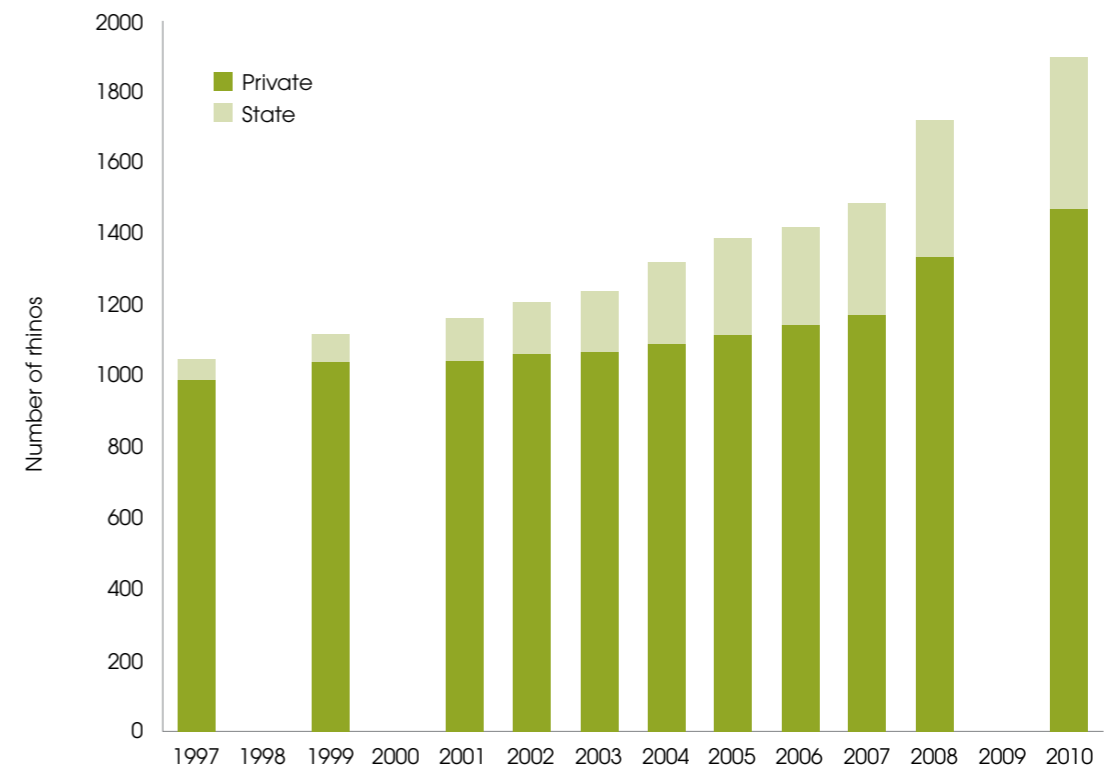
**Figure 3** Estimated numbers of subspecies of Black Rhinos in South Africa, 1989-2010 (data from Knight, 2011)

The latest Black Rhino Biodiversity Management Plan (BMP) in South Africa has been reviewed and approved by the Provincial Ministers of Executive Councils for Environment Affairs and the Director General and Minister of DEA (otherwise known as MINMEC) and is currently in the final stages of ministerial approval. This plan has a long-term vision of reaching more than 3000 Black Rhinos in the country, with three sub-populations greater than 100 animals each and at least 10 other populations of more than 50 animals each for the two indigenous ecotypes (*D. b. bicornis* and *D. b. minor*). For the third subspecies (*D. b. michaeli*), a native of East Africa and not indigenous in South Africa, policy dictates that these animals remain within a single population and are not mixed with other subspecies. The long-term goal is for these animals to be repatriated to their former range in East Africa (Knight, 2011).

The private sector in South Africa is playing a considerable role in achieving growth in Black Rhino numbers. From 2003 through 2010, Black Rhino private property owners increased from 18 to 43 properties (Knight, 2011), with an average property size of 190 km<sup>2</sup>, which in total supported an estimated 446 Black Rhinos in 2010. In 1997, the seven private properties with Black Rhino conserved just over 5% of the country's Black Rhinos, but by 2010, 22% of all Black Rhinos in the country occurred on private land (Figure 4), demonstrating the importance of private ownership in the recovery of this species. The number of private properties holding more than 10 Black Rhinos increased from 13 in 2007 to 19 in 2010, with the maximum number of Black Rhinos on a single property being 60 animals (Knight, 2011). The WWF-funded Black Rhino Range Expansion Programme (BRREP) has contributed to South Africa's rhino conservation strategy since 2003 by creating seven new Black Rhino populations.

### WHITE RHINO POPULATIONS IN SOUTH AFRICA

In the eyes of the world, the White Rhino is emblematic of South Africa's commitment to wildlife conservation. Increasing from just 20 to 50 animals in 1895, the country now has 18 800 White Rhinos, an extraordinary conservation achievement and one that pioneered many fundamental rhino management strategies and techniques. In 1960, all of the world's Southern White Rhinos remained in one population in Hluhluwe-iMfolozi Game Reserve, necessitating the development of translocation procedures. Since the first successful translocation took place in 1961 as part of Natal Parks Board's



**Figure 4** Numbers of Black Rhinos on State and private land between 1997 and 2010 (Knight, 2011).

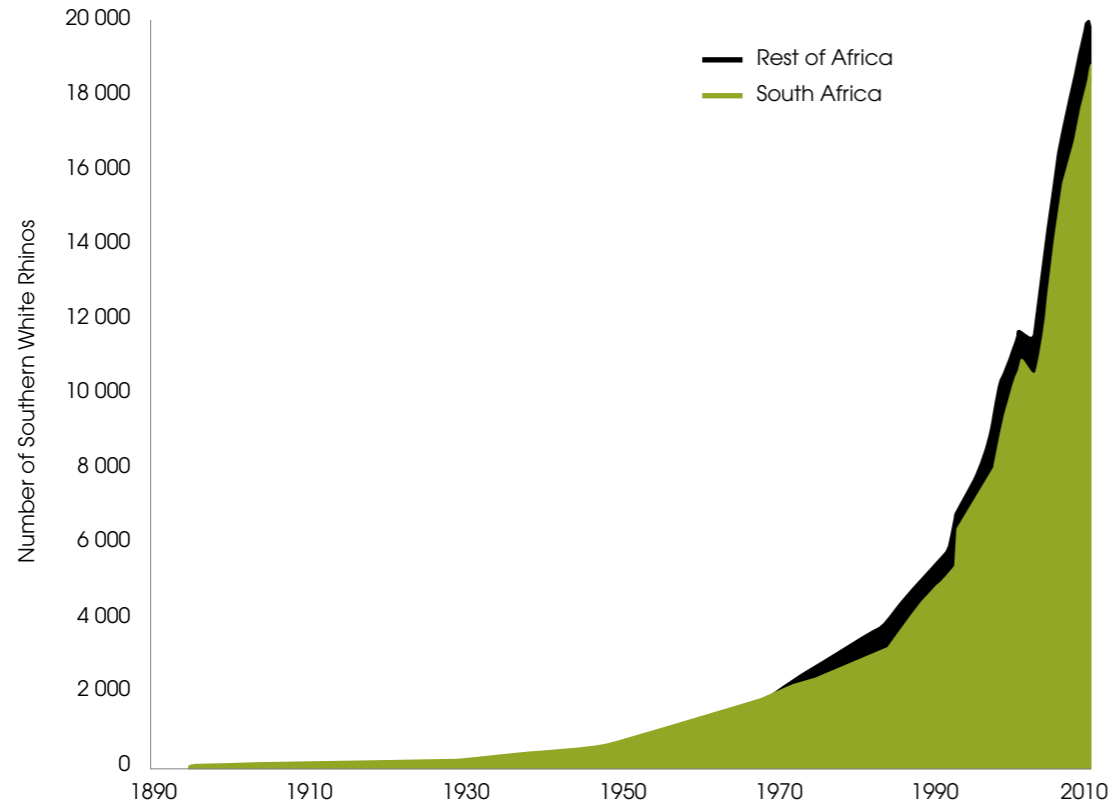


Figure 5 Growth in numbers of wild Southern White Rhinos in Africa from 1895 to 2010 (data compiled by R. Emslie)

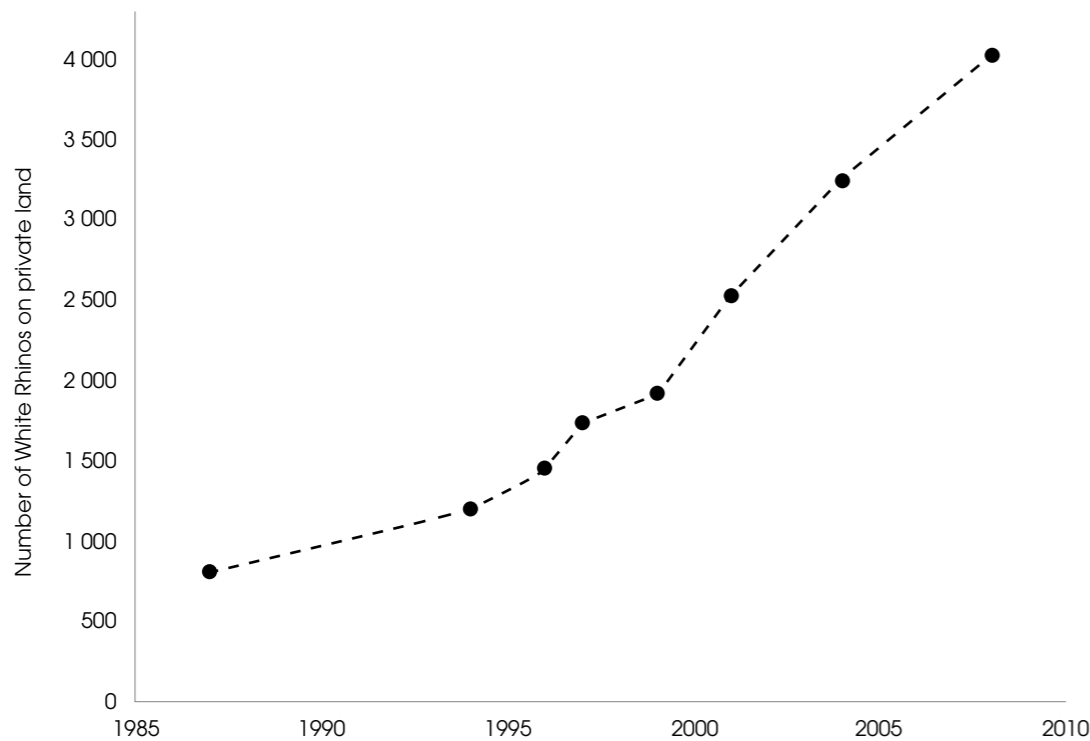


Figure 6 Numbers of White Rhinos on private land (excluding zoos) in South Africa, 1987-2008 (data from Knight, 2011)



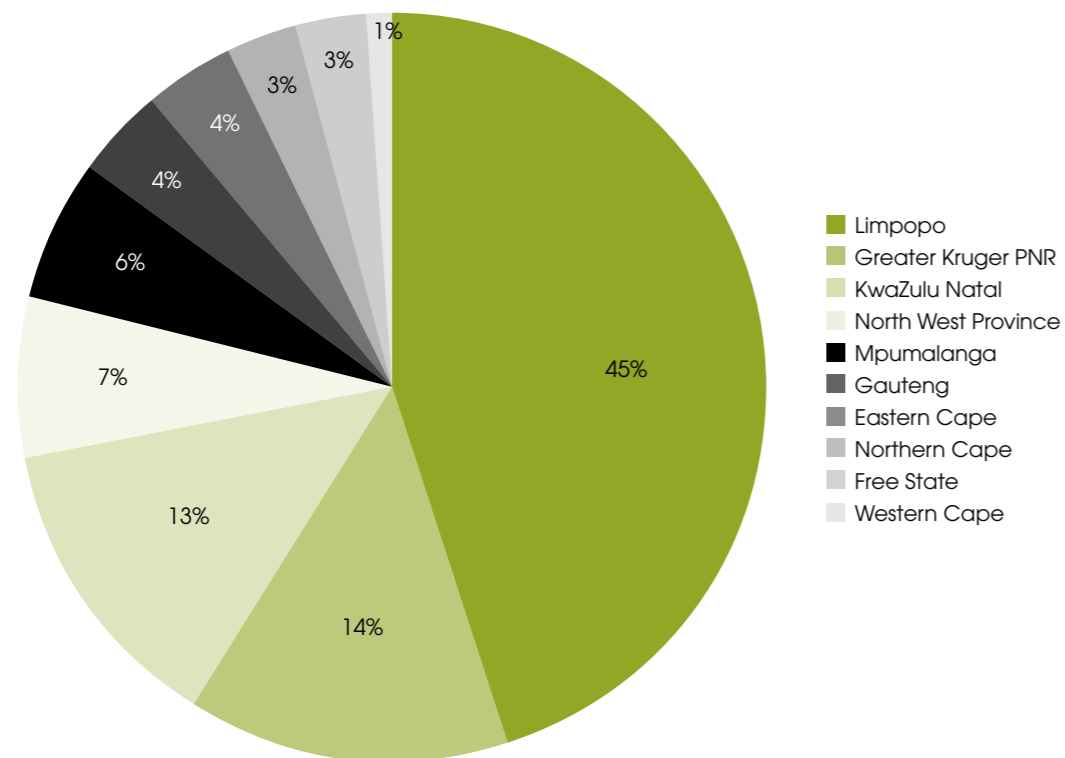
Southern White Rhino cow and calf, South Africa.

“Operation Rhino”, thousands of rhinos have been moved within South Africa and, as a result, rhino range and numbers have steadily increased by an order of magnitude from 1800 in 1968 to 18 800 animals in 2010 (Figure 5).

The first international translocations to another African country occurred in 1987 and, by 2010, Southern White Rhino numbers had increased to 1370 animals in eight other African nations. South Africa still holds more than 93% of Africa’s Southern White Rhinos, a figure that is currently estimated to total 20 160 animals (Emslie, 2011b). The Southern White Rhino is now listed in the IUCN Red List’s Near Threatened category and, although conservation dependent, is no longer regarded as a threatened or endangered species.

The first South African White Rhino strategy was facilitated by the SADC Rhino Management Group (RMG) and approved by MINMEC in February 2000. Following a request from the Minister of Environment and Water Affairs, the SADC RMG was tasked with preparing a new management plan for White Rhinos. In October 2011, a stakeholder’s workshop developed a draft plan, the vision of which was to ensure the future survival of White Rhinos through increased numbers and suitable habitat in South Africa, to maintain populations that are economically and ecologically sustainable, and to provide a source for repopulating former rhino range States (Knight, in prep.). The short-term goal in the new plan will be to sustain a minimum growth of 5% per annum over the next five years, setting a target for the national meta-population to reach 25 000 by 2016.

From mid-1992 to the end of 2010, nearly two decades, the White Rhino population in South Africa has grown at an impressive average of 7.1% per annum (R. Emslie, pers. comm., 2012). White Rhino populations on State land are currently estimated to number about 14 200 animals and approximately 75% of these are located in KNP. In addition, White Rhinos owned by private individuals are forming an increasingly large proportion of the total national population. Latest estimates from 2010 indicate that approximately 4580 or some 25% of all White Rhinos in South Africa are privately owned (Knight, 2011; Figure 6).



**Figure 7** Relative proportion of White Rhino numbers on private land by province in South Africa in 2008 (data from Hall-Martin *et al.*, 2009)

There have been eight surveys of private sector White Rhino populations since 1987 and the ninth is currently in progress (Buys, 1987; Buijs, 2000; Buijs and Pappenfus, 1996; Emslie, 1994; Castley and Hall-Martin, 2002; Castley and Hall-Martin, 2005; Hall-Martin *et al.*, 2009; Shaw *et al.*, in prep.). The 2004 survey of White Rhino populations on private property identified a total of 3247 animals (Castley and Hall-Martin, 2005), whilst the study conducted in 2008 indicated that the number had increased to 4033 (Hall-Martin *et al.*, 2009). In 2008, nearly three-quarters of South Africa's privately-owned White Rhinos were found in Limpopo, KwaZulu-Natal and North West provinces and in private nature reserves in Limpopo and Mpumalanga provinces that border KNP (Hall-Martin *et al.*, 2009; Figure 7). TRAFFIC, in collaboration with the SADC RMG and Wildlife Ranching South Africa (WRSA), is currently undertaking an updated survey of the number of White Rhinos on private land in South Africa as of 31 December 2011. Preliminary results from this ninth survey suggest the current numbers are likely to be over 5000 (E. Daffue, pers. comm., 2012).

The annual growth rate of White Rhinos in the private sector has also been around 6.1% per annum from 2005 through 2008, although the actual net recruitment figure is much lower as 723 rhinos were either exported as live animals, killed as hunting trophies, died during capture or were poached during this period (Hall-Martin *et al.*, 2009). By 2008, there were six IUCN/SSC AfRSG-rated "Key 1" populations of more than 100 animals on private properties outside of the "Greater Kruger" private nature reserves and five "Key 2" populations of between 50 and 100 White Rhinos (Hall-Martin *et al.*, 2009). In addition, there were at least 10 known IUCN/SSC AfRSG-rated "Important" populations of between 20 and 50 rhinos (Hall-Martin *et al.*, 2009). In 2008, 395 private properties holding White Rhinos were identified, an increase from 332 in 2004 (Hall-Martin *et al.*, 2009). Hence, while there were some significant White Rhino populations on private land, the majority of rhino owners are small-scale operations and the average number of rhinos per property was estimated at 10.2 (Hall-Martin *et al.*, 2009).

Those undertaking recent surveys have noted that accurate statistics are difficult to compile as the numbers of properties involved in White Rhino conservation are variable and ever-changing, with owners periodically taking up new properties, selling existing landholdings and/or the rhinos on them, or allowing sport hunting of rhinos. Hall-Martin *et al.* (2009) lamented:

*The carrying out of this survey has been fraught with frustration and endless delays. The level of co-operation afforded by many individual owners of white rhinoceroses, their managers, the provincial and national authorities has been disappointing. The professional hunters and individuals involved with hunting were particularly unhelpful. Much of the official co-operation was grudging at best and many owners and management authority officials refused outright to provide information when requested.*

However, it was also noted that:

*The level of involvement and the quality of the contributions of many officials [named in acknowledgements], a number of landowners with large rhino populations, wildlife vets who work with rhinos on a regular basis, and operators in the wildlife trading [and transport] industry were far more positive than could have been imagined.*

*There is a growing realisation among thinking owners of rhinos that the rhino industry in South Africa is at a crossroads. However, there is also a grave sense of foreboding about the onslaught of poaching of rhinos on private property in South Africa and the abuse of the CITES concession to allow trophy hunting.*

### JAVAN RHINO POPULATIONS IN VIET NAM

The IUCN Red List's Critically Endangered Javan Rhinoceros *R. sondaicus* was, until recently, found in only two populations. One, in Ujung Kulon National Park in western Java, Indonesia is estimated to number fewer than 50 animals based on a 2008 census and comprised only the subspecies *R. s. sondaicus*. Another population was only discovered by scientists in 1989 in a forest location in southern Viet Nam at a time when it was widely assumed that no rhinos could have survived the years of conflict in the country. This area became proclaimed as Cat Tien National Park, and until relatively recently held the last estimated five to 12 animals of the only other surviving Asian continental mainland population of the Javan Rhinoceros subspecies *R. s. annamiticus*. Since then, this remnant population appeared to be in steady decline, based on the number of camera trap photos obtained in the area (Milliken *et al.*, 2009b). A WWF project using sniffer dogs to find evidence of rhino presence led to the discovery in April 2010 of a rhino carcass with a gunshot wound in the leg. The horn had been removed from the carcass. Genetic tests found that the last 22 dung samples collected between 2009 and 2011 had all originated from this one animal (WWF, 2011; Brook *et al.*, 2012). Hence, with the poaching of this last known rhino for its horn, as of October 2011, rhinos in Viet Nam are presumed to be extinct.



Vietnamese subspecies of Javan Rhino *Rhinoceros sondaicus annamiticus*.



# THE SITUATION AT THE SOURCE: SOUTH AFRICA



## BACKGROUND

South Africa is a vast and diverse country covering more than 1.2 million km<sup>2</sup> and ranging from arid desert near the Atlantic Ocean in the west to lush tropical coastline in the east along the Indian Ocean. In the past 20 years, the country has undergone one of the most dramatic political changes of recent times, switching from an apartheid system of racial segregation to a parliamentary system with fully participatory democracy. At the end of apartheid in 1994, the four original provinces (Cape, Natal, Orange Free State and Transvaal) and the “independent” and “semi-independent” Bantustans or black African homelands (Transkei, Bophuthatswana, Venda, Ciskei, Gazankulu, KaNgwane, KwaNdebele, KwaZulu, Lebowa and QwaQwa) were abolished. Nine new provinces were created; Eastern Cape, Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, North West, Northern Cape and Western Cape. Each province is now governed by unicameral legislature, which is elected every five years based on party-list proportional representation.

South Africa is one of the most biologically diverse countries in the world, despite covering only 2% of the global land area, it is home to nearly 10% of the world’s plants as well as 7% of the reptiles, birds and mammals (www.sanbi.org). Specifically, South Africa continues to harbour significant populations of African large mammals, including the famous “Big Five”: elephant, lion, leopard, buffalo and rhino, which are integral to its appeal as a wildlife tourism destination. Overall, the country has a relatively stable mixed economy with key economic sectors including commercial, mining, service, manufacturing and industrial as well as tourism (Carruthers, 2008). At the same time, human development indices are relatively low due to high levels of inequality in income distribution and unequal distribution of resources and opportunities (Van der Berg, 2010). Crime is a prominent issue in South Africa and research conducted by the South African government in 2007 concluded that for a range of socio-economic and political reasons, the country is exposed to unusually high levels of violent crime (CSV, 2010). Crime and increasing corruption are also considered a severe constraint on investment by many enterprises in South Africa (Stone, 2006).

The vision in South Africa’s constitution is:

*a prosperous, environmentally conscious nation, whose people are in harmonious coexistence with the natural environment, and which derives lasting benefits from the conservation and sustainable use of its rich biological diversity.*

Hence, policies promoting both consumptive and non-consumptive utilization of natural resources are applied and these contribute to both the national economy and the sustainable development of the country. South Africa’s considerable and diverse natural resources open up a wide array of investment possibilities. However, as a signatory to various international environmental agreements, South Africa is concerned to protect its natural resources and promote their sustainable use.

## SOUTH AFRICA’S WILDLIFE INDUSTRY

The growth of the game ranching industry in South Africa since the 1960s has been described as “a conservation revolution” (Bothma *et al.*, 2004). Greater numbers of wildlife occur in South Africa today than has been the case for many decades. This is true not only in the country’s national parks and formal game reserves, but also on private property where wildlife is often harvested as a source of meat, hunted for trophies, traded as live animals and viewed by ecotourists (Du Toit, 2007). The business of commercial game ranching or wildlife management on private property has contributed immeasurably to improvements in techniques of translocation, capture and immobilization, resulted in a resilient market in the sale of live animals, provided a source of protein for local and export markets, and encouraged the growth of a new professional class of wildlife managers and consultants (Carruthers, 2008).

Not surprisingly, the country’s wildlife industry is one of the most developed in the world, with game ranching commonly viewed as an important conservation tool that produces major economic benefits (von Wietersheim, 1988, quoted in Barnett and Patterson, 2005). Indeed, most game ranches are businesses first and foremost, competing to attract customers and maximize profits and to provide the necessary revenue to fund conservation activities. For example, the total income generated by a game auction on a single wildlife ranch in South Africa in September 2011 was ZAR91.3 million (nearly USD12.2 million), including a record-breaking ZAR18.0 million (approximately USD2.4 million) for a live, disease-free breeding bull buffalo (Brunt, 2011). Private game ranches in South Africa today cover an area of about 20.5 million hectares (or 16.8% of the country), nearly three times the 7.5 million hectares (6.1%) of national and provincial protected areas on State land (PHASA, 2010). For some species, it is claimed that the number of animals on private property is almost double that of the same wildlife species found in the country’s protected areas (PHASA, 2010). Furthermore, the ratio of game animals to livestock is steadily increasing in the private sector. In 1964, cattle, goats and sheep numbered about 57 million, while game animals totalled some 600 000 on private land; by 2007, these numbers had changed to 38.5 million livestock and 18.5 million game, reflecting the importance of the wildlife industry as a viable economic enterprise in South Africa (du Toit, 2007).

## Game ranching associations

Private property owners in South Africa engaged in game ranching have created Wildlife Ranching South Africa (WRSA), a body that represents the industry and interfaces with government. Only established in 2005, WRSA has replaced a number of provincial bodies that previously represented the interests of the South African game rancher. Although WRSA is a relatively new organization, most of its policies have been carried forward from the Northern Wildlife Organisation (NWO) and South African Game Ranchers Organization (SAGRO) that had been active for almost 30 years (WRS, 2009). WRSA functions as a non-profit organization and currently represents some 1500 of the registered 9000 game ranches in South Africa (WRS, 2009). WRSA’s main function is to liaise closely with game ranchers, NGOs and governmental authorities, providing input on policy development, regulations and norms and standards applicable to the wildlife industry. WRSA, as the sole representative of the South African game ranchers, represents the wildlife industry at the National Wildlife Forum, which was initiated by the Minister of Environmental Affairs. WRSA’s aim is to ensure that both government and the game rancher reach agreement on policies that will be supported by government and positively implemented by the game rancher (WRS, 2009).

## The Private Rhino Owners Association

Organization of private sector rhino owners has been difficult to achieve in South Africa. In part, this may be due to the different philosophies motivating rhino ownership. Management goals range from conservation and ecotourism to farming with the aim of breeding rhinos for maximum profitability through live sales and trophy hunting. Early attempts to establish an African Rhino Owners Association (AROA) ended in failure due to a marked lack of buy-in from many private sector players and a lack of financial and administrative support. More recently, and with the advent of stricter government regulation, attempts have been made to resurrect a similar body, the Private Rhino Owners Association, within the context of WRSA.

Following a gap left by the disbandment of AROA, the Private Rhino Owners Association (PROA) was established in October 2009 to try and enhance co-ordination and co-operation between private owners of rhinos in South Africa in response to the increased rhino poaching threat. PROA is a national body with full provincial representation and has subsequently become a branch of WRSA. The primary intention of PROA is to help preserve and secure rhinos under private ownership within South Africa

through close collaboration with relevant law enforcement and government regulatory agencies. PROA was directly involved in the development of a National Rhino Security and Coordination Plan. In November 2011, PROA organized a National Rhino Summit for all private rhino owners to promote awareness and information sharing and to discuss and identify policy issues related to the protection and preservation of privately-owned rhinos in South Africa.



Capture of a Black Rhino for translocation.

### Wildlife capturing, translocation and sales associations

The Wildlife Translocation Association (WTA), the representative body for game managers involved in the commercial capture and translocation of wildlife species, was established in the 1990s. Importantly, the WTA is recognized by both national and provincial government conservation authorities. Although ostensibly a voluntary association, those wishing to tender for government contracts must be members of WTA (Hall-Martin *et al.*, 2009). As such, WTA currently has 53 members and probably represents the majority of active capture units in South Africa (Hall-Martin *et al.*, 2009). In terms of live rhino sales, the company Vleissentraal (Pty) Ltd plays the leading role in servicing the needs of the game ranching community throughout the country.

### Veterinary Council

The South African Veterinary Council (SAVC) regulates the veterinary and para-veterinary professions and the registration of persons engaged in these professions. The role of the council is to exercise effective control over professional conduct, determine the standards of professional conduct and promote efficiency in and responsibility with regard to the practising of these professions. The council also acts as an advisory body to the government in relation to any matter affecting veterinary and para-veterinary matters. Following the arrest of two veterinarians allegedly involved in rhino poaching in September 2010, SAVC issued a press release stating that it fully supported the investigations into all illegal activities and if any registered veterinarians were found guilty of criminal activities, disciplinary action would be taken. The penalties that the Council may impose if a person is found guilty of disgraceful, improper or unprofessional conduct range from a reprimand to the withdrawal of registration to practise as a veterinarian.

### Veterinary Association

The South African Veterinary Association (SAVA) is a voluntary professional association of veterinarians in South Africa. The aim of the association is to promote the interests and activities of the veterinary profession and to assist veterinarians to fulfil their role in the community. SAVA's Wildlife Group held a symposium on "Rhinos As Game Ranch Animals" in 1994 (Penzhorn and Kriek, 1994) and, in March 2011, a rhino conservation workshop to develop uniform protocols and best-practice principles for the treatment and care of injured rhinos, as well as dehorning exercises, post-mortem examinations and sampling techniques. SAVA has stated that "we want to collaborate closely with all role players in rhino ranching and conservation, as well as the industry supplying our much-needed drugs and equipment. The illegal and non-veterinary use of scheduled drugs is of great concern to us and we condemn this in the strongest possible way." However, as a voluntary organization, SAVA is not able to formally regulate the activities of veterinarians.

## SOUTH AFRICA'S TROPHY HUNTING INDUSTRY

For many years, South Africa has been the premier country on the African continent offering the opportunity to hunt the legendary "big five": lion, leopard, buffalo, elephant and rhinoceros. (Namibia has allowed a small number of White Rhino hunts in recent years). This distinction has made South Africa a major drawcard on the global sport hunting circuit. In 2000, the total value of the game industry in South Africa was collectively estimated at ZAR140 million (or approximately USD20.2 million) (Barnett and Patterson, 2005) but, by 2007, total revenues from daily rates, animals hunted and taxidermy work increased to approximately ZAR730 million (or USD91.2 million) (PHASA, 2009). The total income from sport hunting in South Africa peaked in 2008 at close to ZAR1 billion (USD124.8 million) according to DEA (Figure 8).

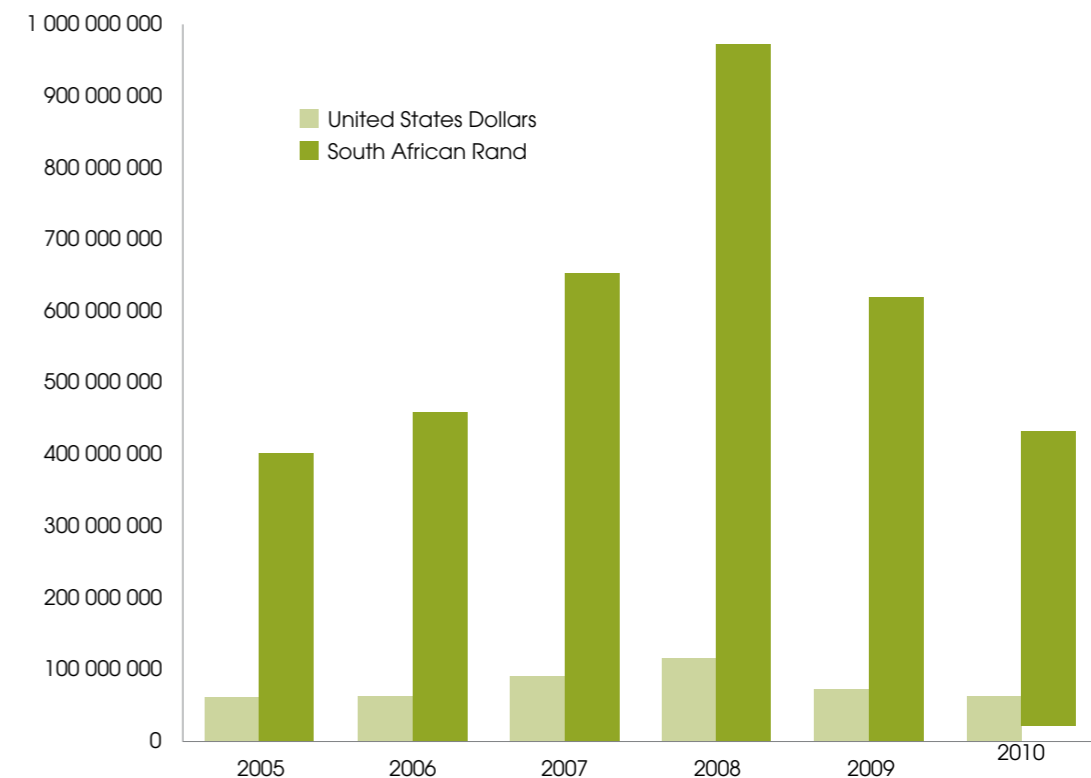


Figure 8 Total income from sport hunting in South Africa 2005-10 (data from DEA)

Between 2006 and 2007, a total of 16 394 overseas hunters visited South Africa to hunt for an average of four days each, taking a total of 46 727 animals (PHASA, 2009). While impala was the most commonly hunted species, White Rhino was the most valuable. A total of 62 843 animals were hunted in 2009 with the 10 most important species for income generation being Lion, White Rhino, Buffalo, Kudu, Gemsbok, Nyala, Blue Wildebeest, Burchell's Zebra, Waterbuck and Elephant (Carroll, 2010).

Currently, there are approximately 500 safari or trophy hunting outfitters in South Africa who market and provide services to the international sport hunting community. There are about 3000 licenced Professional Hunters in South Africa, most of whom are employed by outfitters or, in some cases, are the outfitters themselves. To support the game ranching and sport hunting industries, a large number of other wildlife professionals are also found in the country, including game capture and translocation specialists and wildlife veterinarians. Overall, the industry currently provides approximately 70 000 people with job opportunities, mainly in rural areas (PHASA, 2010). The South African sport hunting industry services clients from as many as 60 countries around the world, with the bulk coming from the United States and Europe, notably France, Russia, Spain and the Nordic countries. As a well-developed industry, a number of professional associations and sport hunting management bodies have been established.



White Rhino hunting trophy.

Year	Number of members
1978	20
1980	62
1985	250
1990	370
1995	600
2000	1100
2001	1350
2006	1220
2007	1040
2008	934
2009	1057
2010	993
2011	1017

**Table 2** PHASA membership figures for the period 1978 to 2011

### Sport hunting associations

The Professional Hunters Association of South Africa (PHASA) is the foremost hunting authority and acts as the leading voice of the trophy hunting industry in South Africa. PHASA works closely with South Africa's central government, nine nature conservation bodies and other stakeholders in the hunting industry, and aims to represent and serve the interests of its membership in a pro-active and dynamic manner. PHASA takes an articulate lead in promoting professionalism and ethics, the benefits of professional hunting and the importance of conservation of wildlife and, more recently, social empowerment (PHASA, 2009). Toward that latter end, PHASA has also established a "Conservation and Empowerment Fund" to invest in worthwhile conservation projects and to address black economic empowerment within the industry. Specified projects include rhino anti-poaching work. Membership in PHASA is voluntary, but grew steadily from 20 founder members in 1978 to a peak of 1350 members in 2001, dropping to about 1000 thereafter (Table 2). Membership numbers have become more constant in recent years, with fluctuations primarily governed by the number of older members failing to renew their annual membership.

Whilst PHASA clearly plays a leadership role and exercises considerable clout representing the interests of the industry, it is worrying to note that no more than one-third to half of the estimated number of Professional Hunters in South Africa appear to be members of PHASA. Lack of participation in PHASA is disappointing and is exacerbated by the fact that no formal register of all Professional Hunters exists in South Africa, making it very difficult to check the performance of individual members in terms of ethical standards, codes of conduct and lawful practice. As membership is voluntary and there is no obligation to belong to an association, it is difficult for PHASA to play a self-regulating role within the industry. It is believed some individuals anyway use their PHASA membership as a smokescreen to provide some measure of officialdom to their activities. It is well known by many in the wildlife law enforcement community that a number of Professional Hunters act outside of the law in relation to hunting and, indeed, a number of these individuals have been arrested and convicted for wildlife crimes.

To its credit, PHASA registered concerns about aspects of rhino trophy hunting as early as 2005. With specific reference to hunting rhino, PHASA requires all of its members to complete a written return to demonstrate compliance with 11 requirements prior to hunting White Rhinos. PHASA has also issued a list of 12 key points on necessary conditions that need to prevail for an ethical White Rhino hunt to occur. In 2009, PHASA collected ZAR130 000 (approximately USD17 300) to support rhino conservation activities (Hall-Martin *et al.*, 2009). With respect to rhino hunting, PHASA readily admits that a "handful of operators [have] tarnished the whole industry" and "condemns any abuse of legislation" (Kitshoff, 2012).

Another hunting body, the Safari Club International – Africa Chapter (SCI-AC), was established in October 1995. This body has representation from professional hunters, hunting outfitters, amateur hunters, wildlife

professionals, game ranchers and businessmen on its board and executive committee. It aims to assist in establishing safari operators and professional hunters within the sport hunting community, as well as to develop effective and sustainable utilization linked to various conservation programmes throughout Africa. SCI-AC is responsible for assisting with the stabilization of the industry by promoting long-term hunting and tourism development leases. It also attempts to involve local communities to ensure that they benefit directly and indirectly from sport hunting on their land. With these objectives, however, SCI-AC has been accused by some members of PHASA of being too prescriptive in their management and assistance approach (G. Davies, pers. comm., in Barnett and Patterson 2005).

In addition, there is a national Confederation of Hunters Associations of South Africa (CHASA) to which 22 Hunters Associations of South Africa are affiliated. CHASA represents local non-professional recreational "biltong" hunters in South Africa and gives guidance in the representation of hunters with the aim to secure the freedom to hunt. CHASA is acknowledged on a national basis by the Ministries of Safety and Security and of Environmental Affairs and is also accredited by the South African Police Services with the designated powers to allocate "Dedicated Hunters" status to its members.

Finally, the South African Professional Hunting Committee (SAPHCOM) consists of representatives from all of South Africa's nature conservation departments, PHASA, landowners, game capturers, taxidermists, professional hunting schools and hunter associations in South Africa. This group meets a couple of times a year to review and discuss various policy issues and the training of professional hunters. This body also has been responsible for the basic standardization of hunting legislation throughout South Africa.

### Taxidermy associations

The taxidermy industry in South Africa is represented by two commercial bodies, the Taxidermy Association of Southern Africa (TASA) and the Commercial Taxidermists and Game Skin Tanners of South Africa (CTGST). TASA is the larger association with some 70 members who are mostly small-scale operators. Founded in 1980, it is the older body and operates throughout the country. CTGST comprises some 20 large-scale businesses and was formed when it broke away from TASA in 1994. South Africa's taxidermy industry provides added value to the country's wildlife-based economy by some ZAR200 million (approximately USD28.5 million) annually (Hall-Martin *et al.*, 2009). In compliance with recent hunting regulations for White Rhinos, this industry now plays a crucial mandated role in the export of all rhino hunting trophies as individual hunters themselves are no longer eligible to take rhino horn trophies in their personal effects when returning to their home country.

## SOUTH AFRICA'S BIODIVERSITY POLICIES

Three policy changes are thought to have encouraged the transformation from conventional agriculture to wildlife in South Africa: (1) the decline in agricultural subsidies and deregulation of the agricultural sector; (2) the Game Theft Act of 1991 which combated theft and illegal hunting and capture, and gave rights of ownership of wildlife on suitable fenced land; and (3) changes to the Shareblock Act, legislation regarding conservancies, biospheres, and other protected areas and new labour laws (Carruthers, 2008, Cousins *et al.*, 2010). Changes in labour laws, the need to reduce farm labour, rural security issues and the threat of land restitution claims have all influenced the shift to game ranching over agriculture in many areas of South Africa (Carruthers, 2008). These policy changes were in part due to earlier research from then Rhodesia, which identified the important role that wildlife could play in ensuring food security in southern Africa (Carruthers, 2008).

The need for additional mechanisms to specifically regulate trophy hunting within the wildlife industry had long been recognized and, in 1981, provincial legislation was introduced to provide protection to the foreign hunting client through the introduction of obligatory provisions for the hunting industry. These regulations were uniformly applied throughout the nine provinces and have been established in agreement with the industry. In the recent past, provincial legislation was used to regulate hunting in South Africa (Barnett and Patterson, 2005), including:

- *Transvaal Nature Conservation Ordinance 12 of 1983* – in force in Gauteng and North West Province;
- *Limpopo Environmental Management Act 7 of 2003* – in force in Limpopo Province;
- *Mpumalanga Nature Conservation Act 10 of 1998* – in force in Mpumalanga;
- *Free State Nature Conservation Ordinance 8 of 1969* – in force in the Free State;
- *Cape Nature Conservation Ordinance 19 of 1974* – in force in Northern Cape, Western Cape and Eastern Cape; and
- *KwaZulu Nature Conservation Act 29 of 1992* and *Natal Nature Conservation Ordinance 15 of 1974* – in force in KwaZulu-Natal.

All of these pieces of legislation essentially prohibited the hunting of wild animals without the necessary permits or licences, although there were exceptional provisions for landowners, their relatives or staff to obtain exemptions from these requirements. While terminology differed slightly between provinces, game species were generally classified into categories such as “Specially Protected Game”, “Protected Game”, “Protected Wild Animals” and “Ordinary Game”, with each category afforded a different level of protection. The legislation placed restrictions on the methods used to hunt animals, hunting seasons, hunting places and times, the export and import of carcasses and trophies, and the sale and disposal of carcasses and trophies. Generally, permission from the landowner or his representative is needed to hunt. Under common law in South Africa, the status of *res nullius* was given to wild animals, meaning that they are not owned by anybody, but are capable of being owned and controlled through the erection of adequate restraining fences.

*The Game Theft Act 105 of 1991* was also used to determine and protect the rights of the landowner, especially when game was lured away from a property or escaped. It should be noted that not all game was covered by this Act as it defined “game” as wild animals used for hunting or commercial purposes. The Act was established to provide incentives for game ranch owners and offered guidance on the type of legal tools that could be used to encourage sustainable trade practices (Bürgener *et al.*, 2001).

Complications associated with this historical provincial legislation and regulation of the wildlife industry in South Africa and concerns regarding the inconsistencies and complexities in implementation allowing loopholes for illicit activities have been raised in the past (Bürgener *et al.*, 2001). TRAFFIC's 1996 report, *South Africa's Wildlife Trade at the Crossroads* noted that:

*Many of the contemporary measures in place to protect South Africa's fauna and flora and regulation of the wildlife trade reflect this country's former history; responsibility for wildlife conservation, including trade, was largely accorded to the provinces. Although regional boundaries have recently been revised, the legal framework and administrative structure for controlling the wildlife trade has remained largely unchanged (Bodasing and Mulliken, 1996).*

Since the publication of the 2001 report, improved over-arching national conservation statutes have been put in place, providing more consistency in the manner in which municipal, provincial and



White Rhino cow and calf grazing.

TIM JACKSON/AFRICA GEOGRAPHIC

national governments address environmental issues. The *National Environmental Management Act 107 of 1998* (NEMA) provided South Africa with national legislation to govern nature conservation activities and established the principle of sustainable development, requiring that the use of renewable resources does not exceed the level beyond which their integrity becomes jeopardized. NEMA also mandates that the environment is held in public trust for the people, that the beneficial use of environmental resources must serve the public interest, and that the environment must be protected as the people's common heritage. These requirements are all in line with the *Constitution of South Africa Act 108 of 1996*.

Currently, both rhino species in South Africa are managed in terms of the *National Environmental Management: Biodiversity Act, Act 10 of 2004* (NEMBA). NEMBA makes provision for “restricted activities” and defines these as follows:

*in relation to a specimen of a listed threatened or protected species;*

- (i) hunting, catching, capturing or killing any living specimen of a listed threatened or protected species by any means, method or device whatsoever, including searching, pursuing, driving, lying in wait, luring, alluring, discharging a missile or injuring with intent to hunt, catch, capture or kill any such specimen;*
- (ii) gathering, collecting or plucking any specimen of a listed threatened or protected species;*
- (iii) picking parts of, or cutting, chopping off, uprooting, damaging or destroying, any specimen of a listed threatened or protected species;*
- (iv) importing into the Republic, including introducing from the sea, any specimen of a listed threatened or protected species;*
- (v) exporting from the Republic, including re-exporting from the Republic, any specimen of a listed threatened or protected species;*
- (vi) having in possession or exercising physical control over any specimen of a listed threatened or protected species;*
- (vii) growing, breeding or in any other way propagating any specimen of a listed threatened or protected species, or causing it to multiply;*
- (viii) conveying, moving or otherwise translocating any specimen of a listed threatened or protected species;*
- (ix) selling or otherwise trading in, buying, receiving, giving, donating or accepting as a gift or in any way acquiring or disposing of any specimen of a listed threatened or protected species; or*
- (x) any other prescribed activity which involves a specimen of a listed threatened or protected species.*



White Rhino cow and calf.

To support implementation of NEMBA's provision for "restricted activities" as described above, Threatened or Protected Species Regulations (TOPS) were published in *Government Gazette No. 29657, Government Notice No. R. 152 of 23 February 2007*. The new Regulations (TOPS) came into force on 1 July 2007 after public feedback, amendment and workshops (Carroll and Boshoff, 2007). The aim of the TOPS regulations is to provide a national standard for the utilization of named threatened or protected species in both owned and wild populations across South Africa, on private, state and communal land.

Threatened or protected species to which the regulations apply are listed in terms of section 56(1) of NEMBA. Whilst these listings may change from time to time, they currently cater for "Critically Endangered", "Endangered", "Vulnerable" and "Protected Species" with varying requirements. TOPS lists:

- the Black Rhinoceros currently as an *Endangered Species* – an indigenous species facing a high risk of extinction in the wild in the near future, although it is not a critically endangered species; and
- the White Rhinoceros currently as a *Protected Species* – an indigenous species of high conservation value or national importance that requires national protection.

In fact, a number of loopholes became immediately apparent and a further iteration of the TOPS regulations was published in the *Government Gazette No. 30703, Government Notice No. R. 69 of 28 January 2008*. Serving as amendments to the regulations first published in February 2007, the so-called *Threatened or Protected Species Amendment Regulations, 2008*, took effect on 4 February 2008. To address certain discrepancies inherent in other provincial laws, the TOPS regulations required a series of follow-on legal measures to remove ambiguities and provide a basis for successful implementation. In August 2008, the so-called "standing permit" system in certain provinces, which allowed White Rhino hunts on some properties without permits, was abolished.

Hence, a NEMBA permit, issued by the provinces under national legislation, is required to undertake any of the above restricted activities relating to rhinos in South Africa. Some have argued that this necessitates onerous efforts to obtain multiple permits for activities by those responsible for managing rhinos. Advocate Antoinette Ferreira, in a review of the legislation for private rhino owners, highlighted the fact that dehorning a rhino would require a permit and, in addition, a possession permit would be needed to keep the horn on the property in question, while movement of the horn elsewhere would require yet another permit (Ferreira, 2009). In practice, although permission for each of these individual restricted activities would be required, one permit could be issued which made provision for all of the restricted activities necessary for such a process to be completed.

In February 2009, a temporary moratorium prohibiting internal sales of rhino horns and derivatives in South Africa took effect to prevent domestic sales because it was believed that certain private owners were selling horns to criminal elements. Subsequently, in July 2009, the South African government moved to strengthen rhino conservation with *Notice 170 of 2009 on Marking of Rhinoceros Horn and Hunting of White Rhinoceros for Trophy Hunting Purposes*, of 20 July 2009. These regulations were implemented to overcome irregularities which had been detected within the hunting industry. A number of loopholes were identified in this original legislation and an updated draft with proposed amendments to the *Schedule: Norms and Standards for the Marking of Rhinoceros Horn and Hunting of White Rhinoceros for Trophy Hunting Purposes* was released on 30 September 2011. The updated legislation on *Norms and Standards for the Marking of Rhinoceros and Rhinoceros Horn, and for the Hunting of Rhinoceros for Trophy Hunting Purposes* was issued on 10 April 2012.

The act imposes the following rules and obligations on all owners and managers with regard to the marking of live rhinos and rhino horn:

1. All live rhinoceros sold and transported after the commencement of these norms and standards that have not been micro-chipped before, or where an inserted micro-chip is no longer detectable, must be micro-chipped with one micro-chip in front of the left shoulder and one micro-chip in each of the horns.
2. Rhinoceros mortalities must be reported to the issuing authority immediately after the death of the animal has been discovered.
3. The owner of a live rhinoceros who acquires rhinoceros horn from a legal dehorning procedure, or the natural mortality of the rhinoceros, or where the rhinoceros has lost its horn in any other natural manner, where the rhinoceros horn has not been micro-chipped before or where an inserted micro-chip is no longer detectable, must apply to the issuing authority to have the rhinoceros horn micro-chipped within five working days of acquiring such rhinoceros horn.
4. When an application for the possession and/or marking of any detached rhinoceros horn is submitted to the issuing authority, information on the base circumference, inner length (anterior) and outer length (posterior) of each individual horn, as well as the weight thereof, must be provided by the applicant. In addition to this information the applicant must submit a photograph of good quality for easy identification of each horn.
5. Before a possession permit is issued by the issuing authority, an official of the issuing authority must conduct an inspection of the horn and verify the information supplied by the applicant.
6. An official of the issuing authority must micro-chip the rhinoceros horn contemplated in subparagraphs (3) or (4). The official must also mark the rhinoceros horn with indelible ink or by means of punch die, using the formula: ZA/serial number/year/weight, if the rhinoceros horn or part thereof is 5 cm or more in length. The owner of the rhinoceros horn is responsible for the costs incurred by the issuing authority to purchase the micro-chips.
7. The provincial issuing authorities must keep the above information on the TRAFFIC rhino horn stockpile database and any changes resulting from, among others, translocation, export from a province, natural mortalities, or hunting must be reflected on such database. The Department must consolidate the information kept by the provincial issuing authorities on the national TRAFFIC database.

These new norms and standards added tighter controls to allow better identification of any individual live rhino or rhino horn. The requirement for rhino owners to notify government authorities of any rhino deaths should serve to prevent incidences where rhinos are killed by their owners for their horns. It should also aid in tracking legal horns. The specification that micro-chips be placed in the left shoulder of each animal should make it easier to locate micro-chips to verify the identity of individual rhinos. Adding external markings to registered rhino horns will also allow law enforcement officers to know immediately whether a particular horn is legal or not, without the need for scanners to detect micro-chips in the horn.

With regard to trade in rhino horn and trophy hunting of White Rhinos:

1. Trade in individual rhinoceros horns and any derivatives or products of the horns are prohibited in terms of a national moratorium which has been published under Government Notice No. 148 in Gazette No. 31899 of 13 February 2009. If horns are exported as a personal hunting trophy, they may only be exported if accompanied by the necessary export permits relating to threatened or protected species and the Convention on International Trade in Endangered Species of Wild Fauna and Flora, issued in terms of Chapter 7 of the Act.
2. All rhinoceros hunts must be strictly controlled by means of an individual hunting permit issued by the issuing authority in terms of the Act, in the name of the hunting client, to ensure that all rhinoceros horns can be traced to the property where the hunt took place. The hunting of rhinoceros may therefore not be authorized in terms of a game farm hunting permit.
3. In addition to the application for a hunting permit, the following supporting information with regards to the hunting client must be submitted to the issuing authority:
  - (a) proof of membership of a hunting association in the country of usual residence of the hunting client. The hunting association must be recognised by the government of the country of residence of the hunting client; or

- (b) a curriculum vitae, indicating his/ her hunting experience in his/ her country of usual residence; or  
(c) proof of previous experience in the hunting of any African species; and  
(d) a copy of the hunting client's passport.
4. All applications for the hunting of rhinoceros received by the issuing authorities must be referred to the Department for recommendation within the time frame as prescribed in the Threatened or Protected Species Regulations, 2007, published under Government Notice No. R.152 in Gazette No. 29657 of 23 February 2007. This will enable the Department to compile a database for hunting clients and ensure that a hunting client does not hunt more than one rhinoceros in the country within a 12-month period.
  5. When issuing the hunting permit, the issuing authority must consider whether the country of usual residence of the hunting client, where the rhinoceros horns and the rest of the hunting trophy will be imported to, has adequate legislation to ensure that the rhinoceros horns and the rest of the hunting trophy will be used for the purpose as indicated on the CITES export permit.
  6. A hunting client may hunt only one white rhinoceros for trophy purposes within a 12-month period.
  7. The permit authorising the hunt must be signed by the hunting client before commencement of the hunt.
  8. Rhinoceros hunts must take place in the presence of an official of the issuing authority who is authorised in terms of conservation legislation to conduct compliance inspections, but preferably an environmental management inspector from the province concerned, and at the cost of the issuing authority. Such official or environmental management inspector, whose contact details must be provided by the issuing authority, must be informed by the hunting outfitter, who organized the hunt, of the date and place of the hunt at least 48 hours before it takes place.
  9. If not already micro-chipped, the horns must be micro-chipped on the property where the hunt took place within 24 hours after completion of the hunt. Only an official from the issuing authority may micro-chip the horns of the hunting trophy.
  10. The owner or the manager of the game farm, as well as the official or environmental management inspector who attended the hunt, must sign off the hunting permit after completion of the hunt to confirm the success of the hunt. The official or environmental management inspector must immediately after completion of the hunt provide the Department with information relating to the hunt, the relevant micro-chip numbers, as well as proof that the sample(s) contemplated in paragraph 4(2) have been sent to the Veterinary Genetics Laboratory contemplated in paragraph 4(4). (See page 39.)
  11. The professional hunting register must be completed by the professional hunter who accompanied the hunting client during the hunt, immediately after completion of the hunt. The official or environmental management inspector who attended the hunt must indicate the micro-chip numbers with which the horns have been marked, on the professional hunting register.
  12. The horns, together with the rest of the trophy, must be transported by a duly authorized person from the address where the hunt took place, directly to the taxidermy or similar facility to be processed and prepared for exportation. The transport of the horns as part of the hunting trophy may only be authorised in terms of an individual permit issued by the issuing authority, and may not be authorised in terms of a standing permit or in combination with the hunting permit.
  13. The permit authorizing the hunt and a copy of the professional hunting register must accompany the rhinoceros products (including the horns), which form part of the hunting trophy, when being transported between destinations.
  14. The taxidermist or owner of a similar facility must upon receipt of the rhinoceros horns report the following information to the Department:
    - (a) date of receipt of the rhinoceros horns;
    - (b) weight of the rhinoceros horns;
    - (c) micro-chip numbers of the rhinoceros horns; and
    - (d) numbers of the hunting permit, transport permit and professional hunting register.
  15. The taxidermist or owner of a similar facility must keep a register that contains as a minimum the information contemplated in subparagraph (14). The register must be made available to the issuing authority for inspection, upon request by the issuing authority.
  16. The horns of a rhinoceros that was hunted as a trophy may not be exported in hand or personal baggage.
  17. The CITES export permit for the rhinoceros hunting trophy and a copy of both pages of the signed-off hunting permit must be presented to an environmental management inspector for inspection prior to the export of the trophy. The CITES export permit must be endorsed by the environmental management inspector.



Black Rhino.

TIM JACKSON/AFRICA GEOGRAPHIC

Many of the comprehensive amendments to these norms and standards are designed to close loopholes which have been deployed by those participating in rhino hunts simply to make rhino horn available for export. Key changes include the need to prove the hunting experience of a prospective client and to develop a register ensuring that each client does not hunt more than one rhino per year, defined as a 12-month period of time, thus preventing hunts from taking place in, for example, December and January of consecutive years. The onus is now placed on the importing country to prove adequate legislation for tracking hunting trophies to ensure that they remain “non-commercial personal effects”. The detailed addition of the hunter’s name to the permit and the ability to trace the horn back to the location where the hunt took place should prevent permits from being used for more than one time. The need for a government conservation official to attend all hunts has also become much more stringent, as the law now states they “must” attend rather than “should, where possible”, as was previously the case. Legislation has also been noticeably tightened on taxidermists, with the need to record information to identify individual horns and keep a horn register on all trophies they produce.

Finally, the following requirements were added with regard to collection of DNA samples to be added to the Rhino DNA Index System (RhoDIS) developed and managed by the Veterinary Genetics Laboratory (VGL) of the University of Pretoria:

1. When live rhinoceros are darted for translocation, treatment or any other management purpose, samples of the horns and blood must be collected by using the DNA kits as provided by the Veterinary Genetics Laboratory contemplated in subparagraph (4).
2. When detached horns contemplated in paragraphs 2(3), 2(4) or 3(9) are micro-chipped, samples of the horns must also be collected at the same time.
3. Samples contemplated in subparagraphs (1) and (2) may be collected by the following persons:
  - (a) A registered veterinarian responsible for the darting of a live rhinoceros;
  - (b) An official from the issuing authority contemplated in paragraph 2(7), who has been adequately trained in the collection of samples; or
  - (c) The official or environmental management inspector who attended the hunt contemplated in paragraph 3(8), and who has been adequately trained in the collection of samples.
4. The samples contemplated in subparagraphs (1) and (2) must be sent to the Veterinary Genetics Laboratory of the Faculty of Veterinary Science of the University of Pretoria at Onderstepoort, as soon as possible after it has been collected, for analysis for the purpose of DNA profiling.

Dr Cindy Harper and the VGL have pioneered a new technique that enables analysis of nuclear DNA taken from rhino horn samples to identify individual rhinos. The goal is to aid protection of rhinos in Africa through the application of DNA-testing techniques that have been used for many years in human forensic testing and investigations (Harper, 2011). The core component of RhODIS is a database of DNA profiles of rhinos collected during routine interventions such as translocations and dehorning. DNA profiles have also been obtained from illegally killed and hunted rhinos, as well as seized rhino horns and those in registered stockpiles. One of the principal applications of the database is to match recovered horns to poached rhino carcasses using forensics. To date, just over 5000 samples have been collected, including samples from Namibia and Kenya. A key strength of the database is its size and its potential global application. If recognized and used as the universal database for holding rhino DNA samples, it could become a very powerful forensic tool for rhino horn management, monitoring and law enforcement. The technology has already resulted in convictions where rhino horns have been matched to specific rhino crime incidents (Harper, 2011).

Whilst the norms and standards are certainly comprehensive, they continue to raise questions of practicality in terms of their implementation. In this regard, the regulations appear to form a considerable source of tension amongst stakeholders at local, provincial and national levels. More fundamentally, the economic priorities of some wildlife industry players conflict with the more purist conservation aims of the policy (Cousins *et al.*, 2010). Many in the wildlife industry are concerned about the impact the regulations may have on their livelihoods, particularly with regard to a potential reduction in revenues caused by restrictions on use and increased costs from numerous permitting requirements, noting:

*these concerns should be taken seriously, as any regulations reducing or removing the incentive to ranch wildlife may impair the relative competitiveness of wildlife as a land use, thus threatening the survival of the industry* (Cousins *et al.*, 2010).

Industry insiders have indeed railed against the stringency of these measures, claiming they are unworkable. Furthermore, unless compliance is strictly applied, many of these rules could still be circumvented, especially if perverse incentives continue to persist. A document produced by a representative of a private game farm owner in response to the TOPS regulations stated:

*it is an unfortunate statistical fact that many rhino farmers have chosen the easy way out of conservation and have resorted to killing their own rhinos. Some farmers go so far as buying [a] rhino for the sole purpose of hunting it immediately thereafter [and that] legally it is much easier and much more profitable to simply kill them all* (Du Toit, 2012).

Further, in some instances, it has been reported that some private rhino owners are reluctant to communicate with provincial authorities about permits for restricted activities with rhinos on their properties due to concerns that passing on such information leads to increased security risks (R. Emslie, pers. comm., 2012). Concerns remain about the lack of consistency at a national level around conservation legislation and implementation thereof. Presently only seven provinces are implementing NEMBA and TOPS regulations (with Western Cape and Mpumalanga provinces the two exceptions). Yet, several provinces, such as the Northern Cape, have developed their own even more stringent measures to try and regulate the sport hunting of White Rhinos.



White or "square-lipped" Rhino.

## SOUTH AFRICA'S RHINOS AND CITES

On 13 October 1975, CITES entered into force in South Africa when the country became the 15th nation to join the Convention. Two years later, in 1977, all rhino species were placed in Appendix I of CITES, a listing which prohibits all international commercial trade in rhinos and their parts and derivatives except under exceptional circumstances. Since then, the CITES Parties have moved to adopt a series of rhinoceros resolutions and decisions to further strengthen the global effort to prevent illicit trade in rhino horn. Commencing at CITES CoP3 (New Delhi, India, 1981), in Resolution Conf. 3.11 on *Trade in rhinoceros horns*, CITES recommended that both Party and non-Party governments prevent rhino horn sales and trade. At CITES CoP6 (Ottawa, Canada, 1987), the Parties agreed Resolution Conf. 6.10 on *Trade in rhinoceros products* that called for:

*a complete prohibition on all sales and trade, internal and international, of rhinoceros parts and derivatives, especially horn, whether whole or in any other form, including personal effects, but excluding (solely) non-commercial movement of legitimate hunting trophies where appropriate full CITES documents are issued to that effect.*

This latter exception was made in reference to Resolution Conf. 2.11 (Rev.) on *Trade in hunting trophies of species listed in Appendix I*, which has long allowed legal sport hunting trophies to qualify as “non-commercial” personal effects trade and be exported accordingly. This resolution aims to allow trade in hunting trophies from Appendix I species in cases where regulated hunting serves to enhance the survival of the species concerned. Thus, South Africa has allowed White Rhino trophies to be exported since 1979 pursuant to this resolution.

At CITES CoP9 (Fort Lauderdale, USA, 1994), the two earlier resolutions were consolidated into Resolution Conf. 9.14 on *Conservation of rhinoceros in Asia and Africa*, which still remains in effect today (being most recently amended by the CITES Parties in 2010). In recognition of South Africa's success with rhino conservation in general and the management of White Rhino hunting trophies specifically, at CITES CoP9, the CITES Parties also agreed that the White Rhinoceros *C. s. simum* population of South Africa did not meet the criteria for Appendix I listing and transferred the population to Appendix II with an annotation stating:

*For the exclusive purpose of allowing international trade in live animals to appropriate and acceptable destinations and hunting trophies. All other specimens shall be deemed to be specimens of species included in Appendix I and the trade in them shall be regulated accordingly.*

At the time of this decision in 1994, South Africa became the only rhino range State with a population listed in Appendix II of the Convention; a decade later, in 2004, Swaziland's White Rhino population was also accorded Appendix II status with a partial annotation for live sales and hunting only, but with quotas set as percentage of total rhino numbers. National implementation of the annotation has evolved over the years in the face of criticism that live animal exports were not initially subjected to careful scrutiny. International trade in rhinos was until recently controlled by various pieces of provincial legislation which allowed some degree of discretionary interpretation in terms of implementation. From 1 May 2010, however, National CITES Regulations took effect, centralising control under the Department of Environmental Affairs (DEA). Thus, South Africa has finally established a policy where-by applications for the export of live rhinos to zoos and safari parks around the world must include a letter from the CITES Scientific Authority of the importing country stating that it is satisfied that the proposed recipient of a living rhino specimen is suitably equipped to house and care for it in accordance with Resolution Conf. 11.20. Since 2011, only World Association of Zoos and Aquaria (WAZA) member zoos and safari parks are eligible for exports of live rhinos from South Africa (Meintjes, 2011). South Africa also requires a statement that the country of import has adequate legislation to ensure that the live specimen will only be used for the purpose indicated on the CITES export and import permits in order to prevent parts and derivatives of live specimens being subsequently used for purposes other than those stated on the permit. These improvements should ensure a higher degree of compliance in the future.

In other rhino-related developments under CITES, at the 14th meeting of the Conference of the Parties (CoP14), in June 2007, the Parties agreed in Decision 14.88 that all rhino range States in Africa and Asia, as well as any other Party that has “stocks of rhinoceros horns and derivatives thereof” to declare the status of their stocks before CoP15 in a prescribed format to be determined by the Secretariat and TRAFFIC. TRAFFIC was also authorized to analyse the rhino horn stock submissions and report back to



Meeting of the Conference of the Parties to CITES.

CoP15 in the comprehensive TRAFFIC/IUCN report “on the national and continental conservation status of African and Asian rhinoceros species, trade in specimens of rhinoceros, stocks of specimens of rhinoceros and stock management, incidents of illegal killing of rhinoceroses, enforcement issues, and conservation actions and management strategies, with an evaluation of their effectiveness” as mandated in Resolution Conf. 9.14.

In June 2008, at the 57th meeting of the CITES Standing Committee, a proposal to convene a task force to examine increases in rhino poaching and illegal trade in rhino horns was agreed in recognition of increasing evidence of serious levels of threat to rhino populations in Africa. A CITES Rhinoceros Enforcement Task Force meeting was subsequently held 18-19 November 2008 in Nairobi, Kenya with representatives from China, Hong Kong, Kenya, India, Mozambique, Nepal, South Africa, Thailand, Viet Nam, Yemen and Zimbabwe in attendance. The Lusaka Agreement Task Force, INTERPOL and the U.N. Office on Drugs and Crime also participated.

TRAFFIC raised concerns at CoP14 in June 2007 about the alarming upsurge in rhino poaching, particularly in Zimbabwe and the Democratic Republic of Congo, and the rising prominence of trade in rhino horns from South Africa, including horns acquired through legal means on private properties (e.g. trophy hunting or acquisition of registered horns) that were then subsequently laundered into illegal trade (Milledge, 2007). At CoP15, in March 2010, the TRAFFIC/IUCN report documented escalating incidences of rhino poaching in Africa and illegal trade in rhino horns between Africa and Asia, identifying South Africa and Zimbabwe as the principal source countries and Viet Nam as the leading consuming country. In turn, the Parties adopted a series of decisions under the Convention to support rhino conservation, including Decision 15.71 calling for the CITES Secretariat to:

- a) examine the implementation of Resolution Conf. 9.14 (Rev. CoP15) in those range States where illegal killing of rhinoceros poses a significant threat to populations of rhinoceros, particularly Zimbabwe and South Africa;*
- b) examine progress with regards to curtailing illegal trade in rhinoceros parts and derivatives by implicated States, particularly Viet Nam; and*
- c) report on the implementation of Resolution Conf. 9.14 (Rev. CoP15) at the 61st, 62nd and 63rd meetings of the Standing Committee.*

In a related development, the Parties agreed Decision 15.72 which urged the CITES Secretariat to “seek funds to convene a joint CITES Ivory and Rhinoceros Enforcement Task Force” that specifically identified South Africa, Zimbabwe and Viet Nam as priority countries for attendance. It was envisaged that the Task Force would “undertake an exchange of intelligence regarding smuggling of ivory and rhinoceros specimens and develop strategies for combating illegal trade.” This meeting was held 17-19 May 2011 in Nairobi, Kenya, and was attended by 12 countries, namely China, Ethiopia, Kenya, Mozambique, Nepal, the Philippines, South Africa, Thailand, the U.K., Tanzania, Viet Nam and Zimbabwe. INTERPOL, the Lusaka Agreement Task Force, the World Bank and the World Customs Organization were also all represented.

The focus on South Africa and rhino issues in CITES circles continues, and not surprisingly the country is a member of the Rhino Working Group that was set up at the 61st meeting of the CITES Standing Committee in August 2011.



### SPORT HUNTING WHITE RHINOS IN SOUTH AFRICA

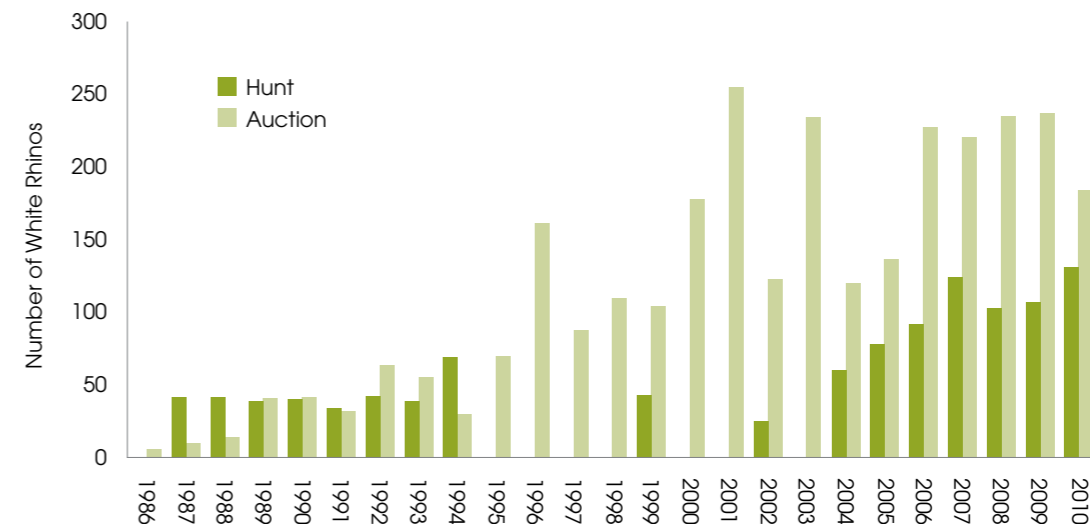
The White Rhino population is close to “maximum productive capacity” in State-owned conservation areas in South Africa, meaning that if animals are not periodically removed, population growth rates will stagnate and conservation goals for rhino numbers will not be achieved. Continued growth of rhino numbers is dependent upon availability of land from private and community sector stakeholders to enable continued rhino range expansion. The extent to which land is available for rhino range expansion is largely dependent upon the balance between economic incentives and perceived risks associated with rhino ownership.

Economic incentives for rhino ownership in the private sector and on community land come from ecotourism, live sales of rhinos to other farmers or other ecotourism reserves, or by selling rhinos as hunting trophies. National and provincial conservation authorities additionally benefit from funds generated by live White Rhino sales and these have been used in the past to either help subsidize the high cost of their conservation efforts (making up the shortfalls in government grants) or, in the case of SANParks, to assist with buying additional conservation land, undertaking biological management activities for Black Rhinos from a meta-population perspective, or, more recently, increasing rhino security in KNP (M. Knight, pers comm., 2012).

Sport hunting of White Rhinos started in 1968 at a time when there were only 1800 animals in all of South Africa (Adcock and Emslie, 1994). Since then, White Rhino numbers in South Africa, despite numerous international translocations, have steadily increased to total nearly 18 800 by the beginning of 2011. Rather than hindering population growth, trophy hunting is regarded as having positively influenced White Rhino numbers and population performance in many direct and indirect ways. From a biological perspective, sport hunting results in the elimination of “surplus” male animals that otherwise might engage in fighting and/or kill other rhinos or, minimally, compete for grazing resources with breeding animals in the population (Adcock and Emslie, 1994). These selective removals have served to stimulate breeding performance so that South Africa’s sustained population growth rate for White Rhinos has remained high (Adcock and Emslie, 1994). In terms of rhino range and habitat considerations, sport hunting has importantly produced incentives for the allocation or conversion of large land areas in the private sector to wildlife-based land use for the specific purpose of stocking and maintaining rhinos. This, with other forms of game ranching, has effectively resulted in another 20.5 million hectares of land being made available for wildlife in South Africa, a phenomenal development that not only benefits rhinos but the maintenance of biodiversity in general. Finally, the trophy hunting industry not only generates valuable foreign exchange for the country, but also continues to produce strong incentives for game ranching as a profitable economic activity so that it continually out-competes other forms of land use, such as cattle farming or agricultural production, to the benefit of wildlife (Adcock and Emslie, 1994).

Although Natal Parks Board (NPB) initially translocated White Rhinos to other State-owned reserves in South Africa, they later began selling rhinos to private owners (Buys, 1987). The sale price of a live rhino was fixed at a low value: around ZAR2000 (about USD900) which was considerably less than the market price for a White Rhino trophy hunt, which was ZAR35 000 (about USD15 000) at this time (Buys, 1987). A quick and substantial profit could be made by selling White Rhinos for trophy hunting and this often happened within a few weeks of delivery (Buijs, 2000). In fact, by 1987, there had been a net decrease in both the number of White Rhinos on private land and the number of properties on which rhinos were present (Buijs and Anderson, 1989). The low fixed list price policy had created perverse economic incentives, which encouraged the over-hunting of White Rhinos (’t Sas-Rolfes, 2011; R. Emslie, pers. comm., 2012). The first NPB White Rhino auction was held in 1989 and the average auction price for a live rhino was ZAR48 732 (approximately USD18 600), nearly five times greater than the average price paid for sales in 1986 (Buijs, 2000). Prior to the auction, approximately 10.5% of rhinos on private land were hunted each year, however, once the auction was introduced, hunting rates dropped to around 3% (Adcock and Emslie, 1994). Allowing animals to find a true market value on auction replaced perverse economic incentives with positive drivers encouraging landowners to breed more rhinos and expand their range, as well as generating greater revenue for NPB, an important conservation authority in the country.

In 1972, the value of a White Rhino trophy hunt in South Africa was reportedly ZAR8000 (about USD11 270) (Hall-Martin *et al.*, 2009). This hunting price was considered to be very expensive in its day but, once the novelty of offering rhinos for hunting purposes wore off, prices dropped considerably; indeed, the USD value of the 1972 hunt was not equalled again for about a decade and a half (Appendix 1). Overall, demand and the number of hunts has steadily grown, and there is little doubt



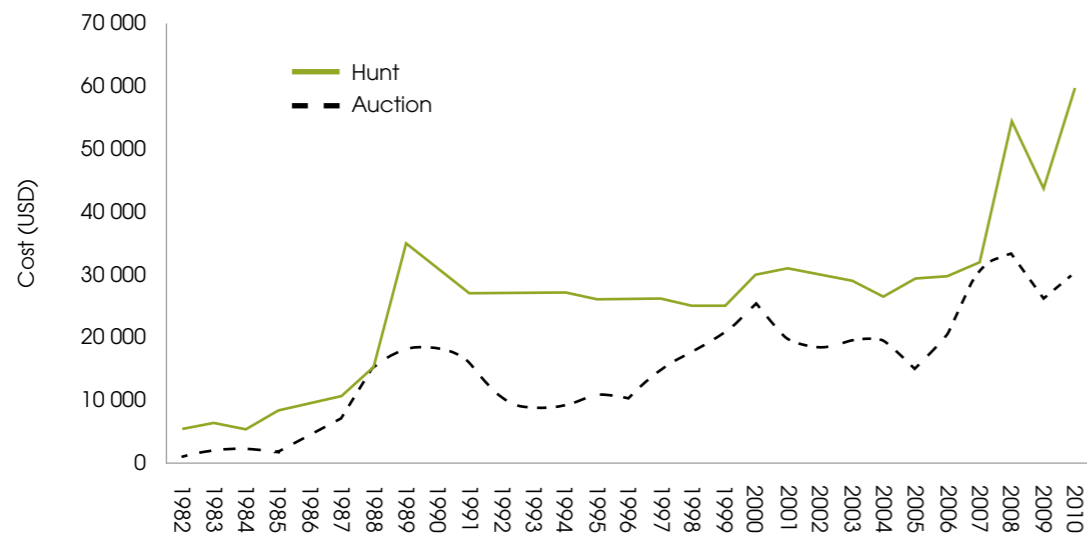
**Figure 9** Number of White Rhinos sold on auction and hunted in South Africa from 1986 to 2010 (hunting data for some years is not available; see Appendix 1 for data)

that hunting has been a key factor in driving the live auction prices for rhinos in the private sector. South Africa has never required a quota system to regulate the number of annual White Rhino hunts; in fact, it seems the market has self-regulated. Only a limited number of hunters from traditional hunting destinations have been able to pay the relatively high trophy prices. It was estimated that between 1968 and 1994 a total of approximately 820 rhinos were hunted and that the average rate of hunting over these periods remained below 1% of the total population (Emslie & Adcock, 1994).

With only a single exception involving a local South African hunter, all White Rhino hunting has been done by foreign hunters from a broad range of countries (Castley and Hall-Martin, 2005). Collectively, these transactions have served to create an economic industry that benefits a broad range of private sector players, including landowners, professional hunters, taxidermists and other game industry professionals directly, as well as a host of individuals playing secondary roles in terms of travel, accommodation and hospitality. It also directly supports national and provincial government conservation bodies who supply rhino for the live auctions. From 2005 through 2008, for example, these authorities sold 581 White Rhinos, earning over ZAR98.3 million (or approximately USD14 million) to support government investment in wildlife conservation in South Africa.

In Appendix 1, available price data show the costs of an average rhino hunt for selected years from 1971 through 2010, as well as data on the numbers and average prices of White Rhinos sold through live auction or direct sales during this time period (Hall-Martin *et al.*, 2009; Adcock and Emslie, 1994). While this information has been obtained from numerous sources, it needs to be appreciated that the average values cited for trophy hunts and auction prices in any given year are indicative as a range of prices were certainly paid at any given time depending on a variety of factors, including the age and sex of live animals and the size of the horns in question. It also needs to be appreciated that the rhino trophy price does not include other costs associated with a hunt, for example the daily rate for a minimum number of days or the costs of observers. Further, in many cases noted in Appendix 1, actual records do not exist and it has been necessary to impute figures using available information. Regardless of these shortcomings, the information detailed in Appendix 1 allows for the relationship between trophy hunting prices and live rhino sales to be considered and the relative value of the industry to be calculated.

As expected, the number of rhinos purchased and the number of rhinos hunted generally show a similar pattern (Figure 9). It is also apparent that there has been an increase in both activities in South Africa since 2004-05. While year-to-year fluctuations are evident, overall the trend lines indicate that there has also been a robust correlation between live White Rhino auction prices and the price of a White Rhino trophy hunt (Figure 10). Both auction and hunting prices demonstrate a steady increase in value over the 29-year period.



**Figure 10** Comparison of average live White Rhino auction prices with White Rhino hunting prices in South Africa by year, 1982-2010 (see Appendix 1 for data)

About once every decade, for example in 1988, 1999-2000, and 2007, exchange rate fluctuations resulted in rhino hunts becoming only marginally more costly than the USD auction prices of rhinos in the same year (Figure 10). This probably results from the fact that many rhino hunts are marketed for months, even a year, before they actually take place and, conversely, many live rhinos purchased through auctions one year are only sport hunted in subsequent years. In any case, the data demonstrate fairly rapid market adjustments when these prices come into relative alignment, with the value of rhino trophy hunts taking major price jumps in 1989, 2001 and 2008 so that strong profit margins are ensured over live auction prices.

The apparent downturn in live auction prices for a number of years around 1990, and again in 2005 and 2006, most probably reflects a drop in investor confidence (Figure 10). The earlier time period coincides with South Africa's dramatic political transition from the former apartheid regime to a democratic government under black majority-rule which came to power in 1994 following the overwhelming election of Nelson Mandela. During this time of political uncertainty, private sector landowners were generally disinclined to invest in costly rhino purchases. Further, in advance of the election, more rhinos were offered for sport hunts than in previous years and the price dropped (R. Emslie, pers. comm., 2012). Once political stability was ensured, however, the market quickly rebounded. On the other hand, the latter period coincides with a tightening of sport hunting regulations for rhinos and runaway rhino poaching, which has also conferred major losses on any number of private sector owners. The price of a rhino hunt became noticeably higher from 2008 onwards than it has been at any time previously. The likely reasons for this are discussed in more detail below.

Figure 11 shows the relative profit made after deducting the average price of a live rhino sold on auction from the average cost of a rhino trophy hunt in the same year in USD terms. It can be seen that the absolute profit has been highest in 2008 and 2010 given the exceptionally high prices rhino hunts have commanded in recent years. The lowest profit years were 1988 and 2007, which were partially influenced by exchange rate fluctuations between the ZAR and USD.

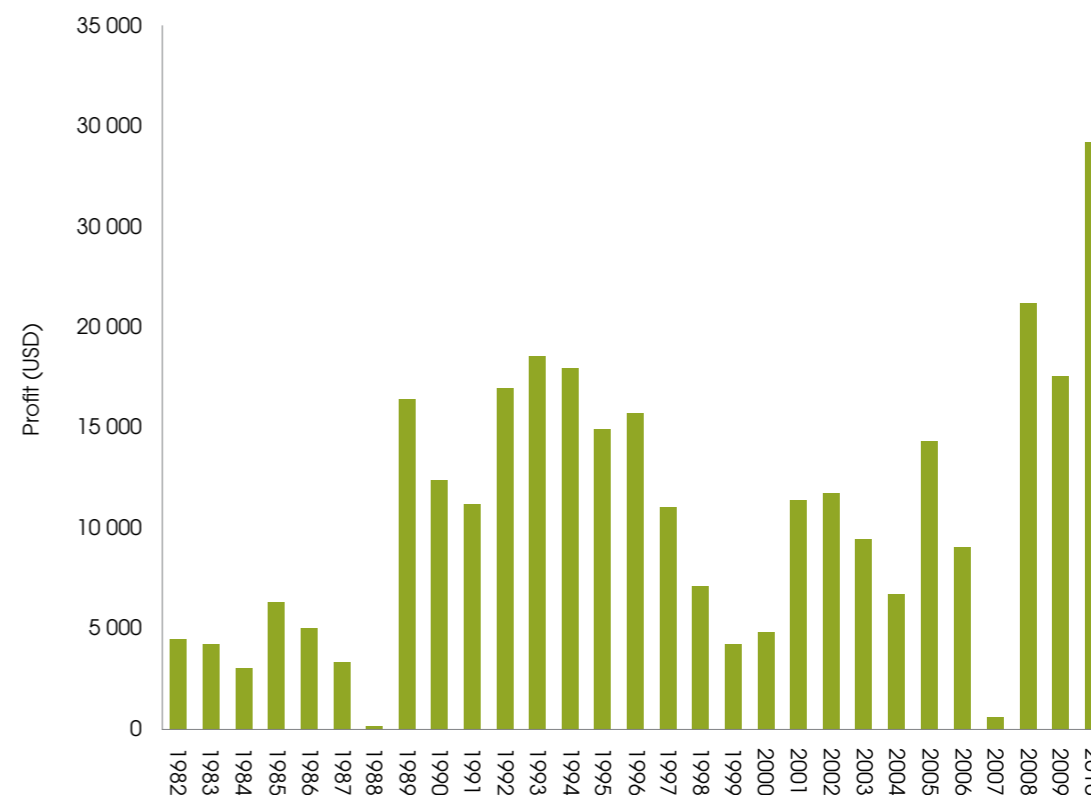
While Appendix 1 shows the collated available data on White Rhino trophy hunts and auctions, there are many gaps in the data, especially where trophy hunting is concerned. Exactly how many White Rhinos were hunted in the past remains unknown as neither South Africa's provincial authorities nor PHASA have always kept reliable records (Adcock and Emslie, 1994). Formerly, there were no reporting requirements for the private sector to disclose the number of rhino hunts which occurred on their properties. Indeed, the lack of disclosure by private sector operators is a characteristic feature of the industry as a whole. For example, only two hunting operators who were approached during the 2008 survey of White Rhinos on private land were willing to share hunting information (Hall-Martin *et al.*, 2009). However, using a variety of data sources, including WCMC data, CITES export data, and information supplied by

some key operators in the hunting industry, Adcock and Emslie estimated that between 820 and 840 White Rhinos were hunted over the 27-year period from 1968 to 1994. Appendix 1 shows that at least 763 more rhinos were hunted between 1994 and 2010, although actual numbers are only available for an additional nine years. In fact, this study estimates that between 1000 and 1300 rhinos were hunted from the 16-year period from 1995 to 2011.

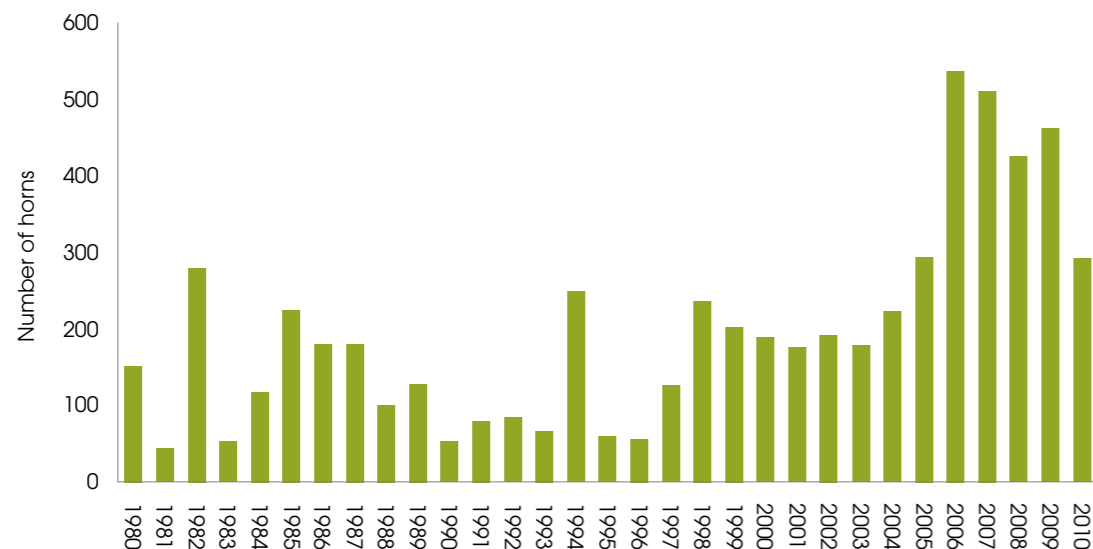
Analysis of the CITES data provides further insight into this issue. South Africa's CITES export data for rhino horns or trophies (and not other rhino body parts) indicates that, from 1980 through 2010, a total of 893 rhino "horns" and 1638 rhino "trophies" were legally exported. It can be assumed that almost all of these transactions represent sport hunted trophies, but it is not always apparent whether the description "trophies" represents a single rhino horn or both the front and the rear horn of the animal in question. Based on the assumption that trophies always represented two horns, Figure 12 shows that a total of 4169 rhino horns were exported during this 30-year period. In terms of the number of hunts, if each rhino killed yielded two horns, an estimated 2085 hunts took place, or an average of 70 hunts each year.

Regardless of the gaps in the hunting data, in recent years an increasing number of White Rhinos have been hunted, especially from 2004 onwards when the reported number shot up dramatically (Figure 12; Appendix 1). At the same time, the ZAR price of a White Rhino hunt has also effectively doubled since 2007 (unadjusted for inflation) (Appendix 1), indicating that despite the increasing number of White Rhinos on offer, demand has clearly outpaced supply in recent years (Figure 11).

These developments all directly coincide with the advent of Vietnamese hunters as a major force in South Africa's sport hunting industry. From 2005 onwards, the sport hunting of rhinos has boomed in South Africa as never before, rapidly driving the number of hunts and their prices to unprecedented heights in an effort to service the appetite of a new, non-traditional trophy market: Viet Nam. While this development has given rise to a series of problematic issues (which are discussed below in detail), it needs to be appreciated that there is no suggestion yet that the number of White Rhinos being hunted actually represents a threat to the continued increase of the species population as a whole. Indeed, as



**Figure 11** Cost of a White Rhino hunt in USD less the cost of White Rhino auction price by year (see Appendix 1 for data)



**Figure 12** Number of White Rhino horns exported from trophy hunts in South Africa based on CITES export permit data, 1980-2010 (where “trophy” is assumed to represent two horns)

has been reported, South Africa’s White Rhino population has continued to experience an unbroken record of population increase every time a national level assessment has been undertaken. True to form, the 2010 country population estimate reported to the IUCN/SSC African Rhino Specialist Group meeting was the highest to date for White Rhino in South Africa (Knight, 2011).

### Provincial patterns in sport hunting

Data presented at Parliamentary Hearings in Cape Town in January 2011 about South Africa’s rhino poaching crisis provide interesting insight into provincial patterns for the sport hunting of White Rhinos. In all provinces, more rhino hunting permits were issued in 2011 than 2010, with the exception of the Free State. North West and Limpopo provinces issued the greatest number of hunting permits in both years (Figure 13). Concerns have been raised in a number of forums regarding the standards of implementation of national legislation relating to rhino activities in North West province. It has also been alleged that North West province has issued permits to hunt individual rhinos that would not normally be regarded as “trophy bulls”, including females and younger animals, possibly as a consequence of excessive off-take of trophy bulls.

### Incentives for rhino ownership

From 2008 through October 2011, turnover from sales of White Rhinos by the three biggest selling organizations in the country (two conservation authorities, EKZNW and SANParks, and one private company, Vleissentraal) totalled just over ZAR236.3 million (approximately USD35.5 million) (R. Emslie, *in litt.* to TRAFFIC, 2012). In theory, the rise in the price of rhino hunts since 2008 has allowed the hunting industry to make unprecedented profits as rhino sale values at the country’s auctions have not increased commensurably. In practice, however, the impact of rhino poaching on the number of rhinos available for sale, as well as an emerging public outcry against rhino hunting in general, has had a negative impact on the actual potential for State conservation authorities to generate financial resources from rhino sales. On 14 July 2009, SANParks Chief Executive Dr David Mabunda said, “We need to dispel the confusion created in recent media reports between the sale of rhinos and hunting in and outside national parks” (Mabunda, 2009).

SANParks is guided in its decision to sell or distribute White Rhinos and other wildlife by *Clause 55(2) (b) of the Protected Areas Act, 57 of 2003* (as amended) which states:

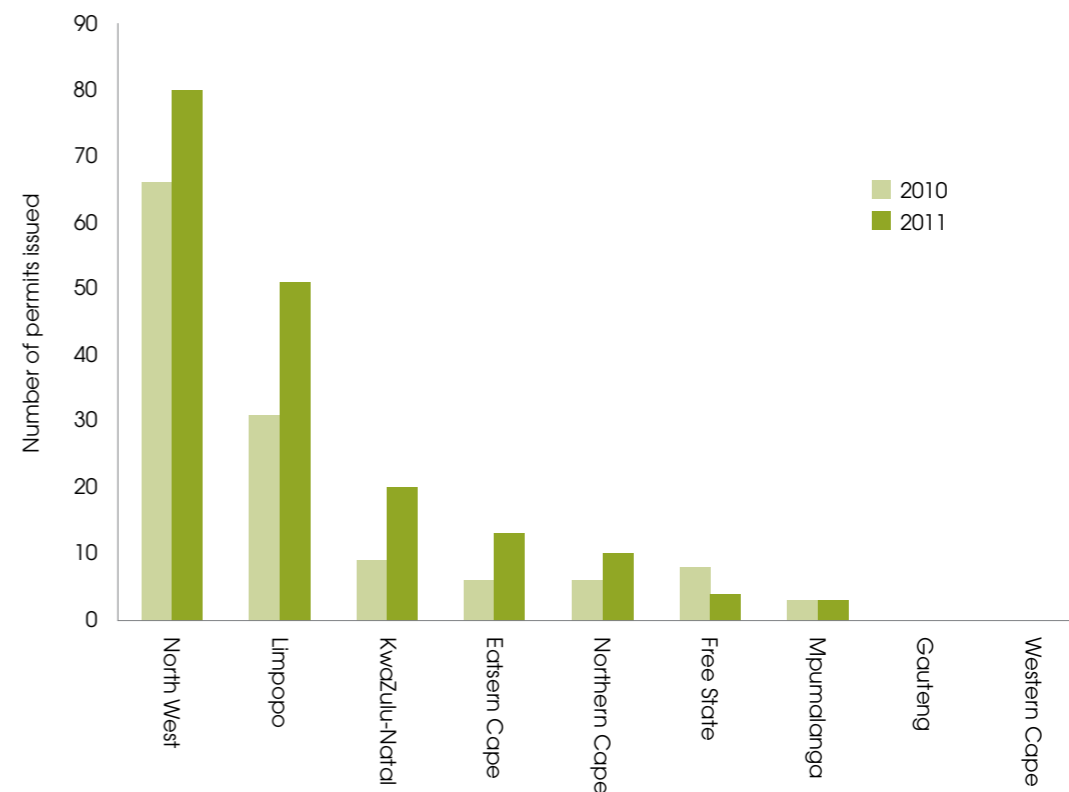
*South African National Parks may, in managing national parks, sell, exchange or donate any animal, plant, or other organism occurring in a park, or purchase, exchange or otherwise acquire any indigenous species which it may consider desirable to reintroduce into a specific park.*

The decisions by SANParks to sell White Rhinos are scientifically determined, based on population growth, sex and age structure, spatial use, natural dispersal, resource distribution and population dynamics. At that time the removal rate of rhinos for live sales had no detectable consequences on population growth and, as Dr Mabunda pointed out:

*SANParks, by selling or donating rhinos, is assisting in the process of re-colonisation of the range in the country and outside. It should be noted that it would be foolhardy if South Africa were to have its only rhino population residing in the Kruger, because we run the danger of losing it should there be a major outbreak of disease or rampant poaching. We would be sitting ducks (Mabunda, 2009).*

Since that time, the number of White Rhinos illegally killed in KNP has steadily increased year on year. More recently, SANParks officials have stated that there will most likely be a serious reduction in, if not an end to, sales of White Rhinos from Kruger in the future due to the impact of poaching on rhino numbers and population structure in the park. In fact, very few, if any, White Rhinos will be sold by SANParks in 2012 (M. Knight, pers. comm., 2012). The notion that current and future poaching levels are impacting the population to the extent that it may no longer be able to sustain any more removals is a growing concern. This could lead to a marked reduction in income generated from live game sales by SANParks to undertake protected area management activities and to purchase new land for conservation purposes. Potentially, there could be major opportunity costs to SANParks’ broad conservation mandate if it were to lose the revenue that is presently generated by the sustainable removal of White Rhino for wildlife sales.

Similarly, White Rhino sales have been the biggest contributor to total revenue earned by Ezemvelo KZN Wildlife (EKZNW) at their annual live and catalogue game auctions, accounting for 75% of total turnover from 2008 to July 2011 (Friedmann *et al.*, 2011). In January 2011, however, the institution received much media criticism over the sale of a trophy hunt of a White Rhino bull for ZAR960 150. This tender was advertised at the request of the KwaMduku Community, which co-manages the Makhasa Community Conservation Area with EKZNW.



**Figure 13** Number of hunting permits issued for sport hunting of White Rhinos in the nine provinces of South Africa in 2010 and 2011 (data from M. Knight)

“Proceeds of the tender will go to the community and they will use the money for conservation purposes,” said Dr Bandile Mkhize, the Chief Executive Officer of EKZNW.

The removal of this animal was justified on conservation grounds as it was an older animal that had already sired a number of calves and, in terms of genetic management of this population, it was desirable for another bull to dominate breeding. In addition, with the earned revenue, the reserve managers were looking to acquire an additional female to boost breeding. Regardless, some people in the media and animal welfare NGOs were highly critical of the sale of a White Rhino as a hunting trophy at a time when rhino poaching was on the rise, despite the fact that the money raised would be returned to conservation activities. However, other rhino conservationists not only supported the removal of this particular rhino from the population on biological management grounds, but also supported the practice of sustainable use in general.

In 2011 and 2012 to date, auction prices for White Rhinos from State lands in South Africa have widely fluctuated, sometimes generating lower than anticipated values for live sales and sometimes bouncing back to previous price levels. In an article in *The Sowetan* newspaper, the Chief Executive Officer of Eastern Cape Parks, Sybert Liebenberg, admitted he was somewhat disappointed that the three White Rhinos on offer from his institution did not sell for more, stating: “Keeping rhinos has become a huge security risk. Though the prices for the rhinos were very low we are satisfied with what we got.” The rhinos (two females and a male) were sold for a total of ZAR630 000 (approximately USD84 000) (MacGregor, 2012).

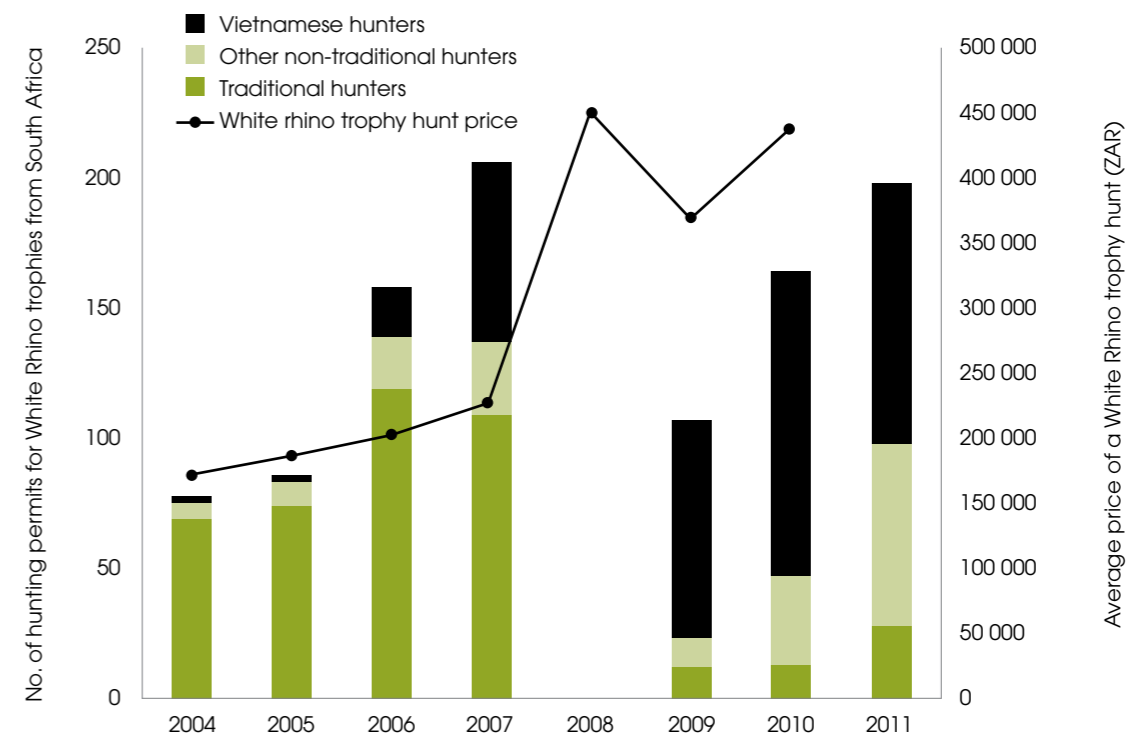
Many in the wildlife industry now believe there is an increasing frequency of game ranchers with a small number of rhinos selling their animals due to increased security risks and the escalating costs of rhino ownership (R. Emslie, pers. comm., 2012). Small-scale ranchers who had owned a few rhinos for ecotourism purposes or simply personal pleasure felt that having rhinos on their land “made them a target” to poaching gangs. The loss of rhinos from private farms reduces the amount of land available as rhino range and could ultimately reduce the number of rhinos that can be supported within South Africa. Conservationists are increasingly regarding the potential reduction in rhino numbers and range to be a serious threat to continued long-term White Rhino population growth in South Africa. Conversely, some large-scale farmers seem to be buying up surplus rhinos, perhaps speculating on current low prices against the prospect of a future legalization of trade in rhino horn.

### Moratorium on sport hunting of White Rhinos

One action proposed by certain NGOs in response to the increase in illegal killing of rhinos and concerns about the motivations of some of those involved in sport hunting rhinos was the implementation of a total moratorium on sport hunting of White Rhinos in South Africa. The South African government actively considered and discussed this action, similar to the implementation of a total ban on rhino horn sales which had been instituted in February 2009. In August 2011, the Minister for Water and Environmental Affairs, Edna Molewa stated that her department was engaging with the various provincial Environment MECs to look at the possibility of placing a moratorium on the hunting of rhinos (Merten, 2011). This approach, however, was strongly opposed by many conservation organizations, as well as those in the private sector (Friedmann *et al.*, 2011). It was felt that removing the opportunity to generate income from trophy hunts of White Rhinos would remove a major economic incentive to own rhinos, which, in association with increased security costs, would lead to a dramatic reduction in land available for rhinos in South Africa. A hunting moratorium was discussed and rejected at a MINMEC meeting of national and provincial environmental representatives in October 2011, but it was noted that the South African government reserved the right to implement a sport hunting ban in targeted areas, environments and/or provinces if necessary in the future. Specifically, it was highlighted that the Minister of Water and Environmental Affairs reserved the right to institute a hunting moratorium in instances where provincial permitting systems failed to curtail abuse. In fact, alternative legislative measures were later implemented to specifically address areas of concern in the permitting system and the sport hunting industry (see *Norms and standards for the marking of rhinoceros and rhinoceros horn, and for the hunting of rhinoceros for trophy hunting purposes*, issued on 10 April 2012).

### Vietnamese involvement in sport hunting

Not surprisingly, South Africa’s hunting market has traditionally been, and continues to be, dominated by hunters from North America and Europe, both continents with centuries-old sport hunting traditions.



**Figure 14** Origin of hunters applying for hunting permits for White Rhino trophies from South Africa between 2004 and 2011 (data compiled from DEA by M. Knight) (No hunting permit information was available for 2008; the average hunting price for 2011 was not available)

In recent years, however, Asian nationals and particularly those from Viet Nam have become the dominant force where the hunting of White Rhinos in South Africa is concerned. Either as foreign safari hunting clients or as residents of South Africa, Vietnamese nationals have continued to hunt rhinos legally on privately-owned properties throughout the country until April 2012, when the Minister for Water and Environmental Affairs announced a suspension in the issuance of hunting licences to Vietnamese nationals (Modise, 2012). Until that time, Vietnamese hunters were the driving force behind rapidly escalating prices for rhino hunts from 2004 onwards. Hunting by these Asian nationals has been termed “pseudo-hunting” by many, as the purpose is not to demonstrate the skills of a hunter and acquire trophies for personal display, but rather to acquire a horn for commercial trade purposes.

Rhino hunts in South Africa typically involve three key players: the foreign hunting client, the landowner with White Rhinos on the property and the professional hunter. Landowners and professional hunters generally collaborate to market White Rhino hunts internationally through hunting magazines, websites on the internet or through visitation to the annual sport hunting conventions like those offered each year in the United States by Safari Club International. The emergence of Vietnamese hunters as a dynamic force in the South African rhino hunting industry, however, has not generally occurred through these normal channels. Instead, word of mouth and rather tentative exploratory beginnings have progressively expanded into an insidious web of relationships binding key representatives of organized Asian syndicates, with a cadre of a few corrupt professional hunters and selected property owners.

Overall, in terms of the number of rhino hunts conducted: from 2007 through 2009, Vietnamese hunters were second to those from the United States and, in 2006, they took third place, right behind the United States and Spain (Figure 14). Since then, the Minister for Water and Environmental Affairs announced in May 2012 that of the 384 foreign nationals who had hunted rhinos in South Africa since July 2009, 185 were Vietnamese (or 48%) (DEA, 2012; Cull and Stander, 2012). The price of sport hunting a White Rhino rose dramatically over this period and it has been suggested that these higher prices led Vietnamese hunters to out-compete hunters from traditional hunting destinations (Figure 14). Some observers have suggested that the increasing proportion of White Rhinos on game ranches that had been dehorned to reduce poaching threats may have also driven up the price for conventional

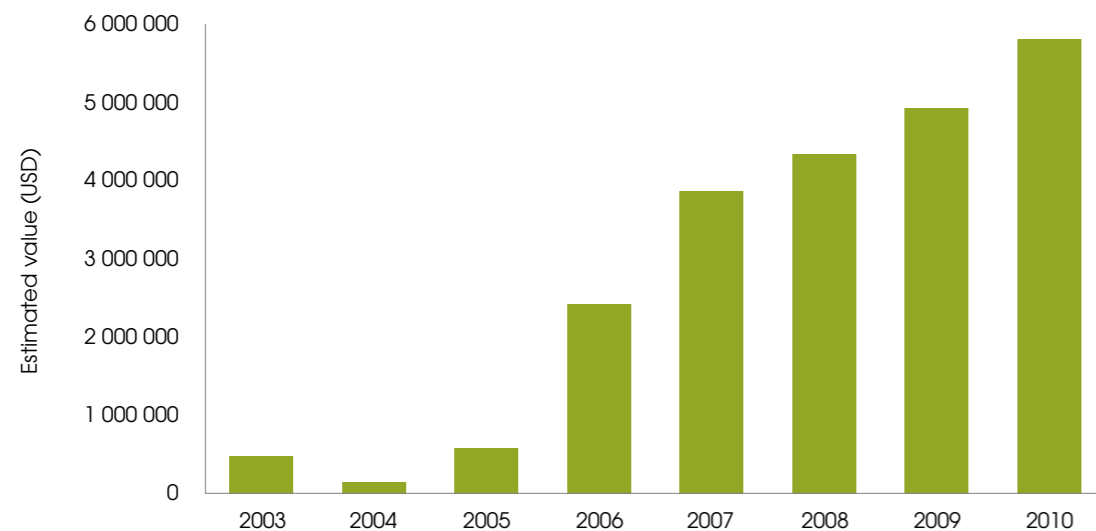


Figure 15 Estimated annual value of Vietnamese White Rhino trophy hunts in South Africa, 2003-10.

hunters wishing to take home a typical White Rhino bull trophy (T. Carroll, pers. comm., 2012). As will be seen, however, the prospect of windfall profits also produced a corrupting criminal effect on a number of private sector game industry operators.

It would appear that escalating prices for rhino trophies in South Africa apparently have been of little concern to Vietnamese hunters who were seeking to acquire horns for commercial trade transactions in Asia, suggesting that demand for rhino horn in Viet Nam is price inelastic. It is widely believed that the high prices paid to hunt White Rhinos were subsequently recovered through selling rhino horn on to illegal markets at home. Assuming exports of rhino trophies represented two horns each time, and assuming that only one-third of the hunts that occurred in South Africa actually sought official export permits to move the acquired trophies out of the country legally (Milliken *et al.*, 2009b), it is estimated that Vietnamese hunters paid over USD22 million to hunt rhinos in South Africa between 2003 and 2010 (Figure 15).

Although Vietnamese hunting of White Rhinos effectively surged from 2006 onwards, doubts about rhino sport hunting by Vietnamese nationals began emerging earlier. Law enforcement officers in South Africa report hearing repeated stories of so-called Vietnamese “trophy hunters” having to be instructed how to shoot a gun in the midst of a sport hunting event or, in a number of instances, the attendant professional hunters actually having to shoot the animal in question without any participation of the so-called hunting client. One published account provides a clear description of how certain professional hunters were complicit in the subversion of the principles of “fair chase”:

*Even [name of a prominent professional hunter] has been prosecuted for leading hunts feeding the horn trade. In 2006 at the Loskop Dam Nature Game Reserve, he paid a token fine after his Vietnamese hunter casually told an official that he did not know how to shoot. The second time, in Limpopo province in 2008, [he] was indignant and fought the citation in court with the help of lawyer. The judge dismissed the case, calling it a technicality that the client had not actually fired the fatal bullet, a privilege that may have gone to [his] teenage son. “We hunted a few,” [he] says, “and the Game Dept. was present on nearly all of the hunts.” Although he defends the practice, he says he stopped guiding the Vietnamese after the Game Dept. informed him they were involved in the horn trade (Borrell, 2010).*

In another case, a Mossel Bay professional hunter and taxidermist, Christaan Frederik van Wyk, was ordered to pay a fine of ZAR30 000 (approximately USD4250) for illegally shooting a White Rhino on a hunting expedition in April 2006 (Rademeyer, 2011b). This case was reported in the press as follows:

*His conviction related to a hunting trip on April 27 2006 at the Leshoka Thabang Game Lodge in Roedtan in Limpopo, in which Van Wyk and a Vietnamese client, Nguyen Tien Hoang, were involved. Van Wyk organised the hunting trip through Tienie Bamberger, a professional hunter and the owner of*

*Warthog Safaris in Ellisras, and was introduced to his Vietnamese client in Naboomspruit. Bamberger received permission for the hunting trip from the owner of Leshoka Thabang, Johan van Zyl. Bamberger was not present on the day of the hunting trip and his wife, Ananya, and his father accompanied Van Wyk and Nguyen. When they found the rhino, the Vietnamese man walked away. Bamberger’s wife, her father-in-law and Van Wyk shot four times at the rhino from a distance of between 50 m and 100 m. Van Wyk didn’t have a permit to hunt the rhino and was also not registered in Limpopo as a professional hunter (Rademeyer, 2011b).*

Other reported allegations concerned professional hunters allowing individuals who were not on the hunting permit to shoot the rhinos, or obtaining export permits falsely for clients whose names were not on the hunting permit. Another issue to emerge was the fact that, in most cases, Vietnamese clients were not at all interested in having their hunting trophies mounted or otherwise prepared by a taxidermist as is inevitably the case with most *bona fide* sport hunters. To the contrary, the Vietnamese usually wanted the horns immediately removed from the dead rhino on the spot and in their possession when they left the premises of the game ranch they had patronized. And finally, it was apparent the certain game ranches were repeatedly hosting Vietnamese hunting parties on multiple occasions.

In fact, as early as 2009, PHASA, through its President at the time, was proactively warning its members to desist from sport hunting with Vietnamese clients:

*In light of the evidence and the questionable legality of the end use of certain rhino horns hunted in South Africa, PHASA strongly advises its [sic] members not to book and conduct hunts with nationals from Viet Nam or other Far Eastern countries until government “has removed this abuse from the SA legal system”, which it has undertaken to do in the near future. PHASA members with a long-term interest in South African hunting and conservation are strongly urged to heed this advisory (Butland, 2009).*

Furthermore, within law enforcement circles at the time it was widely believed that at least five groups of Vietnamese nationals were actively sourcing rhino hunts in the country, often using “non-hunters” as the front men or, on occasion, women to do the hunting. The orchestrators of these Vietnamese groups directed successive rhino hunts throughout the country, supplying the finance, setting up hunting opportunities and recruiting individuals from Asia to play the role of foreign hunters, including wives and girlfriends who were notably unskilled in the use of firearms. Nature conservation officials were also implicated in this practice as they would remain “on standby” to be present for the hunt, measure the horn once it was removed, microchip it and enter the details in a register regardless of who fired the actual shot (Rademeyer, 2011c). In early 2011, this “pseudo-hunting” of White Rhinos was shown to be linked to sex workers who had been trafficked to South Africa, where they were working illegally to try to pay off their debts. Investigators in South Africa exposed an international wildlife trafficking syndicate who hired Thai prostitutes and strippers from clubs in Pretoria and Midrand to pose as “hunters” in sham rhino trophy hunts as a cheaper alternative to bringing faux hunters in from Asia (Rademeyer, 2011c). A curious increase in the number of rhino hunters from the Czech Republic in North West Province, a total of over 34 hunts since July 2009, has led to suspicions that they are now hunting on behalf of Asian crime syndicates (Cull and Stander, 2012).

Such syndicate members were duly aided by unscrupulous professional hunters and White Rhino property owners who were primarily interested in making large profits rather than promoting adherence to hunting ethics and conservation principles. Worryingly, some Vietnamese nationals who had previously been implicated in criminal rhino horn transactions continued to undertake multiple White Rhino hunts, for which export permits were duly issued. Some of these operatives used business or residential addresses in South Africa, including the Free State, Eastern Cape, KwaZulu-Natal and Gauteng provinces.

In the face of growing evidence of abuse and criminality, the legal trade in sport hunted rhino horns to Viet Nam clearly posed a serious and direct challenge to South Africa’s hunting and trade policy for rhinos. The annotation to the CITES Appendix II listing of White Rhino *C. simum* in South Africa only allowed for the conditional export of live animals and hunting trophies with all other specimens of the species to be treated as if they were included in Appendix I of the Convention. Until the advent of Vietnamese hunters into the trade, there had never been any particular reason to question that the purpose of rhino horn exported subsequent to a legitimate hunting operation was anything but a “hunting trophy”. Indeed, according to UNEP-WCMC data, such trophies have been legally imported by 55 countries or territories around the world since 2000.

Regrettably, the scale of “pseudo-hunting” problems grew significantly from 2005 through 2007 as more private sector operators seemingly embraced the Vietnamese market. Only following intensified enforcement action in a number of provinces, recommendations from TRAFFIC and others for stricter measures, including closer scrutiny and monitoring of trophy hunting and professional hunters (Milledge, 2007a,b), and growing oversight pressure within the CITES arena did government authorities in South Africa move to strengthen regulatory controls. Recognizing the threat posed to the sport hunting industry by Vietnamese who were neither experienced hunters nor interested in proper trophy preparation prior to export ultimately led to a series of legal requirements being imposed upon the hunting industry.

One of the underlying problematic issues associated with many of these hunts was the fact that, prior to the introduction of the TOPS regulations, White Rhino could be hunted with “standing permits” on certain properties in Limpopo province, for instance, unbeknown to local conservation authorities. Without knowing whether a *bona fide* hunt had actually taken place or not, it was possible for provincial authorities vetting CITES export permit applications to issue documentation to allow both legal and illegal rhino horns to move out of the country unimpeded. While there has been a progressive tightening up of sport hunting regulations in South Africa since 2007, this major loophole was only abolished in August 2008 (Milliken *et al.*, 2009b). In July 2009, new standards limited individual hunters to one White Rhino hunt per year and required national approval before provincial hunting licences can be issued (Milliken *et al.*, 2009b). These steps were all designed to close avenues of abuse and reduce the sport hunting of rhinos to previous levels, but are believed by some to have contributed to an increase in poaching on both State and private land.

The entry of Vietnamese hunters into the market since 2003 produced a profound effect upon the South African hunting industry. These hunters have mostly been Vietnamese but, since 2007, hunters from China have also acquired and exported 20 rhino trophies, only three of which have been subsequently reported as imports in the corresponding Chinese CITES import data. Further, although not apparent in the CITES trade data for South Africa, provincial hunting records indicate that at least one Cambodian national also conducted rhino hunts in South Africa in recent years, but did not ever subsequently obtain CITES permits for the legal export of the trophies to Cambodia. This general pattern of not surrendering CITES documents for rhino horn trophies at the time of importation, or conducting rhino hunts but not acquiring CITES export permits, reflects the same *modus operandi* evident in examination of Viet Nam’s CITES import data previously discussed. The fact that other Asian nationals are now seemingly engaged in similar conduct raises concerns that these trophies are also in reality destined for commercial trade purposes. Ultimately, it is not known whether the rhino hunts conducted by the Chinese and Cambodian nationals were independently motivated, or whether they were linked to the broader Vietnamese rhino horn trade operation in South Africa. At the very least, these cases are perhaps indicative of an expanding problem.

Only when the amended Norms and Standards came into effect in April 2012 were hunters from Asia effectively blocked from attempting to access rhino horn via “pseudo-hunting” of White Rhinos in South Africa. In practice, this was achieved through interventions by DEA at a national level. On 7 March 2012, an urgent application to the Courts was launched against the Limpopo MEC: Economic Development, Environment and Tourism and the Minister of Water and Environmental Affairs by Jan Walters Slippers, a private hunting operator. The appeal was launched in response to the DEA advising provincial authorities not to issue hunting permits to Vietnamese citizens due to various concerns regarding illegal hunting practices. In this case, Slippers had applied for hunting permits for five Vietnamese citizens and, although they were initially authorized at the provincial level, the DEA moved to overturn this decision. At the hearing, the Court ordered the MEC to issue the permits, subject to the condition that the Vietnamese hunters submit themselves for interviews with relevant government officials for the purposes of verifying their personal details, backgrounds, financial capabilities and other related information as per the amended Norms and Standards for sport hunting of White Rhinos. Necessary arrangements were then made for the hunters to attend the court hearings, but on the day of the interviews, the hunters were not yet in the country. It was later ascertained by the government that there were legitimate grounds for denying the permits. Based upon these concerns, the Court ordered that the permits not be issued and that the costs of the deliberations be charged to the applicant.



White or “square-lipped” Rhinos.



South African White Rhino displayed at the Dai Nam Zoo in Binh Dong province near Ho Chi Minh City.

### EXPORTS OF RHINO PRODUCTS FROM SOUTH AFRICA TO VIET NAM

In 2003, for the first time, South Africa issued CITES permits for the export of nine rhino horn trophies and two rhino horns to Viet Nam (out of 91 such permits issued for rhino horn exports that year). A year later, three more trophies (out of 111 permits issued) were reportedly exported, according to CITES trade data. From that fairly innocuous beginning, South Africa's CITES trade data then demonstrated a rapid escalation in the export of rhino horns to Viet Nam, especially from 2006 onwards. By 2007, 146 horns were exported from South Africa to Viet Nam, though the number of horns officially imported into Viet Nam was very noticeably lower at only 26 (Figure 16). This pattern of high numbers of exports of rhino horn from South Africa to Viet Nam with lower reporting of horn imports was repeatedly the case from 2006 through 2010.

While these numbers are significant and represent a major trade in rhino horns, they certainly do not reflect all hunting activity conducted by Vietnamese citizens or constitute all of the horns that went into trade between South Africa and Viet Nam. For example, Vietnamese nationals reportedly conducted 203 White Rhino hunts in South Africa over the three-year period 2005-07 (M. Knight, pers. comm., 2011). If so, these hunts would have yielded 406 rhino horns, however, South African exports only accounted for no more than 268 horns to Viet Nam during this same time period. This discrepancy suggests that anywhere between one-third and two-thirds of the rhino hunts that took place with Vietnamese clients did not result in the subsequent acquisition of CITES export documents.

Moreover, only a very small fraction of the trade to Viet Nam was openly conducted and reported as imports into that country. According to CITES import data, Viet Nam has only acknowledged receiving a maximum of 170 rhino horns since 2003, indicating that approximately 75% of the maximum of 657 rhino horns against which South Africa issued legal export documents apparently went undeclared at the time of importation into the country (Figure 16). It is believed that only in the event of an impending Customs inspection were rhino horn imports openly declared and CITES documents surrendered upon their entry into Viet Nam. Further, it is widely alleged that unsundered CITES export permits were frequently re-used (until their eventual six-month expiration date expired) to accompany additional shipments of rhino horns acquired in South Africa through other, mostly illegal, means. A review of 37 export transactions to Viet Nam indicates that import destinations in the north of the country (i.e. the capital city Ha Noi, Thanh Hoa in Thanh Hoa province and Vinh City in Nghe An province) accounted for half of this trade, whilst Ho Chi Minh City and Ben Tre in Ben Tre province in the Mekong Delta in the south accounted for the other half.

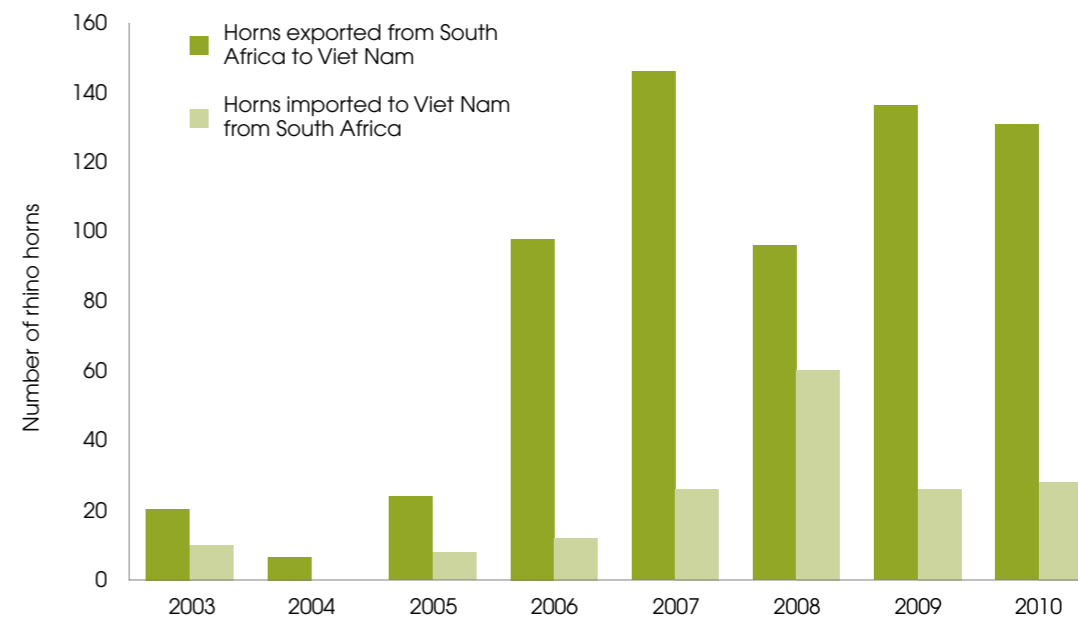


Figure 16 South Africa's reported exports of rhino horn contrasted with Viet Nam's reported imports of rhino horn, 2003-10 (CITES Annual Report Data)

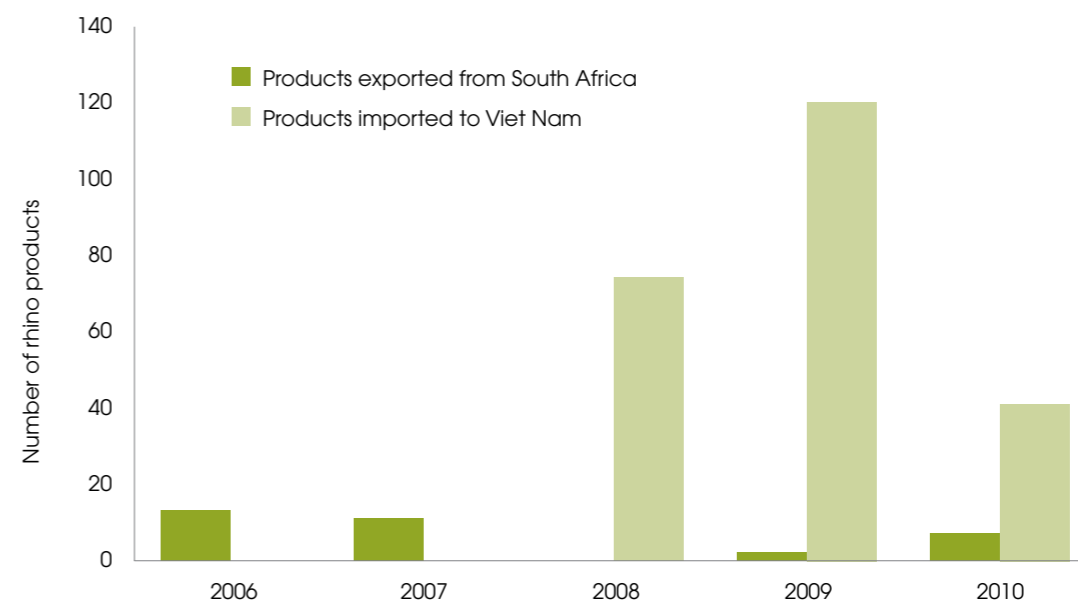


Figure 17 South Africa's reported exports of rhino products contrasted with Viet Nam's reported imports, 2003-10 (CITES Annual Report Data)

As a by-product of rhino hunting, in addition to rhino horns, other rhino parts and derivatives have also been part of the trade between South Africa and Viet Nam during this period. All of this trade occurred since 2008 (Figure 17), and is more widely reported in Viet Nam's CITES import data than in South Africa's export data (UNEP-WCMC CITES database). The CITES reporting trend differs in that a great deal more rhino products received import permits in Viet Nam than were reported as exports by South Africa, in direct contrast to the pattern for rhino horn.

Year	2008	2009	2010	Total
Bodies		25		25
Bones	52	53		108
Feet	20	16	24	60
Skeletons		1		1
Skin pieces		18	14	32
Skins	2	2	3	7
Skulls		1		1
Tails		1		1

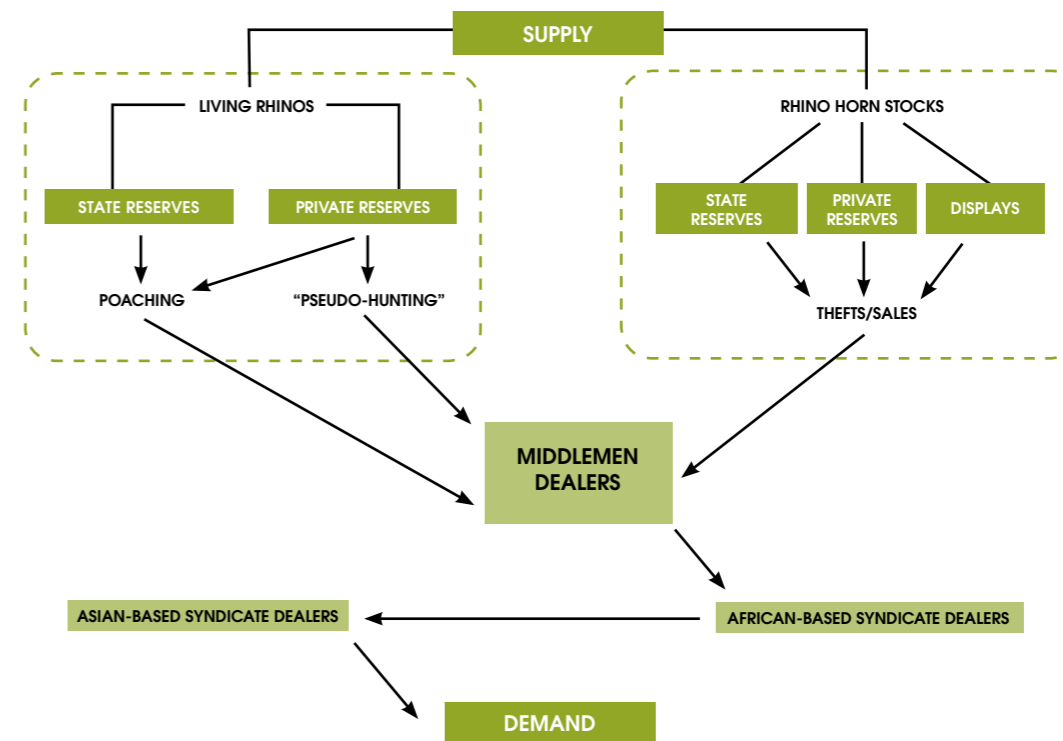
**Table 3** Rhino body parts reported as imported to Viet Nam, 2003-10 (CITES Annual Report Data)

A remarkable range of rhino body parts have been recorded as imports to Viet Nam, including bones, feet, skins and skin pieces as well as whole bodies and a whole skeleton (Table 3). It is believed that rhino skin and other body parts may form part of the pharmacopeia being used for medicinal purposes in Viet Nam. That there was no importation of rhino horn or any other body parts to Viet Nam prior to 2003 provides further evidence that the recent increase in rhino poaching is related to growing demand in what was previously a dormant market.

Furthermore, 16 live White Rhinos were reportedly exported from South Africa to Viet Nam between 2003 and 2010, of which 14 were officially imported, according to Vietnamese data (Table 4). Export trade data are typically generated from permits issued and not from permits which have actually been used, thus export trade volumes are sometimes greater due to the inclusion of unused permits. Regardless, the status of the 14 live White Rhinos imported to Viet Nam since 2003 is worthy of ongoing investigation. Concerns had previously been raised by TRAFFIC about the importation of large numbers of White Rhinos to China from South Africa for the purpose of farming them for their horns (Milliken *et al.*, 2009b).

	2003	2004	2005	2006	2007	2008	2009	2010	Total
South Africa exports to Viet Nam	2	0	0	2	4	2	2	4	16
Viet Nam imports from South Africa	2	0	0	2	6	2	2	0	14

**Table 4** South Africa’s reported exports of live rhinos contrasted with Viet Nam’s reported imports, 2003-10 (CITES Annual Report Data)



**Figure 18** Trade chain flow from rhino poaching, illegal acquisition of stockpiled horn and legally-hunted White Rhino in South Africa to Viet Nam

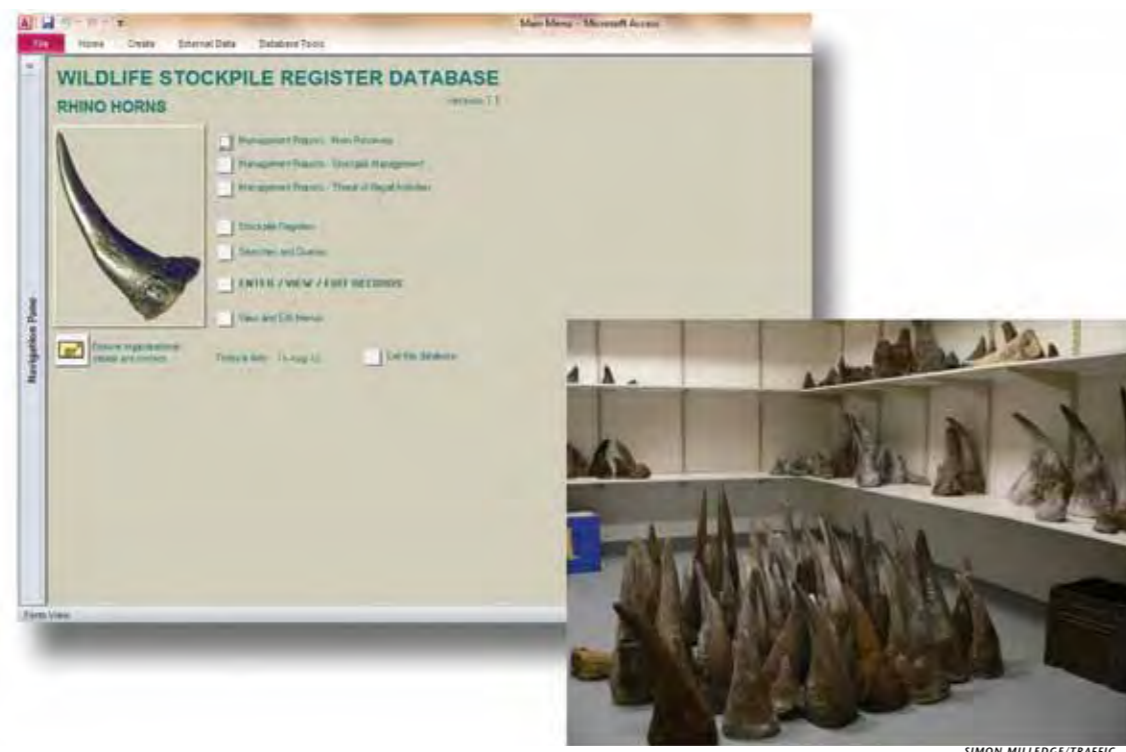
**SOURCES OF RHINO HORNS FOR THE VIETNAMESE TRADE**

Figure 18 depicts the trade chain and sources of rhino horn that are moving from South Africa to Viet Nam. Since 2003, apart from the large numbers of White Rhino horns obtained as legally hunted trophies, Vietnamese nationals have also increasingly been implicated in the acquisition of rhino horns deriving from other sources. A second source of horns has involved privately-held stocks (recovered from natural mortalities and legal or illegal dehornings) that had not been declared and registered with relevant provincial authorities and have been sold in contravention of national legislation in South Africa. Further leakage of horn onto illegal markets has also followed the theft of rhino horn stocks from both private and public owners and institutions. Finally, poaching of both Black and White Rhinos within South Africa and from neighbouring countries, especially Zimbabwe, has provided a fourth and major source of horns. It is important to recognize that these four sources of rhino horn are all strongly interlinked and have been collectively managed as the “supply” by the organized crime syndicates behind the trade to Asian destinations.

These sources have all been actively exploited and contribute to massive illegal activity managed at local, national, regional and international levels by organized crime syndicates. Operating at different scales and across borders, these well-organized and Africa-based nodes of criminal activity, at their highest levels, invariably comprised Asian operatives. The connecting web of players was made up of a series of local middlemen, including private sector game ranchers, professional hunters, veterinarians and other wildlife industry figures opportunistically supported by local businessmen. At the lowest level were rhino poachers, sometimes recruited from communities surrounding protected areas, but increasingly coming from more sophisticated backgrounds amongst South Africa’s extensive wildlife industry sector (see section on Rhino Crime Syndicates).



## RHINO HORN STOCKS IN SOUTH AFRICA



TRAFFIC Rhino Horn Stockpile Register Database (and inset) a government rhino horn stockpile.

### Government stocks

Provincial government conservation agencies that manage the bulk of South Africa's rhinos through an extensive network of protected areas are constantly acquiring rhino horns through retrievals from animals that died naturally or were poached in the wild. Rhino horns are also added to stockpiles via occasional management-related activities such as dehorning or the loss of horns during translocation, or through law enforcement actions that result in seizures. SANParks, which conserves the country's largest White and Black Rhino populations, also has responsibility for managing those rhino horns that fall into its possession. Similarly, all provincial conservation authorities have responsibility for managing rhino horns.

Each of these authorities maintains institutional facilities for storing rhino horns and other wildlife products such as elephant ivory in their possession. In some cases, the location of the strong room is kept a secret. In recent years, a range of security features have been installed to ensure better protection. Strict protocols determine access, management and record keeping for the country's rhino stocks, which are officially regarded as government assets. Regulations on horn stockpile procedures were reviewed in 2009 and 2011 in the light of concerns about irregularities in record-keeping. The most recent amendments to government Norms and Standards in April 2012 require provincial government agencies to keep all horn stockpile records on the database developed by TRAFFIC (see Milledge, 2004), which will be managed by DEA.

Through a CITES process pursuant to Decision 14.88, all Parties were required to provide data on rhino horn stocks in their possession to the CITES Secretariat in 2009. Whilst South Africa complied and made a submission, the report did not include any information from Western Cape province, nor did Eastern Cape, Free State, Mpumalanga and Northern Cape provinces report on privately-held rhino horn stocks. The largest government authority collections by 2009 were held by EKZNW and SANParks. The lack of report from the Western Cape is thought to reflect an administrative error rather than a serious problem, as very few rhinos are actually found in that province (R. Emslie, pers. comm., 2011). As of the beginning of 2012, DEA are co-ordinating an updated survey of provincial rhino horn stockpiles and taking samples for DNA analysis of all horns to be added to the RhoDIS database (S. Meintjes, pers. comm., 2012). In general, it would appear that rhino horn stock management systems are reasonably well developed and implemented by government conservation authorities throughout the country.

### Private sector stocks

Rhino horns, including antiques, family heirlooms, legal purchases or individual hunting trophies, are also subject to private ownership through a variety of circumstances which effectively span Africa's colonial heritage to modern times. Further, there is a continuous accumulation of rhino horns deriving from the more than an estimated 5000 privately-owned rhinos on some 450 properties around the country. Natural, accidental or capture mortalities, management-related activities such as dehorning, knock-offs from fighting and boma confinement, and the occasional recovery of horns from animals killed by poachers has ensured a periodic and sustained accumulation of rhino horns in the private sector.

In all of South Africa's nine provinces, legal controls stipulate that individual horns in the private sector require possession permits. Until 2009, the sale of rhino horns within South Africa to South African nationals was allowed, but landowners on private property could not sell rhino horn to foreign buyers. This enabled certain individuals to create mini-stockpiles, which potentially could then be illegally used. Legal stockpile purchases could also be exported as personal effects, to be sold later on into trade. In fact, there were many apparent gaps in the registration and reporting of privately-held rhino horn stocks in South Africa. Nobody knew the precise scale of horns held as personal effects in South Africa, but they could conceivably number in the hundreds (if not thousands) of specimens. In recognition of these problems, the government imposed a temporary national moratorium on the sale of individual rhinoceros horns and any derivatives or products in Government Notice 148 in *Government Gazette 31899 of 13 February 2009* to ensure that no legally-obtained horns could end up in the illegal trade (Anon., 2010a).

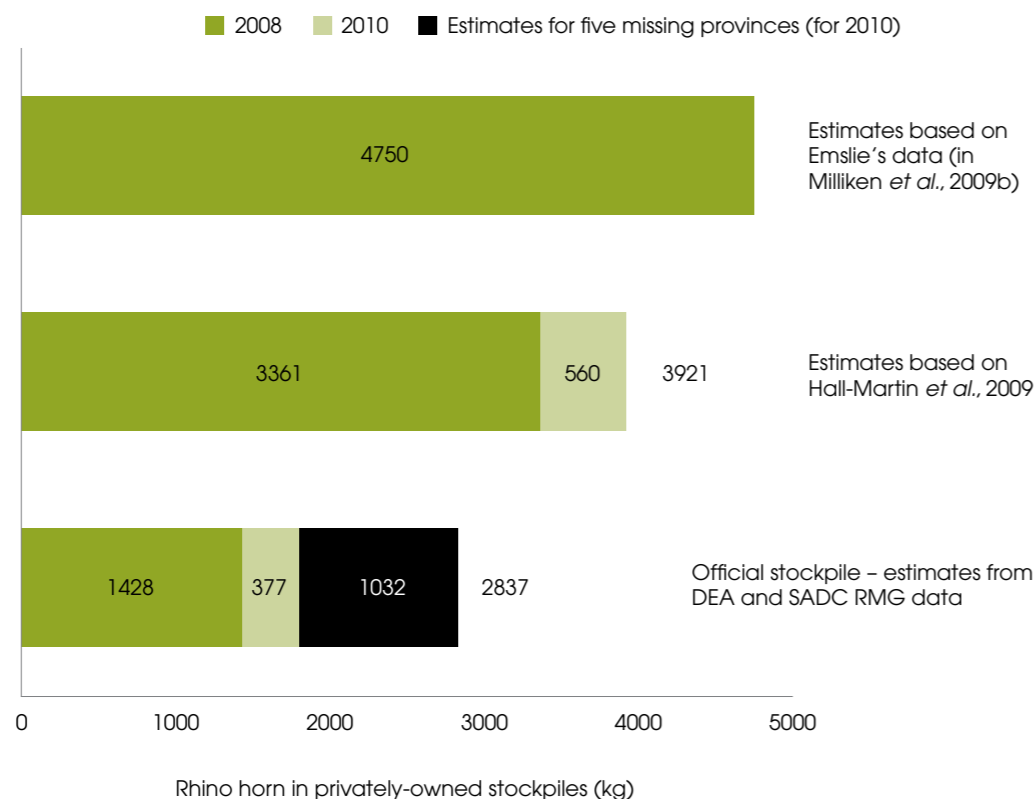
The stock declaration process under CITES Decision 14.88 described above served to amplify previous deficiencies in the government's management of private sector rhino horn stocks. Within Africa as a whole, only about 9% of the reported 23.5 tonnes of rhino horn stocks are currently held by the private sector and, of these, nearly three-quarters are in the possession of private individuals in South Africa (Milliken *et al.*, 2009b). The fact that five provinces experienced difficulty in providing data through the CITES process was indicative of problems in tracking non-government rhino horn ownership in the country.

The most recent reports on rhino horn stockpiles in South Africa as of the last quarter of 2010 (Table 5; Knight, 2011) show an increase of 5.7% in State stockpiles and 26.4% in stockpiles of private horn since CITES reporting in 2009, in part due to better reporting at a provincial level. From 2004, horn stockpiles have been growing by 5%, roughly in line with rhino population growth rates. The marked increase in official records of private rhino horn stockpiles between 2009 and 2010 could be seen as a positive trend, indicating increased compliance within this sector.

Type of horn	Quantity	Mass (kg)	Percentage (%)
Legal State	6423	12 961	85.5
Illegal State	163	386	2.5
Private	920	1805	11.9
<b>Total</b>	<b>7506</b>	<b>15 152</b>	

**Table 5** Rhino horn stockpiles in South Africa as of 31 December 2010 (Knight, 2011)

However, it is useful to compare the actual reported data with estimated rates of rhino horn accumulation in the private sector as an indication of what is potentially "missing" in the data and possibly has already gone into illegal trade. It has been estimated that, overall, the mortality rate of the segment of the country's rhino population that is privately owned is 2.15% annually (Hall-Martin *et al.*, 2009). If that is the case, between 2005 and 2008 a total of 322 White Rhino deaths would have occurred, yielding approximately 1650 kg of rhino horn (Hall-Martin *et al.*, 2009). In addition, another 125 kg of horn per annum was harvested through dehorning or other factors, increasing the total over this four-year period to "at least 2150" kg (Hall-Martin *et al.*, 2009). When other years that predate this time period are considered, Hall-Martin *et al.* (2009) suggested that at least 3361 kg of rhino horn should be in the hands of private owners in South Africa. Using the same methodology from Hall-Martin *et al.* (2009) for natural mortalities from 2009 and 2010 produces an updated total private horn stockpile of 3921 kg. Another look at this issue using a different methodology estimated that some 4750 kg of rhino horn should be in the private sector (Milliken *et al.*, 2009b). It can be seen that South Africa's official declaration of privately-owned rhino horn stocks to CITES in mid-2009 falls far short of these figures by



**Figure 19** Estimates of private sector rhino horn stocks contrasted with latest horn stock data from December 2010

as much as 70% (Figure 19). Indeed, if the average White Rhino horn size is four kilogrammes (Martin, 1983), South Africa's data for private sector stocks in 2009 is under-reported by up to 830 rhino horns or 415 rhinos.

In view of these apparent discrepancies, the TRAFFIC/IUCN rhino document to CITES CoP15 concluded:

*Whilst the shortfall between reported and expected horn stocks does not confirm that illegal activity is widespread in South Africa's private sector, it does strongly suggest that significant volumes of rhino horn still remain outside of the legal control system and are vulnerable to undocumented trade in the hands of unscrupulous individuals. That fact, and the failure of five provinces to report private horn stocks, indicates that implementation of South Africa's control policy for rhino horns is inadequate at a time when illicit trade is escalating (Milliken et al., 2009b).*

Law enforcement personnel report numerous instances in which they believe privately-owned rhino horns have been illegally sold, and there have been active investigations in Eastern Cape, Gauteng, Free State, Limpopo and Mpumalanga provinces (R. Taylor, *in litt.* to TRAFFIC, 2009). Initially, government authorities had some success in preventing registered horns that were held under possession permits from being sold to non-South African nationals. Later, it became apparent that such horns were being transferred to certain *bona fide* citizens who in turn sold the horns to foreigners, sometimes subsequently reporting bogus thefts. In at least one such case, the legally-acquired horn was traded through Port Elizabeth, Eastern Cape province, only to finally surface in Indonesia; one of the middlemen in this instance, presently awaiting prosecution, allegedly received ZAR30 000 (approximately USD3600) for his efforts in the deal (R. Taylor, *in litt.* to TRAFFIC, 2009). Indeed, one wildlife industry insider at the PROA National Rhino Summit in November 2011 stated that the national moratorium on rhino horn trade, by ending the unofficial supply of rhino horn from private horn stockpiles into the illegal international market, is what led to the subsequent rise in rhino poaching in South Africa.

In some instances, private sector operators have actively created rhino horn stockpiles with a view to future legal trade or use. One such individual, John Hume, reportedly has:

Date	Location/Museum	No. horns	Weight (kg)	Comments
Nov 02	Transvaal Museum, Gauteng	1	Unknown	White rhino. Daylight robbery. ZAR150 000.
Dec 06	Graaff-Reinet House Museum, Eastern Cape	1	9	White Rhino. 120-year-old exhibit. Break-in at night.
Oct 07	Graaff-Reinet House Museum, Eastern Cape	2	2	Mounted on pieces of wood. Stolen out of gun safe by day visitors.
Dec 07	Amatole Museum, King Williams Town, Eastern Cape	1	Unknown	Daylight robbery by four armed men.
Mar 08	Oudtshoorn Museum, Western Cape	1	Unknown	Mounted on piece of wood. Break-in.
Apr 08	South African/Iziko Museum, Western Cape	2	Unknown	White Rhino dating from 19th century. Also unsuccessfully attempted to remove Black Rhino horns.
Unknown	Lumarie Game Farm, Bela-Bela, Limpopo	3	Unknown	Theft
Unknown	Game farm, Bulgerivier, Limpopo	1	Unknown	White Rhino. Theft.
Unknown	Leshoka Thabang, Roedtan, Limpopo	6	Unknown	White Rhino. Theft.
Unknown	Elkland Safaris, Makhado, Limpopo	3	Unknown	Theft
Unknown	Grahamstown Albany Museum, Eastern Cape	1	Unknown	Fake horn.
Unknown	Bedford, Eastern Cape	1	Unknown	Game ranch.
Jun 09	Addo National Park, Eastern Cape	1	10.5	Micro-chipped. Armed Robbery.
Jun 09	Grahamstown, Eastern Cape	16	Unknown	Game ranch.
Unknown	Thomas Baines Nature Reserve, Eastern Cape	0	0	2 firearms and safe stolen in belief horns inside the safe.
Apr 10	Taxidermist, Limpopo	18	Unknown	Daylight armed robbery.
Oct 10	Thaba Manzi Lodge, Limpopo	7	Unknown	White Rhino. Armed robbery plus two firearms. ZAR15 000 cash, cell phones and a laptop computer.
<b>Total</b>		<b>65</b>	<b>21.5</b>	

**Table 6** Reported thefts and losses of rhino horn within South Africa (data from Law and Policy Programme, EWT)

*over 500 kg of white rhino horn individually measured and registered with the provincial government, implanted with government-issued micro-chips, similar to the ones inserted in pets, and housed in safety-deposit boxes at three banks around the country, awaiting a time when trade would be legal (Borrell, 2010).*

In fact, this individual has reportedly at least once sold rhino horn within South Africa prior to the national moratorium:

*Until recently, horn buyers advertised openly in Game & Hunt magazine for "tusks and rhino horns" that have been "legally obtained." It is legal to trade horn within South Africa's borders with appropriate permissions. Hume followed up on one such offer in July 2006, when he obtained permits to ship 84 kg of horn to a buyer in the North West province of South Africa. Hume believes the horns subsequently left the country. He sold the horn for just ZAR8000 (US\$1200) per kilogram (Borrell, 2010).*

### Horn thefts

A related illegal trade in rhino horns concerns thefts of private or State-owned rhino horn stocks. As the value of rhino horns has increased over time, rhino horn stocks are under increasing risk of theft. At least 37 horns have been reportedly stolen from game ranches, whilst a series of other incidents have resulted in thefts of a minimum of nine horns, including a fake specimen, from educational or decorative displays at various museums within South Africa (Table 6). A taxidermist reported losing

Date	Location/Museum	No. horns	Comments
Aug 09	Museum, Kenya	Unknown	Museum heist of 58 natural and ethnographic materials
Oct 09	Albany Check Casher, New York, USA	2	Black Rhino. Robbery, bottom jaw recovered, horns still missing
Dec 10	Alwetter Zoo, Germany	1	Robbery
Feb 11	Sworder's Auctioneers, UK	2	Black Rhino mounted head
Mar 11	Museum of Natural History, France	1	Robbery
Apr 11	Museum of Natural History, Portugal	2	Robbery
May 11	Haslemere Educational Museum, UK	2	Break-in, approximately 02:00 am
Jun 11	Liège Natural History Museum, Belgium	0	Attempted theft, thieves apprehended by police
Jun 11	Natural History Museum, Germany	1	White Rhino horn
Jun 11	Gifhorn Museum of Hunting, Germany	2	Daylight robbery
Jun 11	La Specola Museum, Italy	3	Break-in. Curator estimated horn length at 30.5 cm
Jun 11	Oerrel, Germany	1	Robbery
Jun 11	Hamburg, Germany	6	Entire upper jaw of a rhino with two horns attached and an additional four horns
Jul 11	Bamberger Nature Museum, Germany	1	Break-in, actual date unknown
Jul 11	Museum of Africa, Belgium	0	Attempted theft
Jul 11	Brussels Natural History Museum, Belgium	2	Thieves snuck in during daytime, removed horn, dropped it onto a waiting vehicle from a window
Jul 11	Castle, Czech Republic	3	During night tour
Jul 11	Natural History Museum, France	2	Break-in
Jul 11	Museum of Natural History, Sweden	1	Reportedly thieves took time to saw off the horn in the museum
Jul 11	Musée Africaine de l'Île d'Aix, France	1	A 02:30 am break-in
Aug 11	Ipswich Museum, UK	1	Break-in
Aug 11	Africa Museum, Belgium	2	Robbery
Aug 11	Museum, Belgium	2	Robbery
Aug 11	Natural History Museum, Netherlands	2	Robbery
Aug 11	Tring Natural History Museum, UK	2	False horns
Aug 11	Natural History Museum, UK	Unknown	Robbery
Aug 11	Drusillas Zoo, UK	1	Black Rhino. Daylight robbery, taken from a locked cabinet
Nov 11	Dorotheum Auctioneers, Austria	1	Daylight robbery by two English-speaking men
Nov 11	Margarethen Taxidermist, Austria	1	Daylight robbery by two English-speaking men
Dec 11	Museum of Hunting and Nature, France	1	Security guards knocked out with stun guns
<b>Total</b>		<b>46</b>	

**Table 7** Reported thefts of rhino horn from international museums and educational institutions (data from Law and Policy Programme, EWT)

another 18 horns in one robbery. These thefts clearly represent premeditated actions that probably involved prior surveillance activities and were generally executed through criminal break-ins.

The attempted armed robbery of rhino horn stocks from the government store within Addo National Park in Eastern Cape province in June 2009 signalled a further escalation in tactics and *modus operandi* of illegal horn traders. Given the high levels of security associated with these stocks, many believe that an element of insider knowledge is involved, providing information on access to potential thieves. Even more worryingly, government officials tasked with providing permits for rhino horn possession have been linked to subsequent horn thefts. An armed robbery at Thaba Manzi lodge in Bela Bela,



A rhino horn was stolen from this display in Museum of Hunting and Nature, Paris in December 2011.

Limpopo, in October 2010, which included the theft of seven rhino horns from a safe, is alleged to have been connected to the provincial department that had recently been informed of the location of the horns for permitting purposes (Anon, 2010g).

International criminal syndicates have also targeted rhino horns in museums and educational institutions, particularly in Europe and the U.K., resulting in the theft of at least 46 horns (Table 7). Many of these thefts are believed to be linked to the “Rathkeale Rovers”, an Irish criminal syndicate reportedly involved in other crime, including tarmac fraud, the distribution of counterfeit goods, organized robbery, money laundering and drug trafficking. This group actively sourced rhino horns from antique dealers, auction houses, art galleries, museums, private collections and zoos throughout Europe (O’Keefe and Sheridan, 2012).

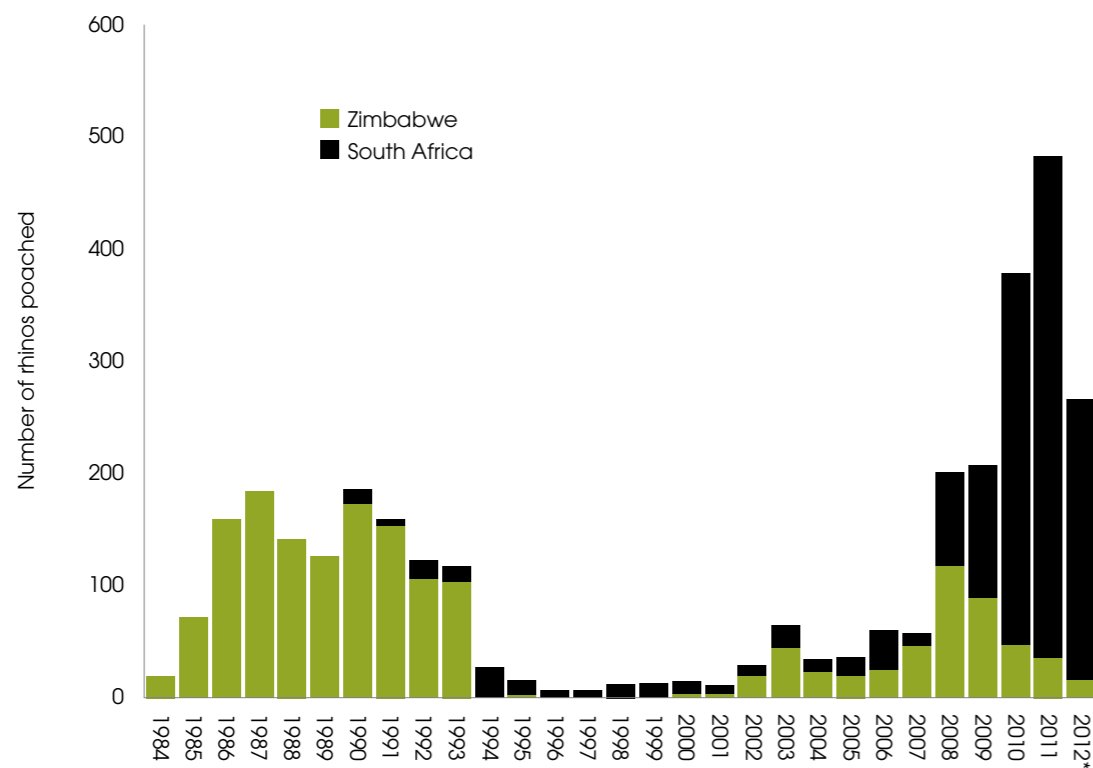
The TRAFFIC/IUCN report to CITES CoP15 conservatively estimated that, from 2006 through 2009, more than 200 rhino horns illegally entered trade in Asia from privately-owned stocks (Milliken *et al.*, 2009b), but this figure appears to be an under-estimation by a considerable margin. Overall, it is now suspected that at least several hundreds of horns have been illegally sold from private rhino horn collections throughout the country, and this trafficking has been augmented by other horns deriving from a series of rhino horn thefts that have grown increasingly frequent since 2005.

## POACHING OF RHINOS IN SOUTH AFRICA

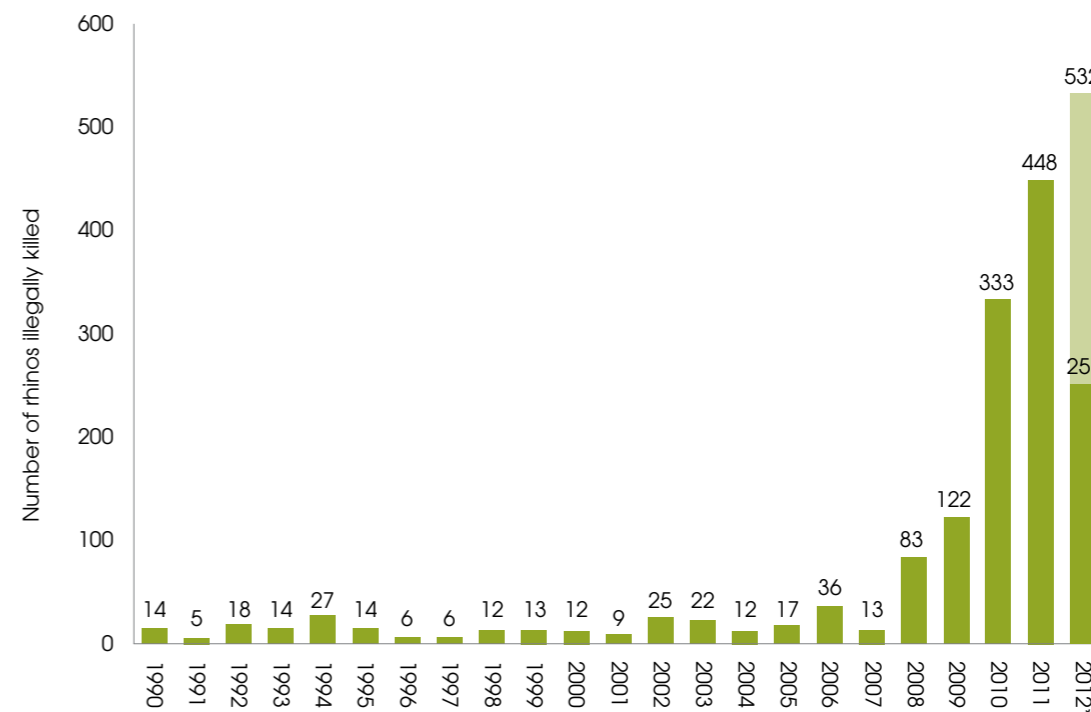
### Numbers of rhinos illegally killed

South Africa has long prided itself on keeping poaching losses of rhinos to a bare minimum. For three decades, as successive waves of rhino carnage struck other rhino range States across Africa, for the most part, South Africa, together with Namibia and Zimbabwe, remained unaffected. Following independence in 1980, the situation changed in Zimbabwe and serious rhino poaching, especially in the Zambezi Valley, progressively threatened the country's rhinos. Zimbabwe's first poaching crisis did not abate until 1994 following national efforts to increase security for rhinos, including their consolidation into a number of Intensive Protection Zones and undertaking large-scale dehorning operations (Milliken *et al.*, 1993). Concurrently, by 1993, a number of key Asian countries and territories that were major rhino horn consumers, most notably China, Taiwan and South Korea, all imposed internal rhino horn trade bans, severely curtailing usage by their traditional medicine industries. In southern Africa, this led to nearly a decade of negligible rhino poaching (Figure 20) and considerable rhino population growth. A resurgent rhino horn trade, and one directly linked to the emergence of Viet Nam as a consumer and not any of other previous Asian countries or territories of concern, first surfaced in Zimbabwe and South Africa in the early 2000s. Part of the impetus behind the progressive upsurge in rhino losses in Zimbabwe was South African operatives who were active in the country. By 2008, both countries were experiencing a major upsurge in rhino poaching (Figure 20). The subsequent year-on-year reduction in Zimbabwe's rhino losses is most likely due to the fact that most poorly-secured rhino populations had already been lost to poaching and the largest remaining rhino populations are consolidated in Southeast Lowveld conservancies under better protection.

As Zimbabwe's poaching losses have declined, the number of illegally-killed rhinos in South Africa has increased. From 1990 to 2007, apart from a very short-lived spike of poaching activity in 1994 (the year of South Africa's historic election that ushered in political change), the loss of rhinos has remained at a very low level, averaging some 15 rhinos annually, or slightly more than one rhino each month (Figure 21).



**Figure 20** Number of rhino poached by year in Zimbabwe and South Africa from January 1984 – 20 June 2012\* (data from N. Anderson, Lowveld Rhino Trust)



**Figure 21** Number of rhinos recorded killed in poaching incidents in South Africa 1990–2012, showing predicted total of 532 rhinos for 2012 based on rates to 20 June 2012 (data from M. Knight)

That enviable and hugely laudable rhino conservation record has come to an abrupt halt and been altered irretrievably. In 2006, rhino poaching losses hit a then record of 36 animals, the highest level in decades, but then dropped back the following year to previous levels of only 13 rhinos. Since then, however, poaching levels have escalated dramatically, increasing every year since. In 2008, 83 rhinos were reportedly poached and, in 2009, the number poached reached 122 (Figure 21). As the TRAFFIC/IUCN document to CITES CoP15 reported at the time:

*Since 2006, 95% of all detected or presumed rhino deaths in Africa from illegal killing have occurred in Zimbabwe and South Africa. These two nations collectively form the epicentre of an unrelenting poaching crisis in southern Africa. In South Africa, the illegal off-take has reached the highest levels in recent history, impacting not only Kruger NP on the country's border with Mozambique, but also other protected areas in KwaZulu-Natal and a range of private sector game ranches for the first time in Limpopo, Gauteng, North West and Eastern Cape provinces [M. Knight, in litt., 2009] (Milliken *et al.*, 2009b).*

While the report to CITES CoP15 was tabled in late 2009 (and hence the data for that year were incomplete: 91 out of the eventual total of 122), since then the situation has worsened. In 2010, poaching escalated dramatically throughout the year, nearly tripling and reaching a previously unimaginable 333 rhinos killed. Noting a crisis that needed urgent attention, the IUCN/SSC AfRSG warned that if this rapid rate of escalation in poaching were to continue, then in just a couple of years rhino numbers in South Africa would begin to decline (R. Emslie, pers. comm., 2012). In 2011, poaching again climbed to a new annual record of 448 rhinos lost. Some observers have taken some measure of consolation in the fact that the rate of escalation in poaching was down over the previous year and represented the smallest annual percentage increase in recorded poaching since the upsurge began (R. Emslie, pers. comm., 2012). Many others, however, remained shocked that South Africa could sustain a loss of one rhino death every 20 hours throughout the entire year. The most recent numbers for 2012 were released by the DEA just prior to the completion of this report and showed that 251 rhinos were killed by 20 June 2012, a figure that extrapolates to a predicted annual total of 532. If so, this would once again represent an annual increase over 2011, even if the rate of increase is somewhat lower than previous years.

That the year-on-year rhino poaching losses have continued to grow in the face of heightened awareness, constant media attention and concerted law enforcement effort is testament to just how pervasive

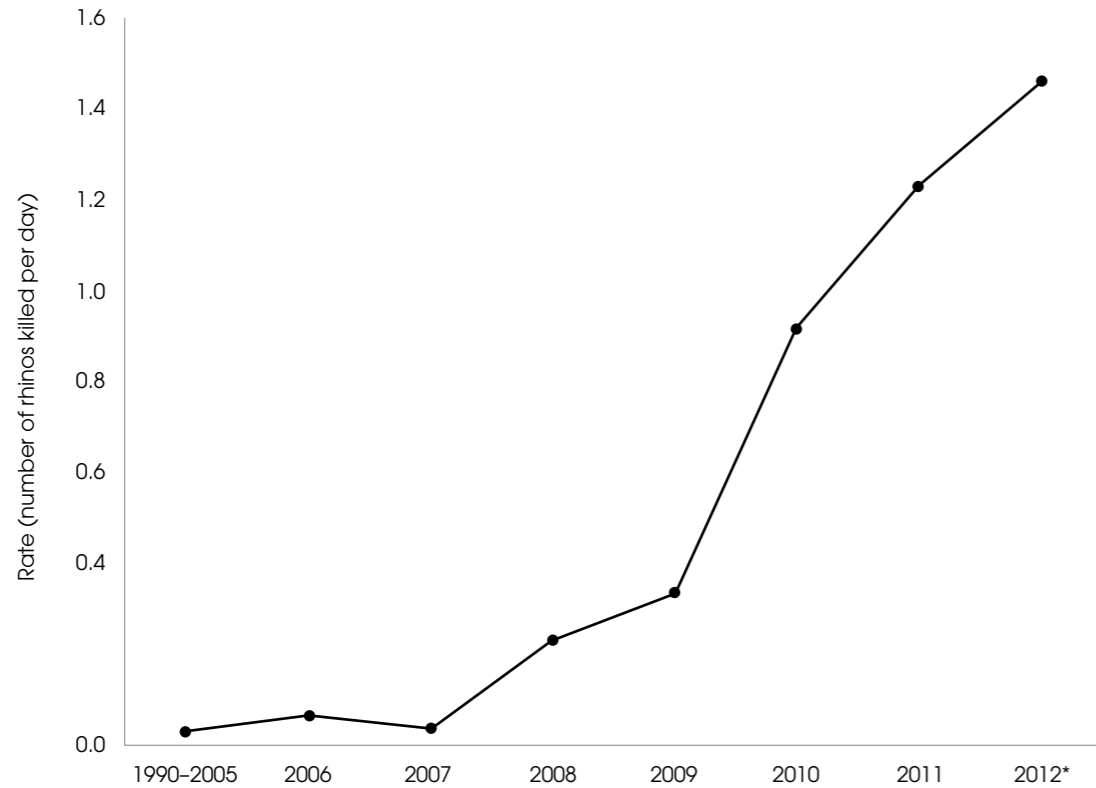


Figure 22 Mean daily rate of poaching of rhinos in South Africa from 1990 to 20 June 2012\* (data from M. Knight)

and gripping the rhino crisis in South Africa has become. If poaching continues to increase annually as it has done since 2007, then eventually deaths will exceed births and rhino numbers in South Africa will start to fall. Slowing the rate of escalation simply increases the time until the country's rhino numbers are likely to start declining. Modelling shows that if the rate of increase observed between 2009 and 2010 had continued, coupled with the observed increase in the number of White Rhinos being hunted each year, South Africa's White Rhino population would start to decline in 2013. A slower rate of increase, for example as happened between 2011 and mid-2012, and the decline in rhino numbers would be expected to commence in 2018 (R. Emslie, pers. comm., 2012).

The rate of rhino poaching has fluctuated somewhat over time, indicating that anti-poaching activities and arrests may disrupt crime networks in the short-term. A March 2011 presentation by South African law enforcement officials predicted that the total rhino deaths due to poaching in 2011 would be 292, based on the relatively lower rate of poaching incidents at the time, a development thought to be linked to a number of key arrests (Maggs, 2011). In fact, the total number of rhinos killed in 2011 reached 448 (Figure 21), suggesting that arrests may lead to brief spates of lower poaching activity but are not, as yet, generally sustained throughout the year. Detailed analysis of rhino losses in quarterly increments from 2010 to date show a progressive escalation through 2010, a levelling off during most of 2011 but a major spike from the end of 2011 into the first quarter of 2012 (Figure 23). The pronounced decline in the poaching rate since April 2012 is thought to be linked to recent arrests of key syndicate players (see "Arrests of rhino crime syndicate members in South Africa" section below).

Looking at the same data to compare quarterly patterns in the rate of poaching, it can be seen that within each quarterly grouping the rate of poaching has increased in each successive year since January 2010 through June 2012 (Figure 24). Furthermore, the last quarter of each year, the period from October through December, consistently shows the highest rate of poaching in each year.

Thus, it is difficult to be predicative regarding how poaching rates will play out through the rest of 2012 and subsequent years. Overall, the total number of rhinos killed per year in South Africa over the past five years has shown a continued escalation (Figure 22), even if there are fluctuations in the daily rate of poaching.

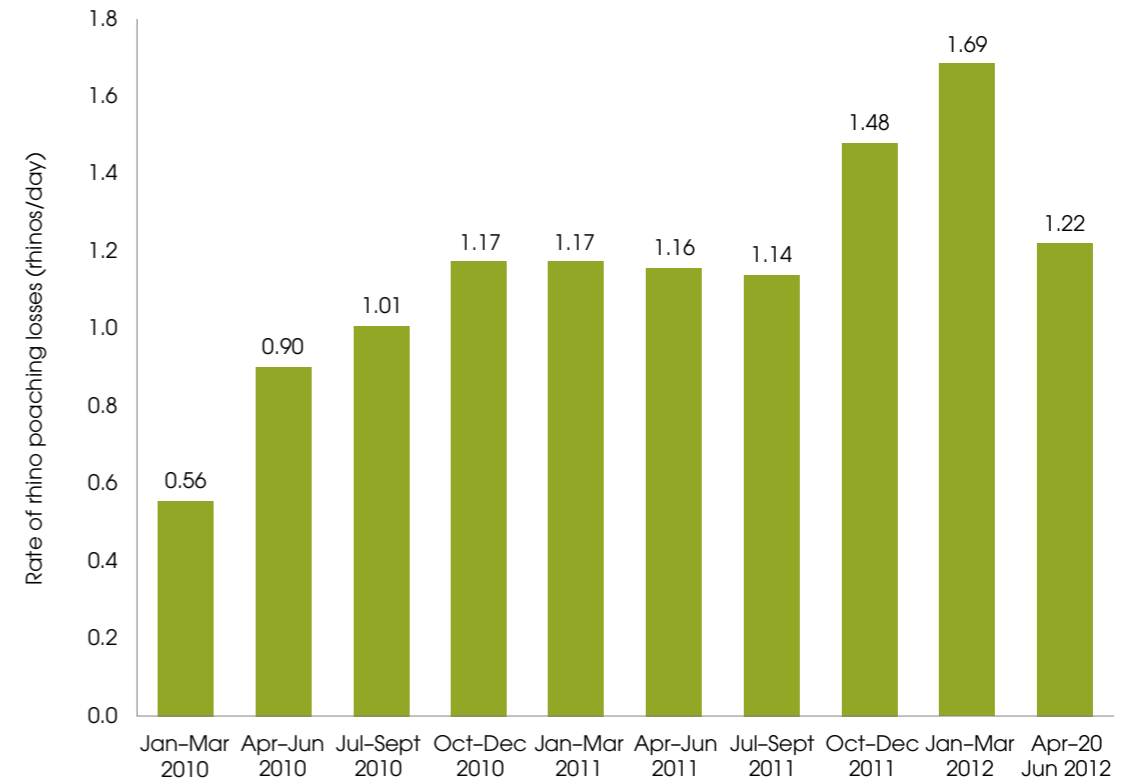


Figure 23 Number of rhinos recorded killed in poaching incidents in South Africa 1990-2012, showing predicted total of 532 rhinos for 2012 based on rates to 20 June 2012 (data from M. Knight)

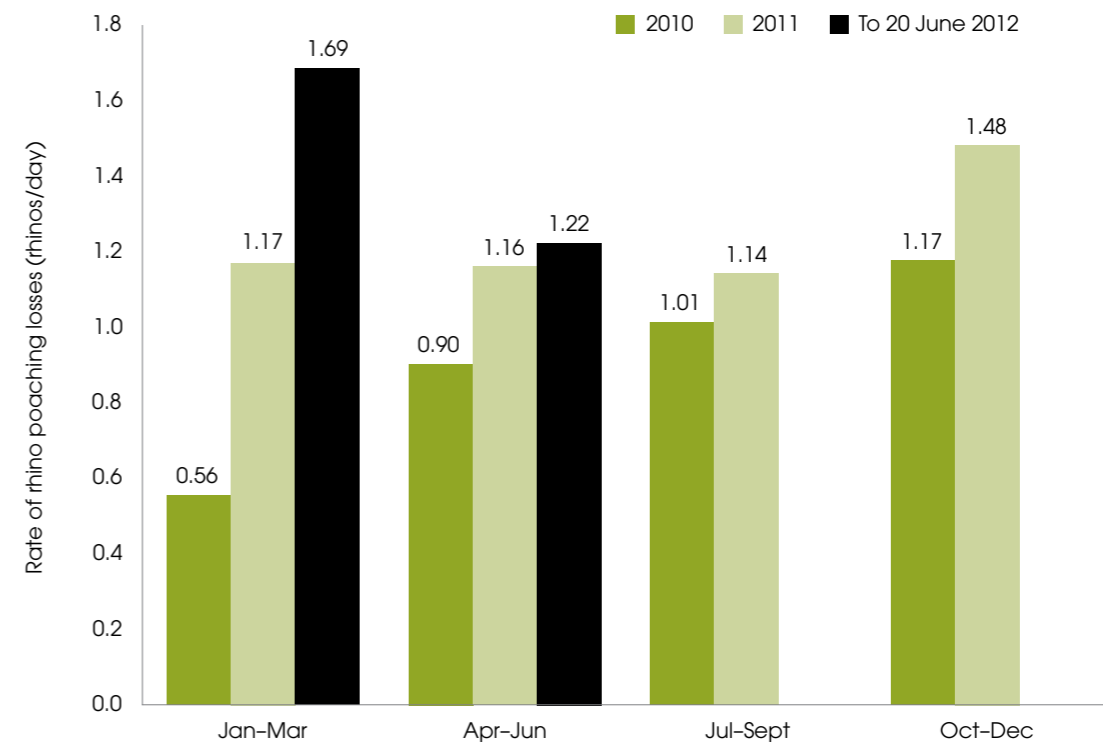


Figure 24 Seasonal patterns in the quarterly rate of rhino losses in South Africa 2010 – 20 June 2012 (data from M. Knight)

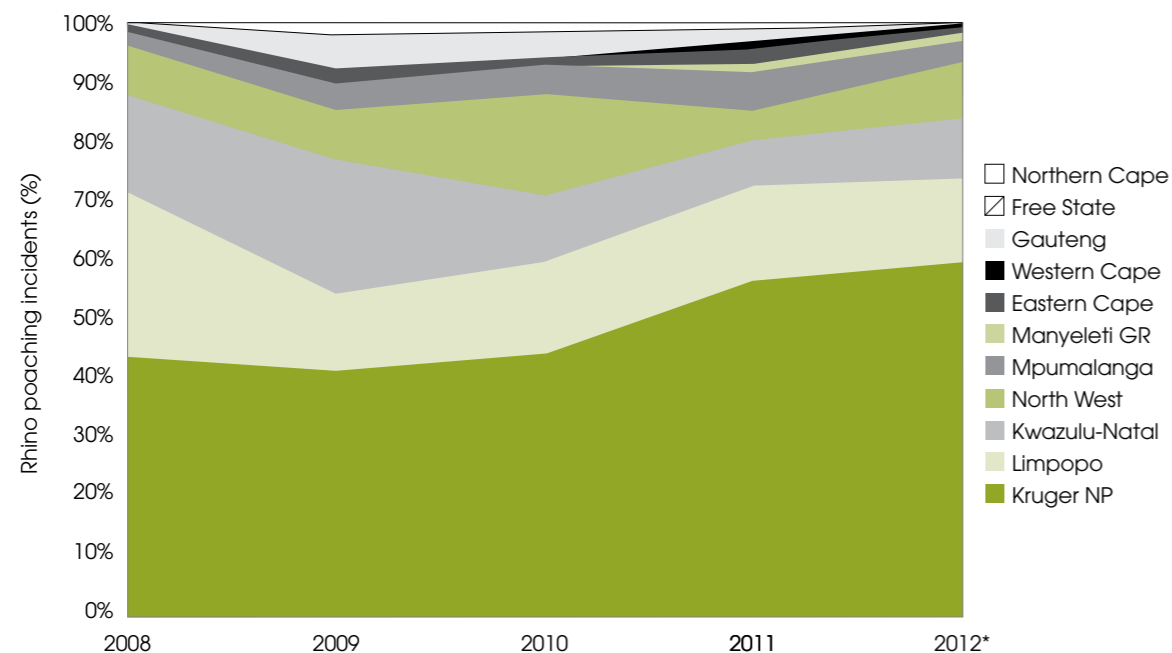


Figure 25 Percentage of rhinos killed in each province 2008 – 20 June 2012\* (data from DEA and SANParks)

The poaching of rhinos in South Africa has been largely centred upon KNP, where low-level rhino losses had consistently occurred over the past 20 years. As KNP held over half of South Africa’s rhinos at the end of 2010 and conserved the largest populations of both rhino species, it is not surprising that a significant proportion of poaching incidents occur in this protected area of nearly 20 000 km<sup>2</sup>. To date in 2012, nearly 60% of all rhino deaths due to illegal killing in South Africa have occurred in KNP (Figure 25). Poaching intensity in KNP continues to rise year on year despite the implementation of unparalleled security activities, including the deployment of the South African National Defence Force (SANDF). The extent to which a strike by some rangers in KNP in the early part of 2012 may have influenced poaching levels is not known, but it introduces another confounding element into what is already a very complicated situation. Some 361 staff members, including 248 field rangers, went on strike between 3 February and 30 April 2012. Employees cited salary disparities as the main reason for this action, but after SANParks contemplated retrenchment for operational requirements labour unions called off the strike (SANParks, 2012).

The persistent illegal killing of rhinos in other provinces, however, has really only surfaced since 2008 (Figure 25). Together with KNP, three provinces, Limpopo, KwaZulu-Natal and North West, which collectively account for nearly 90% of South Africa’s rhino numbers, have consistently been hardest hit, representing over 75% of all poaching incidents in the past five years. Both KwaZulu-Natal and North West provinces have shown a period of decline in poaching intensity, in part due to the increased co-ordination of security efforts and intelligence operations, leading to a number of high-profile arrests of poaching syndicate operatives.

When poaching impact is considered in terms of the two rhino species, it is clear that White Rhinos have been more affected by the recent poaching crisis (Figure 26). The dramatic rise in rhino deaths from 2008 to 2011 consists almost entirely of White Rhinos. However, the number of Black Rhinos killed also started to show a concerning increase, rising to 19 animals in 2011.

Although White Rhinos are far more numerous in South Africa than Black Rhinos (Figure 27a), losses are proportionally somewhat higher than predicted (Figure 27b). The Critically Endangered Black Rhino species forms more than 9% of all rhinos in South Africa, yet accounts for only 4.5% of the deaths recorded from 1990 through 30 April 2012.

There are a number of possible explanations for this relating to the different nature and social behaviour of the two species. White Rhinos are more gregarious and more likely to be found in larger groups than Black Rhinos (Owen-Smith, 1988), potentially making it easier for more than one animal to be

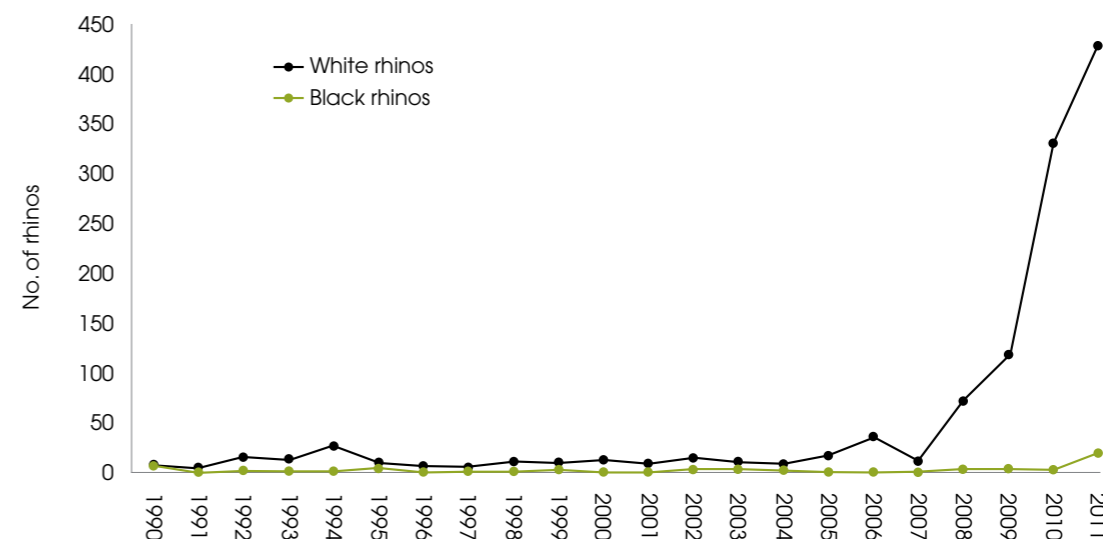


Figure 26 Number of White and Black Rhinos killed in South Africa between 1990-2011 (data from M. Knight)

attacked in one incident. As grazers, White Rhinos are also more likely to be found in open grassy areas, as opposed to Black Rhinos, which are browsers and typically occur in thicker bush (Owen-Smith, 1988). White Rhinos are also generally less reactive than Black Rhinos and easier to approach on foot. These characteristics can be viewed as beneficial as the Black Rhino is more endangered and also has shown a slower net population growth from 1991 through 2010 of 4.9%, as opposed to 7.2% for the White Rhino (R. Emslie, pers. comm., 2012).

In mid-June 2012, the number of rhino births per year in South Africa remained substantially greater than the number of rhino deaths (including those due to poaching), hence the overall number of rhinos has continued to grow. However, the number of rhino deaths due to poaching has risen dramatically each year since 2006. If the current annual increase of 24% in average poaching levels from 2011 to 2012 were to continue, the total number of rhino deaths would be predicted to match the annual births and then start to decline in just a few years in 2018 (R. Emslie, pers. comm., 2012). The rate of decline in numbers would then increase each year thereafter in response to continued increases in poaching levels and the fact that there would be fewer rhino cows giving birth. The fear is that this would mark the beginning of an accelerated decline towards low numbers and possibly ultimately even extinction at some point in the future.

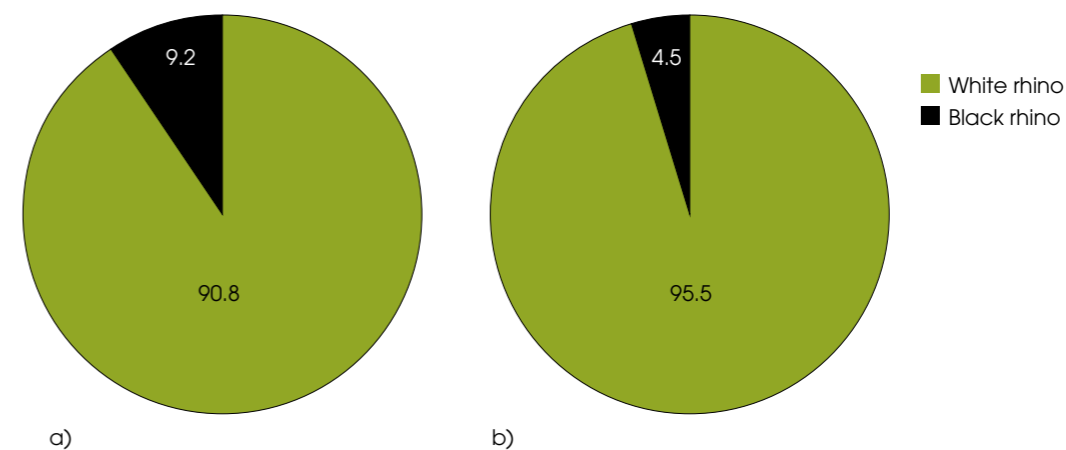


Figure 27 Proportional representation of a) the numbers of different species of rhinos alive in South Africa at 31 December 2010 and b) different species poached from 1990 – 30 April 2012



White Rhino carcass.

### Methods of rhino poaching

In recent years, the techniques used to kill rhinos have changed and these shifts are indicative of the new and decidedly uncharacteristic profiles of those behind the rhino deaths linked to increased involvement of organized crime syndicates. Historically, African wildlife poachers were recruited from local communities living in close proximity to protected areas, some of which were disputed as former communal land areas where subsistence hunting often had occurred within recent memory. Overlapping with this, another typical poacher profile concerns former military personnel, police officers or game scouts, all of whom would have had specialized training to develop tracking or shooting skills. For a variety of reasons, such individuals joined the ranks of those profiting from the illegal killing of wildlife. In South Africa, such individuals are still active, but a new kind of poacher has also become an integral part of the equation, especially in game ranch areas in the provinces: the wildlife game industry insider.

Whilst the killing of rhinos typically involves shooting with guns, usually AK47 assault rifles, an increasing regional trend seems to be the use of skilled marksmen to kill rhinos instantly with heavy-calibre weapons, for example, .375 and .458 rifles. Another worrying, though infrequent, development has been the appearance of cross-bow shooting as a means to kill rhinos. Bow hunting has the advantage of being lethal, yet silent, but involves highly-developed professional skills and equipment rarely available to an archetypal poacher. More commonly, the advent of darting rhinos with immobilization drugs either from a helicopter or from the ground and removing their horns has occurred in recent years. Again, as with cross-bows, this method of “hunting” is silent with a lower risk of detection than the sound of gunshots. These methods of rhino killing can only be conducted by trained professionals who have access to restricted veterinary medicines and other specialized equipment. The use of scheduled immobilisation drugs in this regard should not be mistakenly viewed as an act of compassion. Animals are typically left tranquilized without administration of a reversal agent and die slowly from their wounds. In rare instances, rhinos have survived for some period of time after these attacks, often suffering horrific facial injuries. In some cases, helicopters (often without identification numbers) have apparently been employed in rhino poaching incidents. Game capture professionals normally dart rhinos from the air when undertaking capture operations as it is the easiest way to get close enough to hit the animals and enables their movements to be tracked until they are fully immobilized. Helicopters are presumably also of use to move rhino killers and rhino horns to safe locations rapidly. Low-flying helicopters are also used to scout out potential sites from the air for later poaching activities.

The use of some modern heavy-calibre rifles, dart-guns, immobilization drugs and, certainly, helicopters, clearly represents a completely “new face” in terms of rhino poaching. Since 2008, a small proportion of the wildlife industry, including game ranch owners, professional hunters, game capture operators, pilots and wildlife veterinarians have become active players in the rhino poaching crisis. This development remains unique to South Africa and is a significant factor not only behind the record levels of rhino losses since 2008, but also the insidious spread of rhino poaching across the country. Exactly how extensive this phenomenon is within the game industry is difficult to quantify, but it remains a serious, corrupting force that undermines rhino conservation and stains the image of a community that should be on the forefront of wildlife conservation.



Rhino horns taken from a carcass.

## RHINO CRIMES IN SOUTH AFRICA



Rhino horns smuggled in luggage.

The organization and planning of South Africa's rhino horn trade has rapidly evolved into a sophisticated and efficient phenomenon. Although details of the nature and extent of the Asian-run syndicates behind the illegal export of rhino horn from Africa to Asian destinations are still emerging, the levels of criminal organization are clearly evident. There is also evidence to suggest that these illegal trading networks have links with other highly lucrative natural resource product trades, including abalone, ivory, lion bones, crocodile organs and live game. Rhino crime syndicates operate multi-nationally and are known to be involved in other high-risk criminal activities such as drug and diamond smuggling, vehicle theft, armed robberies and ATM bombings (Hübschle, 2010; Swart, 2012). Some reports suggest that certain key individuals have relationships with organized crime cartels in Southeast Asia (Rademeyer, 2011d). A further concerning aspect is the fact that not all those linked with the illegal trade in rhino horn belong to the criminal classes; for example, the direct involvement of members of Viet Nam's diplomatic community has been exposed as another unique and very worrying feature in the recent trade equation (see section "Vietnamese Embassy personnel" below).

### **Involvement of organized crime syndicates in rhino horn trade**

Initially, the primary focus of criminal activity was directed at acquiring rhino horns through legal trophy hunting, augmented by a concerted effort to purchase privately-owned and generally unregistered rhino horn stocks illegally. By 2007, South African law enforcement officers had identified at least five separate Vietnamese-run syndicates of close-knit networks of operatives that actively probed the country's sport hunting industry for opportunities to come into the possession of rhino horns. One individual, with two convictions for illegal trade and transportation of rhino horn and elephant tusks, readily admits to arranging the first legal rhino hunt by a Vietnamese citizen in South Africa in 2003 and numerous other rhino hunts in subsequent years (Rademeyer, 2011a). He described the situation accordingly:

*He said there are between 15 and 18 hunters in South Africa who deal with the Vietnamese. "The rhino market is Vietnamese. I know of one professional hunter who shot 150 rhinos last year. I think at*

*this stage I am the smallest of them all," he said. Van Wyk's clients pay between ZAR300 000 and ZAR1.5 million to hunt a rhino. Asked if he knew of syndicates who use legal hunting to get rhino horn into Vietnam, Van Wyk said: "I have never been overseas so I don't know what goes on over there. All I do if the hunter comes out here is apply for a permit, regulate the hunt, prepare the trophy and ship it" (Rademeyer, 2011a).*

Over time, the successful expansion of rhino hunting by these Asian groups was actively aided and abetted by the services of some local professional hunters who, putting hunting and conservation ethics aside, organized multiple hunting opportunities on game ranches throughout the country and, whenever necessary, even assumed the critical role of shooting the rhino in question. These five Vietnamese syndicates were believed to have collectively conducted 203 separate rhino hunts in South Africa from 2005 through 2007, with the number of hunts increasing exponentially in each successive year. As the South African government attempted to clamp down on this abuse of trophy hunting by changing policy and tightening regulations, the criminal syndicates adapted their *modus operandi* and remained one step ahead. For example, the amendment of the Norms and Standards, which banned the hunting of more than one rhino per year, simply resulted in the syndicates coercing ever-less-likely candidates, such as sex workers, to undertake "the hunt" as described above.

Concurrent with the rapid escalation in the number of rhino hunts, the committed procurement of "loose" horn was also undertaken in various provinces, including Limpopo and Eastern Cape, where individuals reportedly went from property to property making inquiries about the purchase of rhino horns. Prior to February 2009, it was legal for South African nationals to buy and sell rhino horns to each other. Farming and hunting magazines from this period often carried advertisements of rhino horn for sale, generally from rhinos which had died from natural mortalities. Scrutiny of these activities by nature conservation authorities revealed that some horns sold nationally were passed on to Asian nationals and illegally exported out of the country. In February 2009, the South African government placed a national moratorium on the internal sale of rhino horns in order to curtail abuses of the system.

On some game ranches, live rhinos were routinely captured and dehorned as an acceptable way of both legally obtaining rhino horn for possible future commercial sale and as a way of deterring poaching. Dehorning as a deterrent to poaching has met with some success in the past, for example in Zimbabwe in the 1990s and more recently in the Southeast Lowveld (Milliken *et al.*, 1993; R. du Toit, pers. comm., 2011). Whilst some reputable conservation practitioners in South Africa have instigated dehorning programmes to protect their rhinos, there have been instances where horns have been removed from live rhinos with the primary purpose of entering commercial trade. It is believed that rhinos were tranquilized using veterinary drugs and horns were illegally removed and sold. In March 2012, Jacques Els, a game rancher from Thabazimbi in Limpopo province, was sentenced to eight years in prison and fined ZAR1 million for the illegal possession of and trade in rhino horn (Louw-Carstens, 2012). Els was not involved in the killing of rhinos, but was alleged to have been party to sedating animals and removing their horns without the necessary TOPS permits. His alleged accomplice, who was accused of illegally selling 36 rhino horns to Els, committed suicide in November 2010. Altogether, at least 24 such cases have been investigated in South Africa. It is further believed that some rhinos were simply killed en masse by their legal owners as the most straightforward approach to obtaining their horns. For example, 19 rhino skulls were found on a game ranch in Limpopo province belonging to a member of a large syndicate of wildlife professionals formally charged with rhino crimes (Child, 2012b).

Whilst the scale of Asian-run rhino horn trade operations in South Africa seems to have steadily increased, the basic assumption has been that most Vietnamese-hunted rhino horn trophies end up being exported to Viet Nam for internal use. Other Asians, when they do appear in the trade, seem to be linked to the Vietnamese operations. Thai businessmen have also been implicated in the illegal export of rhino horns from "pseudo-hunts" in South Africa to Asia via an export/import company, which is based in Lao PDR (Rademeyer, 2011d) but has extensive wildlife trade dealing in Viet Nam (S. Robertson, Wildlife Conservation Society, *in litt.* to TRAFFIC, 2011). On the other hand, far less prominent Chinese operations in South Africa appear to be more directed towards the acquisition of poached rhino horn, which may then be sold on to Vietnamese operatives or be exported on to China (R. Taylor, *in litt.* to TRAFFIC, 2009). On occasion, other Thai and Cambodian nationals have also surfaced in the trade, playing roles in the illegal movement of rhino horn to Asian markets and sometimes appearing as "sport hunters" (South African permit data). The involvement of Thai women, who reportedly were based in Gauteng as "sex workers", in rhino hunting seemed to have been under coercion and with limited knowledge or understanding of the true purpose of the hunting trip (Rademeyer, 2011e).



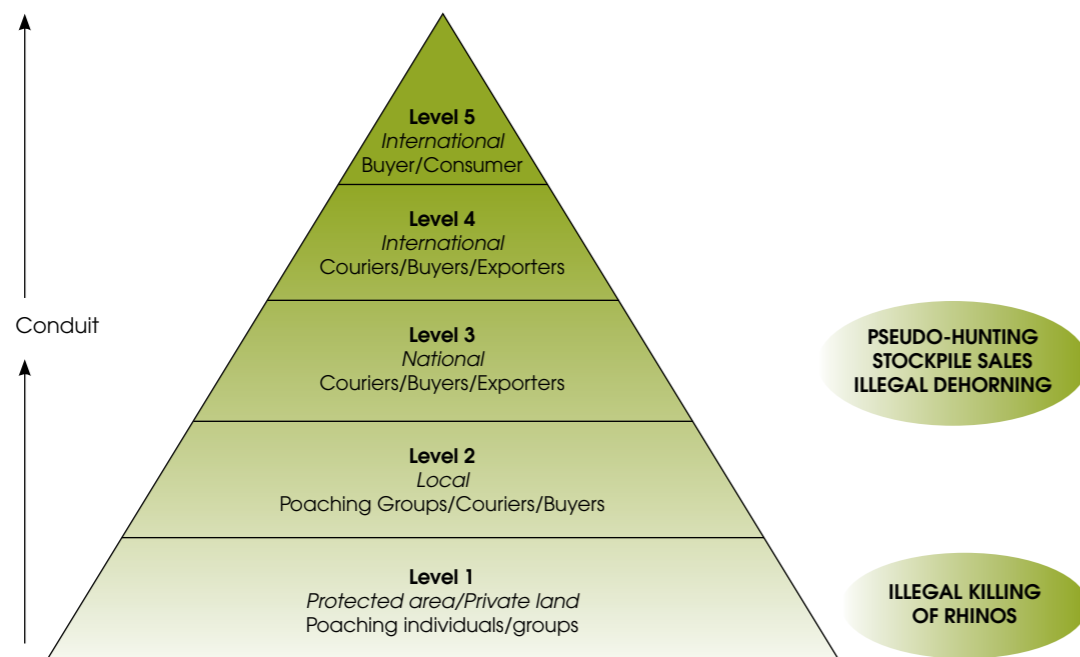


Figure 28 Levels of organized crime involved in rhino horn trade (Adapted from Maggs, 2011)

### Structure of rhino horn trade syndicates

The National Wildlife Crime Reaction Unit (NWCRCU) in South Africa has identified five levels at which rhino horn trade syndicates are operating within and outside South Africa (Figure 28). Illicit rhino horn trade occurs along a chain that extends from the poacher at a local level in an African range State to an end-use buyer at an international level, generally in an Asian country and, more specifically, usually Viet Nam. Middleman buyers, exporters and couriers all play roles along the trade chain, dealing with horns derived from all sources, including sport hunted trophies, stock thefts and poached animals.

### Illegally killed rhinos for horn

By 2006, the acquisition of rhino horns that derived from poaching operations began to emerge as a third front in the rhino horn trade conducted by increasingly entrenched Asian syndicates. This development links to the first level in the rhino poaching trade chain which represents the small-scale ground operator. Historically, most rhino poaching in South Africa was believed to have been conducted by local individuals or small groups living in communities in the vicinity of protected areas, especially KNP. In fact, law-enforcement personnel observed early on in the rhino crisis that the poaching gangs found around KNP began to operate with much more efficiency than had previously been the case (R. Taylor, *in litt.* to TRAFFIC, 2009). Opportunistic incursions that were characteristic in the past seemed to give way to better organized, highly-targeted forays which probably benefitted from the use of cell phones as a key technical enhancement for arranging transport following the successful killing of a rhino. Today, rhino poachers are highly mobile with sophisticated equipment, including high-calibre weapons such as AK47s. Initially, a rhino poaching gang was found to be composed of two to six individuals. However, as vigilance and the security of rhino populations have increased, the size and level of aggression exhibited by poaching gangs have also risen to combat this threat. Groups of up to 16 individuals have been recorded in KNP, often moving in para-military formations to provide protection against national security patrols (Swart, 2012). In fact, it is thought that the increasing group size is due to an evolution of division of labour within the gangs, with additional men now acting as protection for the skilled poachers who actually shoot the rhino. As poaching gangs have access to unprecedented levels of cash from earlier horn sales they are able to avail themselves of the best equipment.

Around provincial parks and private ranches, external poachers will typically infiltrate the local community to obtain information on the whereabouts of rhinos in an area and stake out target rhino ranches. Such poachers spend time ascertaining at least two escape routes and familiarizing themselves with security structures and the movements of ranch personnel as they plan their kills. For this reason,

some law-enforcement personnel have argued for the importance of having effective community conservation programmes, where local people benefit directly from rhinos and are thus incentivized to aid in their protection. Some reports have indicated that rhino horns are smuggled out of the area hidden within carpets or other furniture (Swart, 2012). Spatial patterns of rhino poaching incidents, combined with intelligence gathered by wildlife law enforcers, indicate the involvement of highly-mobile, organized networks with clear communication channels.

Professional rhino poachers are highly experienced in bush lore and are known to use full moon periods when it is easier to see at night. It has been shown that poaching rates tend to increase during holiday periods, especially over December (seen in 2011 Figure 24), and around the full moon. Detailed analysis of poaching events over space and time in KNP showed that more poaching events occurred during the lighter half to full moon phase than the darker crescent phase (Eloff, 2012).

Poachers arrested in KNP have also allegedly been linked to other poaching incidents which occurred in Mpumalanga, North West and Limpopo provinces. For example, one poaching gang comprising three brothers is believed to have commenced operations in KNP initially, but then gradually expanded to illegally kill rhinos in at least three other provinces in South Africa (R. Taylor, *in litt.* to TRAFFIC, 2009). Rhino poaching gangs that function within organized crime syndicates have cross-boundary operational support with Mozambique and Zimbabwe. The trans-frontier initiative to create a megalandscapes for wildlife connecting KNP with Mozambique's much newer and less protected Limpopo National Park has led to the removal of fences along the border, but the "downside" of an increased poaching threat has now become manifest, adding another security complication to an already complex situation.

Over time, as demand for rhino horn has grown, those engaged in poaching in South Africa's protected areas have come to represent a complex mix of local and foreign (including neighbouring African country) nationals moving readily between and within administrative jurisdictions in South Africa. A demographic analysis of 55 poachers arrested in KNP found that the racial profile was 96% black and 4% white, and all were male (Eloff, 2012). In terms of nationality, the group comprised 40% Mozambican citizens and 60% South African citizens, whilst the age profile showed that youth prevailed as 41% were 20 to 29 years old, 41% were 30 to 39 years old and 18% were 40 years and older.

### Involvement of South African national and provincial conservation officials

Serious concerns have also repeatedly been raised about irregular conduct by both some national and provincial government officials all the way up to senior levels, including management staff. In February 2012, four SANParks officials based in the Pretoriusskop section of KNP were arrested in connection with rhino poaching activities (Anon, 2012b). Although it is disappointing to imagine that conservation staff were directly connected to rhino crime, such a development was not entirely unexpected as historically local guards have been known to be involved in poaching or providing information to known poachers. Given the challenges associated with locating and shooting rhinos, it is widely believed that insider information is critical to the successful undertaking of many rhino poaching events. These arrests were the result of an investigation conducted by members of a joint SANParks and South African Police Service (SAPS) team of officials, which also included the SAPS K9 Unit for Endangered Species. However, the involvement of government staff apparently does not stop at the ranger level. Walter Nkuna, the Reserve Manager for Atherstone Nature Reserve in Limpopo, committed suicide after his alleged involvement in a rhino poaching incident at the reserve in March 2012, assisted by three Mozambican nationals and resulting in the death of five rhinos (Gill, 2012).

### Involvement of wildlife industry professionals

Whilst investment in anti-poaching and wildlife protection remains an imperative feature of wildlife conservation in government-managed protected areas, in most cases, security was never a major recurrent budget consideration within South Africa's private game ranching sector. Indeed, the poaching of rhinos was virtually absent for decades and, beyond adequate fencing and a few ranch hands, most game ranch landowners only required modest precautions in protecting their rhinos. The advent of serious rhino poaching on private sector game ranches from 2007 onwards, however, signalled a major change in poaching dynamics and went hand in hand with the emergence of a new breed of poacher in South Africa: the white professional game industry insider.

If poverty, debt, peer pressure and, in some cases, historical injustices are motivating factors for individuals from struggling local African communities to become engaged in poaching, pure greed seems to have sustained the recruitment of poachers from within the ranks of the relatively affluent game ranching industry in South Africa. The prospect of windfall profits apparently led some professional hunters and wildlife industry personnel (including landowners, wildlife veterinarians and game capture professionals) to begin illegally killing rhinos on poorly policed properties. The predominantly Afrikaans membership of these groups has been referred to as the “*Boere mafia*” or “*khaki-collar criminals*” in local parlance.

The qualifications and experience of these wildlife professionals in transporting, immobilizing or hunting rhinos have adequately equipped them with the necessary skills to kill rhinos. There have been incidents where rhinos have fallen from single, well-placed “kill shots”, which indicates a highly-skilled or professional hunter. Inevitably, such individuals, through participation in illegal rhino horn sales or pseudo-hunting scams with Asian clients, had already established relationships with key foreign syndicate players. Initial engagement between those in the game industry and the Asian-run rhino horn trade syndicates began on a small scale, perhaps with the sale of an unregistered horn from a rhino that had died naturally. Over time, avarice and possibly intimidation drew such players ever deeper into rhino crime. Once the trade in “loose” horns in the private sector actively commenced, the transition to outright poaching was, regrettably, only a brief step away.

In some cases, external poachers have been equipped and directed to kill rhinos on specific game ranches, but there is little doubt that corrupted individuals from within established game ranching communities themselves have also played direct roles in turning on their neighbours and killing their rhinos to acquire horns. Rhino horn stockpiles on State and private land have also been targeted for sales or theft by these individuals. In fact, some observers believe that rhinos belonging to private farmers have in some instances been killed for retribution because owners had refused to sell “loose” horns to poaching syndicates or allow “pseudo-hunts” to take place on their properties.

Once a rhino has been killed, the horn is removed and is passed on to the next level in the trade chain (i.e. Level 2). Here, a national level courier is responsible for taking the horn from the poacher and transporting it to a middleman collection point. It is widely believed that rhinos are poached to order, with couriers waiting to transport horns away and poachers demanding payment on delivery. A typical *modus operandi* is for the poachers to leave the incursion site in one vehicle, whilst the rhino horns are rapidly transferred to another vehicle and moved to collection sites in and around Johannesburg or Pretoria. Pick-ups are well organized and may include the hiding of weapons and horns for collection later on. Poachers are ready with a quick change of clothes and shoes to avoid being easily identified as coming from the bush. Most typically, it seems rhino horns from around the country are driven to Gauteng province, site of the O.R. Tambo International Airport, the country’s primary international airport.

### National middleman dealers

The next layer in the illegal rhino horn trade involves internal middleman dealers who are usually South African citizens. Understandably, there is some overlap between different levels; a syndicate boss from Levels 1 and 2 may also act as a buyer and exporter in Level 3. More commonly, this role is fulfilled by South African businessmen of Asian origin. These dealers maintain loose networks of “runners” or other operatives who procure poached horns from source locations or obtain “loose” horns from private sector players and then sell it on to the Asian syndicates. For example, some 80% of the 300 kg of rhino horn that allegedly was moved out of South Africa by a single Thai national in 2007–08 was reported to have been supplied by a South African businessman of South Asian descent who served as a middleman dealer based near Hartebeespoort Dam in Gauteng province. This individual is alleged to have repeatedly sourced horn from privately-owned game farms and professional hunters throughout the country, and then sold it on to Asian nationals who had the ability to move it on to international destinations. There are reports of photographs of prospective rhino horn being sent through this chain to end-use buyers in Hong Kong or China for verification and approval before payment occurs and the horns are transferred through circuitous routes (R. Taylor, *in litt.* to TRAFFIC, 2009). So-called runners who are loosely connected to key middleman traders appear to be in constant motion, rapidly responding to rhino horn procurement opportunities, and maintaining regular contact with networks of poachers and horn dealers in disparate parts of the country through the use of mobile phone technology.

Middleman traders are capable of sourcing rhino horn over a large geographical area and from a variety of sources, which is an indicator of more organized horn trading networks. These illegal horn trading



Skull from a rhino carcass.

networks operate across several provinces and, on occasion, extend across international boundaries. In some ways the broad geographical coverage potentially reduces the risk of detection by different enforcement agencies if relevant intelligence information is not being shared rapidly and effectively. It has long been recognized that there is a clear need for more regular, inter-provincial meetings to vet rhino horn crime intelligence and co-ordinate enforcement planning in South Africa (Milledge, 2007).

### Wildlife industry insiders

All those involved in activities relating to illegally obtaining rhino horn, without illegally killing the rhino, also fall within Level 3 of the trade chain. Thus, game farmers and professional hunters involved in “pseudo-hunts”, rhino horn thefts, TOPS permit violations such as illegal dehorning, as well as illegal rhino horn possession and sales fall within this category. Conversations with those involved in rhino crime investigations indicate that the extent of involvement of the private sector is actually relatively low (P. Jones, pers. comm., 2012). Some insiders have indicated that only about 3% of the estimated 400 rhino owners, and a similar proportion of professional hunters and wildlife veterinarians, are currently under arrest for rhino crime or under suspicion of having been involved in substantive irregularities. However, it is becoming increasingly clear that the rogue greedy elements who became involved in rhino poaching and illegal horn trade were rapidly drawn into the dangerous underground world of serious organized criminal activities. In fact, in many instances, it is believed that the rhino crime itself will ultimately be charged as a secondary crime behind even more serious criminal charges such as murder, illegal possession of firearms and racketeering.

### Africa-based Asian syndicate dealers

At the highest level of the Africa-based rhino horn trade chain are the leaders of the Asian-run syndicates that monopolize the flow of rhino horn from South Africa to Asian end-use markets. These individuals are essentially the kingpins directly involved in organizing and financing the “bogus” rhino trophy hunts undertaken by an endless parade of different individuals. They are linked to the middleman traders collecting “loose” and poached rhino horns, and they form the vital connection with deeper trade channels in Asia through which illicit rhino horns reach end-use markets. As national syndicate bosses they are typically involved in many other forms of trade in illegal substances and are often part of known organized crime groups, such as the Chinese triads. Many of these individuals first became involved in rhino horn trade in the nascent days of legal, “risk-free” rhino hunting between 2003 and 2005. Some are now permanent residents in South Africa and some openly acquired multiple legal export permits before the trade was exposed and came under pressure.

The Asian syndicates recruit and orchestrate the movements of a highly fluid network of couriers and “mules” to move rhino horns out of South Africa. A large proportion of this activity appears focused on air passengers travelling from southern Africa to Southeast Asia. For example, several Vietnamese students registered to study within South Africa have been arrested trying to traffic rhino horn out of the country’s international airports on return to their homelands. Rhino horn seizures have also been made from Vietnamese travellers from Maputo international airport in Mozambique. In some instances, the syndicate’s dealers also have overt links to the diplomatic community, including commercial alliances with diplomatic personnel, access to vehicles bearing diplomatic plates for the risk-free movement of rhino horn within the country and, possibly, the use of a diplomatic pouch to move contraband to home markets (see “Vietnamese Embassy personnel” below).

Whilst other Asian nationals, particularly Chinese, appear to be deeply involved in the acquisition and smuggling of abalone and elephant ivory in South Africa, the Vietnamese community appears to have the tightest grip on the illicit rhino horn trade, a trend that has increased markedly in recent years. It is commonly believed that at least 70 Vietnamese nationals have been accorded permanent residency status in South Africa and some of these individuals have been identified in rhino horn crime. For example, law enforcement officers believe that at least half of the 24 poached rhinos during 2006 had an overt Vietnamese connection, and the majority of rhino horn cases occurring in South Africa during 2004 to 2006 that link to foreign nationals involved suspects acting on behalf of Vietnamese citizens (R. Taylor, *in litt.* to TRAFFIC, 2009). To date, Vietnamese within South Africa continue to be strongly implicated in the illegal trade in rhino horn and poaching activities.

### Vietnamese Embassy personnel

The Vietnamese Embassy in Pretoria, South Africa’s administrative capital city, has been repeatedly implicated in illicit rhino horn trade. The involvement of Embassy personnel first came to light when Viet Nam’s Commercial Attaché, Khanh Toan Nguyen, was arrested on 1 April 2006 with two rhino horns, as well as diamonds and large sums of cash. Under interrogation, this individual allegedly indicated that he had used a diplomatic bag to move rhino horns to Viet Nam on previous occasions. The invocation of diplomatic immunity prevented prosecution, but it has been reported that Khanh Toan Nguyen was “recalled and disciplined” from South Africa (Anon., 2008b). Another press account in 2008 reported: “Two years ago, Commercial Attaché Khanh Toan, at the Vietnamese Embassy in South Africa, was detected to have connections to rhino horn smuggling and he was punished” (Anon., 2008a). There is concern within law-enforcement circles that this individual may have re-entered South Africa on a non-diplomatic passport on at least one occasion since his initial arrest (R. Taylor, *in litt.* to TRAFFIC, 2009).

Another Vietnamese diplomat identified as “counselor Pham Cong Dung”<sup>1</sup> was also implicated in another rhino horn seizure case involving 18 kg found in a vehicle at a casino in Northern Cape province sometime in 2008 (Anon., 2008a). A Vietnamese citizen using the name “Pham Cong Hang” undertook at least two rhino hunts in North West province in 2005 (D. Newton, pers. comm., 2010).

The most sensational and public case, however, involved Vu Moc Anh, the Embassy’s First Secretary, who was filmed by the South African Broadcasting Corporation’s “50/50”, a weekly investigative journalism programme, apparently conducting a rhino horn transaction right in front of the Viet Nam Embassy in Pretoria in September 2008 (AFP, 2008; Anon., 2008b). Aired on national television two months later, an incriminating film sequence showed “Mrs Moc Anh handing rhino horns to a known smuggler... After the smuggler took the horns from her and put them into the trunk, Mrs Moc Anh can be seen heading back to the Embassy smiling” (Anon., 2008b). It was also reported that, at the time Vu Moc Anh conducted her rhino horn transaction outside the Embassy, the “car of Embassy Counselor Pham Cong Dzung ... is seen parked on the other side of the road, with a Vietnamese standing next to it. It is unknown why the car of Counselor Dzung was there at that time and place (while most Embassy cars were parked inside)” (Anon., 2008b).

In the wake of the uproar that followed, this female diplomat was immediately re-called to Viet Nam, where the country’s Foreign Ministry felt compelled to issue a statement indicating that it “will strictly punish any violation related to wildlife trafficking” (Anon., 2008). In an interview with a Vietnamese journalist, Viet Nam’s Ambassador at the time, Mr. Tran Duy Thi, characterized the action as “stemming from pure greed” and commented that it was “not just a private act, it is one that has repercussion on the Embassy and the

<sup>1</sup> This name is spelled Pham Cong Dzung in another article; see Anon., 2008b.



Vietnamese embassy employee.

image of Viet Nam itself” (Anon., 2008b). Ambassador Thi also reported that “Mr Dzung is on leave in Vietnam. We have requested that the Ministry of Foreign Affairs summon him for explanation” (Anon., 2008b).

In fact, it remains unclear what subsequently happened to two of the three Vietnamese diplomats who have been arrested or otherwise implicated in illicit rhino horn trade. In the case of Vu Moc Anh, the Ministry of Foreign Affairs has reported in a response to the Wildlife Conservation Society’s Viet Nam office:

*Regarding the case of Vu Moc Anh, right after South African press reported that South Africa broadcasting television had filmed Moc Anh in rhino horn dealing, Ministry of Foreign Affairs had recalled Moc Anh back to the country for explanation and clarification. Moc Anh confirmed to be recorded while helping a rhino horn dealer review his papers... Up to now, there has been no evidence on Moc Anh’s involvement in rhino horn dealing in both Vietnam and South Africa (Tran Quang Tuyen, Deputy Head, Press and Information Department, Ministry of Foreign Affairs, *in litt.* to Wildlife Conservation Society, 14 March 2012).*

It is believed that Vu Moc Anh is now back in Africa at a Vietnamese Embassy in a neighbouring country. Concerning the other two individuals, it remains unknown if they were ever punished or lost their jobs working for Viet Nam’s Ministry of Foreign Affairs. It is also worth noting that South Africa’s Department of International Relations and Co-operation has, for the most part, publicly remained silent on these instances of diplomatic complicity in illegal rhino horn trade. The value of current trade relations and historical ties with Viet Nam, which was an early supporter of the struggle for liberation in South Africa and the now-ruling African National Congress (ANC) party, has seemingly trumped the conservation of the country’s premier flagship species.

South Africa’s law-enforcement community generally expected that direct Embassy complicity in the rhino horn trade would dissipate in the wake of the embarrassing exposure by the “50/50” television programme. In fact, on at least two subsequent occasions in 2009, Vietnamese Embassy vehicles were allegedly involved in the movement of rhino horn within the country, including in the Eastern Cape and Mpumalanga provinces (R. Taylor, pers. comm., 2009). With diplomatic plates conferring immunity from “stop and search” operations, it appears that individuals who are not diplomats themselves gained access to official Embassy vehicles to potentially transport rhino horns within the country.

And finally, in another curious episode, Embassy employee Nguyen Thien Tuan was reportedly the victim of an attempted car hijacking and the theft of large sums of money near Vryburg, North West province in April 2009, but others allege that this individual was actually engaged in the procurement of illicit rhino horn in a “deal gone wrong” (R. Taylor, pers. comm., 2009). Although initially found by the side of the road by a local resident who summoned police, this individual reportedly refrained from making a formal police report and hurriedly left the scene. It is alleged that the vehicle driven by Nguyen Thien Tuan had reportedly been observed making several trips to game ranches in the area (R. Taylor, pers. comm., 2009).

### **Illegal exports of rhino horn**

It is thought that illegally obtained rhino horns are usually exported whole or, infrequently, cut into smaller pieces to reduce risk of detection by airport scanners. Vietnamese buyers at the end of the trade chain prefer to purchase whole rhino horn to ensure authenticity (see “The presence of fake rhino horn in the domestic market” section in the Viet Nam chapter below). Most seizures of rhino moving out of the country have involved whole horns.

The smuggling of rhino horn out of South Africa is a highly organized activity. O.R. Tambo International Airport, servicing the greater Johannesburg/Pretoria region in Gauteng province, is the largest airport in the entire southern African region. Already, in 2007, this airport was servicing over seven million passengers and more than 150 million pieces of luggage, cargo and mail annually (Du Toit and Craigie, 2008). Since then, the airport has expanded further to accommodate the increased traffic associated with South Africa’s hosting of the 2010 FIFA World Cup. Against the sheer volume of this traffic, in 2008, a permanent enforcement unit of six Special Investigations officers of the Compliance and Enforcement Branch of Gauteng’s Department of Agriculture and Rural Development worked to prevent contraband wildlife products of all descriptions from leaving or entering the country illegally (Du Toit and Craigie, 2008). As Environmental Management Inspectors (EMI) in terms of NEMA, these officers are responsible for ensuring compliance with CITES and South Africa’s domestic enabling legislation. Inspections are primarily conducted in the airport’s cargo area and international mailing sections, although passengers and passenger luggage are inspected on a random basis.

In 2008, following wildlife trade training and awareness courses, Customs officers seized four White Rhino horns, wrapped in newspaper and sealed with tape, hidden inside a suitcase destined for export to either China or Viet Nam (Du Toit and Craigie, 2008). The subsequent EMI investigation led to the apprehension of two Vietnamese citizens, one of whom was successfully prosecuted, whilst the other was released but later linked to a criminal Asian syndicate operating in South Africa (du Toit and Craigie, 2008). Simple analysis of all rhino horn seizures in South Africa from 2004 to date shows that the majority were made in either KNP or O.R. Tambo International Airport (Appendix 2).

In recent years, surveillance has been increased at O.R. Tambo International Airport and rhino horn seizures seem to be happening with greater frequency. For example, over a two-year period of time between 2007 and 2008, one Thai national confessed to smuggling a total of 300 kg of rhino horn on 15 occasions through the international airport in Johannesburg generally using Thai International Airlines (R. Taylor, *in litt.* to TRAFFIC, 2009). These horns were packed in personal check-in baggage, which was reportedly routed to Bangkok, Thailand, then onto Lao People’s Democratic Republic (PDR), and finally to China. Since February 2008, it has been illegal to transport rhino horns as a trophy or personal effect within hand baggage. However, relatively frequent seizures are still made of horns being exported in this manner, although the proportion of horns which are not picked up by airport scanners is not known and remains a serious concern. It is also suspected that horns are being transported to Asia as cargo freight on flights from O.R. Tambo International Airport.

Apart from Johannesburg’s international airport, where a range of departments are involved in the surveillance of air cargo, nearby Lanseria and Wonderboom airports in Gauteng province are also reportedly used to move rhino horns to some extent. In January 2011, for example, two Vietnamese were arrested when a search of their luggage revealed four rhino horns. Whilst the horns in question apparently derived from a legal rhino hunt near Musina in Limpopo province, they were nonetheless illegal to possess without first being micro-chipped and appropriately mounted by a taxidermist as specified under the TOPS regulations (Anon., 2011a). Interestingly, the helicopter of the owner of the game ranch where the hunt had taken place had transported the two Vietnamese “hunters” to Wonderboom Airport where they were arrested (Anon., 2011b).

Rhino horns are also being transported by sea in shipping containers and the port of Beira in neighbouring Mozambique has been highlighted as a particular concern. In Hong Kong in November 2011, 33 rhino horns plus ivory items were found in a single shipping container marked as carrying “scrap plastic”. The container had departed from Cape Town and South Africa’s DEA has been in communication with China regarding its intention to send a delegation to take DNA samples of these horns to test their provenance.

### **Poaching in and trade from Mozambique**

The increases in rhino poaching in South Africa have gone hand in hand with cross-border poaching activity in Mozambique. For example, the Sabie Game Reserve concession in Mozambique that is contiguous with KNP has lost at least 20 rhinos over the past five years to 2010 (S. Macdonald, pers. comm., 2010). These rhinos most likely all dispersed from KNP following the border fence being taken down in support of creating the Great Limpopo Transfrontier Conservation Area. In recent years, poaching incursions into KNP from Mozambique have also grown more frequent, with SANParks law-enforcement personnel concerned that at least two well-connected poaching gangs are undertaking multiple rhino kills. In September 2010, it was reported that:

*A man who allegedly supplied firearms to rhino poachers in Kruger National Park appeared in the Nelspruit Magistrate’s Court earlier this week, Beeld reported on Friday. [named individual]...allegedly supplied Mozambican nationals with firearms to poach rhinos in KNP. [He] was also allegedly involved in smuggling the rhino horn to Mozambique where it was then sold to Vietnamese and Chinese nationals, who shipped it to the East (Anon., 2010c).*

In fact, Mozambicans seem to be continuing to play a very active role in the illegal killing of South Africa’s rhinos, both in KNP and beyond (Appendix 3). In March 2011, three Mozambican citizens, who were arrested in October 2010 in the Crocodile Bridge section of KNP, were convicted in the Nelspruit Regional Court for illegally hunting rhino (Bell, 2011). Two of the men were also found guilty of possession of illegal firearms and ammunition and were sentenced to nine years’ imprisonment without the option of a fine, whilst the third man was sentenced to five years behind bars without the option of a fine (Bell, 2011). In May 2012, five Mozambicans were arrested in Polokwane in Limpopo for illegal possession of rhino horns and their vehicle also contained a rifle with 10 live rounds and an axe (Anon, 2012c). Three Mozambican poachers were also implicated in the deaths of five rhinos at Atherstone Nature Reserve (Gill, 2012).

Problems associated with rhino poaching activities in KNP across the South Africa/Mozambique border are not unprecedented, though they have never before occurred at the worrying scale observed in recent years. As far back as October 2003, a cross-border operation by a joint South African and Mozambican law enforcement team which included SANParks, KNP rangers, SAPS, Mozambican border police and Mozambican conservation officials, arrested six Mozambican men during a two-week operation. The poachers had shot and removed the horns from two adult male and one heavily pregnant female rhino.

In recent times, “runners” connected with middleman rhino horn dealers have been tracked rapidly driving from Gauteng province to key border crossing points with Mozambique, lingering for a short period of time and then racing back to Gauteng in what appeared to be either a pick-up or transfer of rhino horns (R. Taylor, pers. comm., 2009). Indeed, as South Africa meets with greater success in interdicting rhino horn shipments from South Africa, there is concern that trade routes will shift and other exit points will be used to move rhino horn off the African continent. Increasing evidence of an escalation of illegal consignments of elephant ivory and timber from Mozambique is cause for concern that that country will also begin playing a greater role in rhino horn trade (Milliken *et al.*, 2009a). In fact, a Vietnamese national was arrested at Maputo International Airport in May 2012 in possession of seven rhino horns (Anon, 2012d).

### **The value of rhino horn**

The rhino poaching crisis is receiving an unprecedented level of media attention for a wildlife crime and there is an overwhelming number of rhino conservation fundraising efforts currently taking place in South Africa. However, publicity around the issue is acknowledged to act as something of a double-edged sword. “Huge public awareness about the value of rhino horn adds to the poaching threat due to its economic desirability,” says Captain Charmaine Swart, Directorate for Priority Crime Investigation (DPCI) linked to the Endangered Species Protection Unit (ESPU).

- Wildlife Industry Professional – Legal trophy horn or illegal “loose” horn
- Africa-based Asian Syndicate Dealer – Procurement in South Africa, transport to Viet Nam
- Vietnamese Retail Seller – End-use market



**Figure 29** Relative value of rhino horn through a trade chain involving game industry seller, Africa-based Asian syndicate dealer and Vietnamese retail seller

In the early 1990s, analysis of rhino horn price dynamics along the trade chain showed that price values increased the further the horn moved away from the source (Milliken *et al.*, 1993). At that time, entire rhino horns could be obtained for as little as USD100 in a first-round exchange between poachers and Africa-based middleman dealers; thereafter, valuation became linked to weight in kilogrammes and horns would be moved from Africa to Asia by exporters for between USD250 and USD500/kg and enter an end-use market at the wholesale level for around USD800/kg (Milliken *et al.*, 1993). Because trophy hunting of rhinos was, comparatively speaking, such a costly undertaking, few observers imagined that it would ever become an avenue for commercial trade in rhino horn. Remarkably, that development has now occurred and there is little doubt that the value of rhino horn in Africa has skyrocketed in recent years.

While it is recognized that price is a critical element in tracking and understanding demand for any commodity, the authors of this report acknowledge that providing price data in a public document could also be counterproductive. In TRAFFIC's experience, it has been noted that the public dissemination of high-value price data can, and often does, lead to unintended consequences for vulnerable, conservation-dependent species such as rhinos. To be more specific, there are numerous documented reports where individuals, who may not otherwise have done so, became directly involved in criminal activity on the basis of understanding the value of certain wildlife products. Similarly, law-enforcement authorities have failed to interdict illegal consignments, but rather have proposed and accepted bribes on the basis of their awareness of the relative values of certain wildlife trade commodities. For these reasons, the authors feel it is inappropriate and potentially irresponsible to reveal contemporary unit prices for rhino horn in this report.

TRAFFIC has compiled data on observed and published rhino horn prices at various points in the trade chain from source to retail outlets. Examination of these data in Figures 29 and 30 reveals how the relative price of rhino horn alters as the product changes hands along the trade chain. The price of rhino horn is influenced by a number of factors, including its source and the pathway it has taken to an end-use market in, for example, Viet Nam. In general, longer trade chains with numerous changes of hand can lead to higher prices. A typical scenario is depicted in Figure 29 whereby a South African game rancher offers a legal rhino horn hunt or sells unregistered rhino horn to an Asian syndicate which either provides a “bogus” hunter to kill a live rhino or simply acquires “loose” rhino horns on a “cash and carry” basis. These syndicate players then arrange for transport of the horns to Asia and often market them directly to retailers who, in turn, sell horn pieces to end-use consumers.

Trade chains for poached horn are often more complex and involve a greater number of players. It can be seen that, although local poachers generally take the greatest risks to illegally kill a rhino, they invariably receive the least amount of money from middleman players who reap far greater rewards

- Local Poacher – Poaching in South African protected area or game ranch
- Middleman Collector/Courier – Buyer of poached horns in South Africa
- Africa-based Asian Syndicate Dealer – Procurement in South Africa, transport to Viet Nam
- Vietnamese Retail Seller – End-use market



**Figure 30** Relative value of rhino horn through a trade chain involving local poacher, middleman collector/courier, Africa-based Asian syndicate dealer and Vietnamese retail seller

when selling horns onward to Asian syndicate dealers (Figure 30). The possibility of being detected and penalized often leads poachers and collectors/couriers to sell quickly and below optimum prices to realize immediate income (‘t Sas-Rolfes, 2012). As before, price values for syndicate dealers and retail sellers in end-use markets remain greatest. In fact, retail sellers in Viet Nam may be directly linked to the Asian dealers in Africa so that the profitability of a single transaction may include all stages beyond the middleman collector/courier in both Africa and Asia.

End-use market profitability ultimately drives poaching and illegal trade, price provides the most significant indicator of what is happening in the market, and current rhino horn prices are believed to be inelastic, meaning that the volume of rhino horn being traded is mostly insensitive to increases in price (‘t Sas-Rolfes, 2012). Some argue that rising prices, as has been the case in Viet Nam in recent years, indicate that a product is becoming increasingly scarce, and that this typically will lead to an increase in poaching activity at the source (‘t Sas-Rolfes, 2012). Other observers, however, provide evidence on potential trade flows from South Africa to Asia that suggest that the number of rhino horns in illicit commerce has been steadily increasing and, in 2011, reached 940 horns, weighing an estimated 3760 kg (Eustace, 2012). If so, product scarcity may not be a likely explanation and conventional supply and demand relationships may not necessarily be the operative factor.

It is conceivable that Viet Nam's rhino horn trade may represent the phenomenon known as an “economic bubble”, whereby trade in rhino horns is consistently taking place at highly inflated values, and prices are impossible to predict on the basis of conventional supply and demand assumptions (Lahart, 2008). Economic bubbles are usually conclusively understood only in retrospect following a sudden and sustained drop in price; until that moment, inflated values can be the product of price coordination by those holding the supply (Levine and Zajak, 2007), and may be further buttressed by emerging social customs (Hommes *et al.*, 2005). In fact, the rhino horn trade in Viet Nam is believed to be controlled by a relatively small number of syndicate suppliers and the consumption of rhino horn has taken on extreme faddist dimensions in a status-conscious country, attributes that characteristically support the perpetuation of economic bubbles (see the “Rhino horn consumers in Viet Nam” section in the Viet Nam chapter below). Finally, the role of speculation in the end-use market is also poorly understood but may be an important consideration in understanding rhino horn price dynamics.

### South African government response to the crisis

In addition to the regulatory response made in updating legislative policy to close loopholes being exploited to legally export horn from trophy hunts, the DEA has also instigated structural and organizational

changes. A new Directorate to address Biodiversity Enforcement issues was created to co-ordinate and investigate biodiversity crimes on a national basis. Furthermore, a cross-sectoral National Biodiversity Investigators' Forum was established in March 2009 as a contact point for exchanging and discussing law enforcement information on biodiversity-related issues. In September 2009, the South African government made the first attempt to integrate the efforts of different provinces to curb rhino poaching via a MINMEC meeting in KwaZulu-Natal. The subsequent launch of a National Wildlife Crime Reaction Unit (NWCURU) in February 2010 was widely seen to be a positive and pro-active response to enhance collaboration and information exchange between different government bodies at both provincial and national levels. The SAPS has designated an endangered species co-ordinator for each province and a select team of the SAPS DPCI is now focused on rhino poaching activities at a national level. In addition, the National Prosecution Authority has designated prosecutors at provincial and national level to specifically address organized environmental crime, including rhino crimes.

Sadly, none of these interventions have yet led to a decline in the annual poaching totals of rhinos, although they may have had some effect in reducing the rate of poaching in the past few months. In October 2010, Buyelwa Sonjica, the then Minister of Water and Environmental Affairs, hosted a Rhino Summit in Pretoria to address the growing poaching crisis in South Africa. This Summit formed part of the implementation of the National Strategy for the Safety and Security of Rhinoceros Populations and Horn Stocks in South Africa designed to combat the increasing poaching threat (Table 8).

#### STRATEGY OUTCOME - ACTIONS

1. Implementing an immediate action plan aimed at mitigating the current threat to the rhino population posed by the escalation in poaching and the illegal trade in rhino horns and associated by-products;
2. Securing the shared commitment of government (at national and provincial level), private land owners, local communities and international stakeholders, as well as the necessary financial and manpower resources and political will to implement this policy;
3. Supporting the establishment of a national co-ordination structure for information management, law-enforcement response, investigation and prosecution;
4. Developing an integrated and co-ordinated national information management system for all information related to rhino species in order to adequately inform security related decisions; and
5. Investigating proactive security-related measures aimed at possibly facilitating a better understanding for any possible future regulated and controlled international trade in the species, and any associated by-products.

**Table 8** National Strategy for the Safety and Security of Rhinoceros Populations and Horn Stocks in South Africa

A further outcome of the Rhino Summit was the development of tenders for three research studies designed to better understand the rhino horn trade dynamic and guide the South African government's response. The terms of reference were released in August 2011, with a deadline for tender submission in September 2011. One study assessed the impact of dehorning rhinos and was concluded in October 2011 (Lindsey and Taylor, 2012). Of the two other studies, one is a feasibility study to determine the viability of legalizing trade in rhino horn in South Africa. This work was conceived to guide the government and support decision making on whether or not to lift the national moratorium on internal trade in rhino horn, and is due for completion in August 2012. The final study was a broad-scale assessment of the global market for rhino horn to identify uses and users of rhino horn and the drivers of current demand.

In other developments, the concept of a fence along the South Africa/Mozambique border on the east of KNP was briefly proposed by the Minister. Later it was concluded that a fence would be too expensive and difficult to maintain and a buffer zone between Kruger and the private reserves/farms in Mozambique was proposed as an alternative measure.

Further, the Portfolio Committee on Water and Environmental Affairs held a public hearing in Cape Town entitled, "*Rhino poaching: a threat to hard-won population increases achieved by conservation authorities*"

on 26 January 2012. The hearing provided all stakeholders with an opportunity to air their views on the rhino crisis and the government's responses to date, and to propose alternative solutions and strategies. During the meeting, serious concerns were raised by the chair, Johnny de Lange, regarding the apparent lack of communication and collaboration between the many government departments involved in addressing the problem. A further meeting for all affected government departments (DEA, NPA, SARS, Customs, SAPS and provincial nature conservation authorities) was proposed for the Parliamentary recess period in March/April 2012 to review the strengths and weaknesses in current processes and regulations; it is not known whether this meeting went ahead or whether there were any outputs.

Most recently, DEA have called Mavuso Msimang, a former CEO of SANParks, to become their "Rhino Issue Manager". Mr Msimang has been tasked with convening a series of meetings to guide the South African government in the sustainable conservation of its rhino populations. In this regard, Msimang oversaw the first National Rhino Conservation Dialogue in Midrand, Gauteng, on 30 May 2012.

#### Private sector response to the crisis

Private security for wildlife and anti-poaching services seem to have proliferated in South Africa in response to the rhino poaching crisis. Professional anti-poaching units, often led by ex-military personnel, now offer tailor-made packages to private landowners wishing to provide protection to their animals. Training forms a significant part of their activities, both for personnel supplied by the security firms themselves and for existing staff on State or private reserves. Training typically covers topics such as firearms handling, tracking, first aid and map reading as well as legal aspects such as arrest and court procedures. In addition, many groups offer intelligence gathering and informer network capacities, as well as communication forums for landowners. However, the peace of mind associated with improved security does not come cheap. Private rhino owners indicated that they are spending approximately ZAR30 000–40 000 (approximately USD4000–5300) per property per month to secure their rhinos. On the other hand, it is known that some owners lack the financial means or motivation to commit to this level of expense and are contemplating selling their animals. There are reports that in some areas in Limpopo province, the Limpopo Province Private Rhino Owners are training volunteers to act as anti-poaching units to protect their animals.

A related problem has been the long delays which private rhino owners experience in obtaining firearm licences to allow them to be adequately equipped to deal with threats posed by well-armed syndicate gangs. Senior representatives of the army and police committed to a maximum 90-day approval period for such licences at the 1st National Rhino Conservation Dialogue workshop held in May 2012.

Other private sector approaches have focused on reducing the benefits gained from killing rhinos and increasing the security risks associated with poaching. Some private, as well as State, reserve managers have engaged in dehorning operations to make their rhinos less attractive to poachers. However, this is not a universal solution. A study commissioned by DEA concluded that the efficacy of dehorning depends on a number of factors, including the level of the poaching threat, the level of security in place, the availability of funds and the size, location and distribution of the rhino population in question (Lindsey and Taylor, 2012). In 2010, a private rhino owner in Gauteng widely publicized the fact he had injected his rhinos' horns with an acaricide that would make whoever ingested the horn sick, in order to deter poachers from attacking his animals. More recently, this approach has been adapted to include infusion of an indelible pink dye. Although these actions may have potential value at a small scale, they do not offer a solution to large populations of rhinos within protected areas and may simply shift the poaching threat elsewhere. In addition, any activity requiring immobilization carries an inherent risk, as demonstrated by the death of a White Rhino during a horn poisoning exercise near Johannesburg in February 2012 (Child, 2012a).

It is widely known within South Africa that all Southern White Rhinos alive today originated from the small population that survived in the Hluhluwe-iMfolozi Game Reserve in South Africa about 100 years ago. The recovery of the White Rhino represents one of the few great conservation success stories and the rhino clearly retains a special place in the South African consciousness. There has been a groundswell of public support and awareness-raising around the rhino poaching crisis, partially through the LeadSA media initiative and support of radio stations such as Radio Jacaranda. Substantial funds have been raised through these activities and the establishment of national fundraising initiatives, such as those by stoprhinopoaching.com and the Endangered Wildlife Trust, which have supported anti-poaching activities and the training and deployment of sniffer dogs.

## LAW ENFORCEMENT IN SOUTH AFRICA

### *National Wildlife Crime Reaction Unit*

A major evolution in South Africa's law-enforcement structure occurred in early 2010 with the establishment of an interim National Wildlife Crime Reaction Unit in the Department of Environmental Affairs. NWCRU consists of representatives from SAPS, SANParks, national and provincial nature conservation officials, NPA, the Asset Forfeiture Unit and INTERPOL. Thus for the first time in at least a decade, a national law-enforcement co-ordination body was put in place to operate effectively across provincial boundaries. This development expressly recognized the marked escalation in rhino security threats throughout the country and moved quickly to develop a national crime investigation and information management mechanism that linked all components of the law-enforcement community through local, provincial and national scales. Backed by strong political will, the NWCRU has sought positive interaction and relationships with communities, private rhino owners and other stakeholders to facilitate effective and efficient information exchange, and has attempted to secure a team of highly-motivated, well-trained, resourced and equipped personnel (Maggs and Knight, 2010).

NWCRU have implemented an action plan aimed at mitigating the serious escalation in rhino poaching and the illegal trade in rhino horns. Key elements of this initiative include the establishment of a national co-ordination structure for information management, law-enforcement response, investigation and prosecution that links the provincial conservation authorities, SANParks, SAPS, the National Prosecutors Association and responsible private sector bodies (Maggs and Knight, 2010). An effort to second officials from these government departments has been initiated with a view to conducting joint operations and other law-enforcement actions, undertaking inter-departmental analysis of available intelligence information and promoting co-operation and best practice standards for law enforcement, the monitoring of rhinos, horn stockpiles and rhino movements nationally, especially within the private sector. NWCRU also promoted the establishment of specialized environmental courts to ensure that the seriousness of rhino crime is institutionalized and effectively dealt with (Maggs and Knight, 2010). However, there were concerns that there would not be enough cases to financially justify creating a number of these courts throughout the country. One of the aims of NWCRU has been to improve information management and develop pro-active database structures to link crime-related information with applied scientific research data, the national CITES permit system and other sources of available information (S. Snelling, SANParks, pers. comm., 2010). There is little question that NWCRU has scaled up South Africa's national response to rhino poaching and illegal trade in rhino horn. Since its creation, a series of high-profile law-enforcement actions have occurred which appear to have been collaborative efforts involving a range of authorities. However, whilst these objectives work well in theory, there have been concerns about the effectiveness of their implementation and some in the provinces are frustrated by the perceived restricted communication of relevant NWCRU intelligence in practice.

### *South African Police Service*

The Directorate of Priority Crime Investigations (DPCI or more informally known as the "Hawks") is a specialized division of SAPS established primarily to prevent, combat and investigate national priority offences. As such, DPCI focuses on serious organized crime, serious corruption and serious commercial crimes. The Directorate is composed of a Commercial Crime Unit, Financial Investigation and Assets Forfeiture Unit, Organised Crime Unit, the Priority Crime Management Centre and Support Services. As rhino poaching and illegal rhino horn trade have been identified as a serious national threat, these crimes are the responsibility of the Endangered Species Section within the Organised Crime Unit (J. Jooste, pers. comm., 2012). SAPS has designated an Endangered Species Co-ordinator for each province to oversee rhino crime investigations and a select team of the SAPS DPCI is now focused on rhino poaching activities at a national level. Furthermore, a task team with provincial co-ordinators and investigating officers has been trained in every province to investigate rhino crime scenes. Standard Operating Procedures have been developed for the sites of rhino poaching incidents and training provided for such situations, to ensure that investigating officers have as much information and evidence as possible available to work with and ensure that perpetrators face prosecution.

### *National and provincial nature conservation officials*

DEA, within the Ministry of Water and Environmental Affairs (formerly the Ministry of Environment and Tourism), plays an overarching role in establishing hunting and trade policy for rhinos in South



South African game ranger protecting White Rhino.

TIM JACKSON/AFRICA GEOGRAPHIC

Africa. This is achieved through its role in implementing the National Environmental Management: Biodiversity Act, 2004, under which the TOPS regulations are enacted. Whilst this body assesses compliance and is in active liaison with the provincial authorities, DEA is not actively engaged in law-enforcement action itself.

The nine provincial bodies in South Africa each have an authority responsible for wildlife conservation and a dedicated law-enforcement unit. Within these government departments, people who have undertaken specific training force qualifications can be appointed as Environmental Management Inspectors (EMIs) within the Environmental Manager Inspectorate, also known informally as the "Green Scorpions". EMIs in each government authority are responsible for implementing the relevant terms of NEMA. In addition, some national and provincial conservation agencies (e.g. Ezemvelo KZN Wildlife, North West Parks and Tourism Board and SANParks) have dedicated organizational committees, which meet to discuss rhino-related issues. The only conservation law-enforcement body with a nationwide mandate is SANParks.

### *National Joints Committee*

In recognition of the seriousness of rhino crime, law-enforcement activities have been elevated to the South African National Joints Committee (NatJoints). NatJoints comprises senior members of the SAPS Organised Crime Unit, DPCI, NPA and the SANDF and is responsible for the co-ordination, joint planning and implementation of high-priority security measures. The committee was established to address security issues during the FIFA World Cup in 2010 and is now involved in combating rhino poaching and illegal horn trade issues. Under "Operation Rhino", NatJoints is now involved in investigations and intelligence gathering of rhino cases, as well as implementing the National Strategy for the Safety and Security of Rhinoceros and Rhino Horns in South Africa (Table 8). Within NatJoints, a Provincial Joints (ProvJoints) structure has been established to develop appropriate pro-active and reactive responses to rhino crimes at a smaller geographic scale.

### *South African National Defence Force*

A striking addition to the security levels provided to rhinos in South Africa has been involvement of the South African National Defence Force (SANDF). In August 2011, security efforts in KNP were enhanced by the addition of 57 rangers from SANDF to help protect and monitor the 350 km of

national border KNP shares with Mozambique. By January 2012, it was announced that an additional 150 SANDF rangers would be trained to join the 500 SANParks anti-poaching staff already present in the park. It was reported in March 2012 that the first group of 75 new rangers had completed their competency tests and undertaken all security checks and medical assessments prior to undergoing a six-week intensive paramilitary training course. Unlike SANParks rangers, SANDF representatives do not have formal power of arrest. Current standard operating procedures combine SANDF personnel, SANParks rangers and EMIs in anti-poaching patrols.

### Ports of entry and exit

Policing of ports of entry and exit to prevent the illegal export of rhino horn is challenging and currently complex due to the involvement of a number of different government departments. During a speech in April 2012, Edna Molewa, the Minister for Water and Environmental Affairs, announced that DEA would be:

*implementing a decision to deploy conservation specialists at key designated ports of entry and exit through which the international trade in endangered species (mainly CITES listed) can be exported and imported. In addition, the designations of the ports should also be extended to include all wildlife species imported and exported to and from South Africa under the National Environmental Management Act: Biodiversity Act (NEMBA) (DEA, 2012).*

The department is said to be working closely with the Gauteng Department of Agriculture and Rural Development (GDARD), Airports Company South Africa (ACSA), Home Affairs and Public Works to achieve this. During the Parliamentary Hearing in January 2012, it was announced that DEA and the Department of Public Works would secure a dedicated facility at O.R. Tambo International Airport in Johannesburg and another at an as-yet-undetermined seaport to test for wildlife products entering or exiting the country. O.R. Tambo International Airport has been identified as a key exit route for rhino horn leaving South Africa and has been the site of several rhino horn seizures from international couriers. A number of government authorities, such as the South African Revenue Service (SARS) and the Customs and Border Management Department have been lauded for their pro-active response in this regard.

### National Prosecuting Authority

The National Prosecuting Authority (NPA) of South Africa is a key partner in the criminal justice system, playing a critical role in ensuring that perpetrators of rhino crimes are charged and held responsible for their criminal actions. A representative from the Organised Crime Unit of the NPA is involved with NWCRU and each Director of Public Prosecutions (DPP) office has an Organised Crime Division which is mandated to monitor, guide and prosecute rhino crimes (Mpondo, 2011). In late 2010, a dedicated prosecutor in each DPP office was appointed to deal with all rhino poaching and illegal rhino horn trade cases. Subsequent enhanced co-ordination efforts with SAPS, DEA and nature conservation officials have led to numerous successful prosecutions. As prosecutors are aware of cases before the accused appear in court, they are in a much better position to monitor cases, oppose bail and allocate appropriate prosecutors (Mpondo, 2011). Certain key individual prosecutors have been commended for their great commitment to fighting rhino crimes. However, more recently there have been some concerns that there is no formal structure for assigning rhino crimes to prosecutors within each province and, more critically, that there is insufficient communication and collaboration between prosecutors provincially and nationally. The provincial structure in South Africa is believed to impact upon prosecution successes. Most criminals are operating intra-provincially and ought to face charges in more than one province. Defence lawyers are able to find loopholes between legislation in different provinces and use these and other tactics to drag cases out over many years, during which time those charged are still able to apply for and receive permits for restricted activities relating to rhinos.

Rhino crimes are prosecuted under the National Biodiversity Act as well as the national and provincial nature conservation ordinances that make provision for prosecutions relating to illegal dealing, trading and possession of rhino horn. Where the accused cannot be linked to a specific rhino poaching incident, they have been charged with trespassing and possession of firearms (Mpondo, 2011). The NPA has invoked a wide range of legislation to enact charges upon those involved in rhino crimes, including the Prevention of Organised Crime Act (POCA) and racketeering, money laundering, fraud and corruption legislation, contravention of the Aviation Act as well as the Drug Trafficking Act (darting of rhinos by veterinarians), and tax evasion with the involvement of the Asset Forfeiture Unit. Racketeering charges relate

to “syndicated crime”, defined as one or more people conspiring to commit a crime repeatedly for monetary gain. More recently, there has been a specific focus on investigating cases involving organized crime syndicates with a view to charging them with racketeering and money laundering (Mpondo, 2011).

### SADC Rhino Management Group

The SADC Rhino Management Group (RMG) has been operational since 1989 and consists of representatives from South Africa, Swaziland, Namibia and Zimbabwe. In South Africa, the Department of Water and Environmental Affairs, all nine South African provincial conservation authorities, SANParks, selected private landowners with Black Rhinos, the Chair of the RESG/INTERPOL ECWG and a number of elected expert members are part of the RMG. Functioning as an advisory body, the focus of the RMG is primarily directed at the conservation of Black Rhinos owing to their Critically Endangered status, although in recent years South Africa's poaching crisis has resulted in White Rhino conservation assuming a greater profile within the group. In terms of practical activities, the RMG has helped develop the South African Black Rhino conservation plan and is busy developing a draft White Rhino Biodiversity Management Plan to replace the shorter “White Rhino Strategy” it previously developed for approval by MINMEC in 2000. The RMG has taken the lead in collating Black Rhino population data and synthesising and analysing the data every two to four years to produce confidential status report summaries. This important work has evaluated the performance of individual Black Rhino populations, allowing conservation authorities and private sector Black Rhino owners to make informed management decisions. This work has directly supported the increasing trend in Black Rhino numbers in South Africa and feeds into various other processes under the auspices of South African governmental bodies, the IUCN/SSC AfRSG and CITES. For example, concerning the CITES export quotas for Black Rhinos, the RMG was instrumental in developing the government's hunting selection criteria which all provinces are now currently using (Hall-Martin *et al.*, 2009). An updated survey on Black Rhino populations in southern Africa covering 2007–11 is currently underway and due for completion by September 2012. In addition, a survey of White Rhinos on private land in South Africa is being done under the RMG banner, along with PROA and WRSA, and is also due for completion in September 2012.

### Rhino and Elephant Security Group/INTERPOL Environmental Crime Working Group

In 1989, at a time when rhino populations were being decimated in East and Central Africa, the RMG was formed and included a security sub-group. This RMG sub-group initially just focused on rhino crime issues, but the purview of the group had broadened to include elephants by 1996 and became known as the Rhino and Elephant Security Group (RESG). At the same time, membership expanded to include government law-enforcement bodies from within the SADC region including Botswana, Malawi, Mozambique, Namibia, Swaziland, Tanzania, Zambia and Zimbabwe. Given the restricted focus of the RMG on Black Rhino conservation in a more limited geographical area, it was decided that the RESG should be fully independent of the RMG. However, links with the RMG have remained, with the chair of the RESG being a member of both the RMG and the IUCN/SSC AfRSG (Emslie and Brooks, 1999).

Terms of reference for the group were revised in 2001 and for a number of years there has also been participation by selected individuals from key NGOs such as the IUCN/SSC AfRSG and TRAFFIC. Since 2001, the RESG has focused upon nine key areas of engagement. These are law enforcement, intelligence, procedures for effective investigation and prosecution and for minimizing illegal international trade, security and management of rhino horn and ivory stocks, co-ordination, networking and information exchange, training and capacity building, positive public involvement, awareness and education, international and regional conventions and sustainability, functioning and support of RESG (Emslie, 2001). Specific goals and activities were established for each of these focus areas so that the RESG makes a valuable contribution to rhino and elephant security issues in the region and complements the work of other existing rhino groups. With periodic meetings, the RESG functions as the leading regional law-enforcement body for addressing rhino and elephant crime. For many years RESG meetings were held jointly back to back with those of the INTERPOL Environmental Crime Working Group (ECWG), with participation from INTERPOL's sub-regional and national crime bureau desk officers. Due to overlap in work, the two groups have now formally merged to form the RESG/INTERPOL ECWG and the terms of reference for the joint group have been revised.



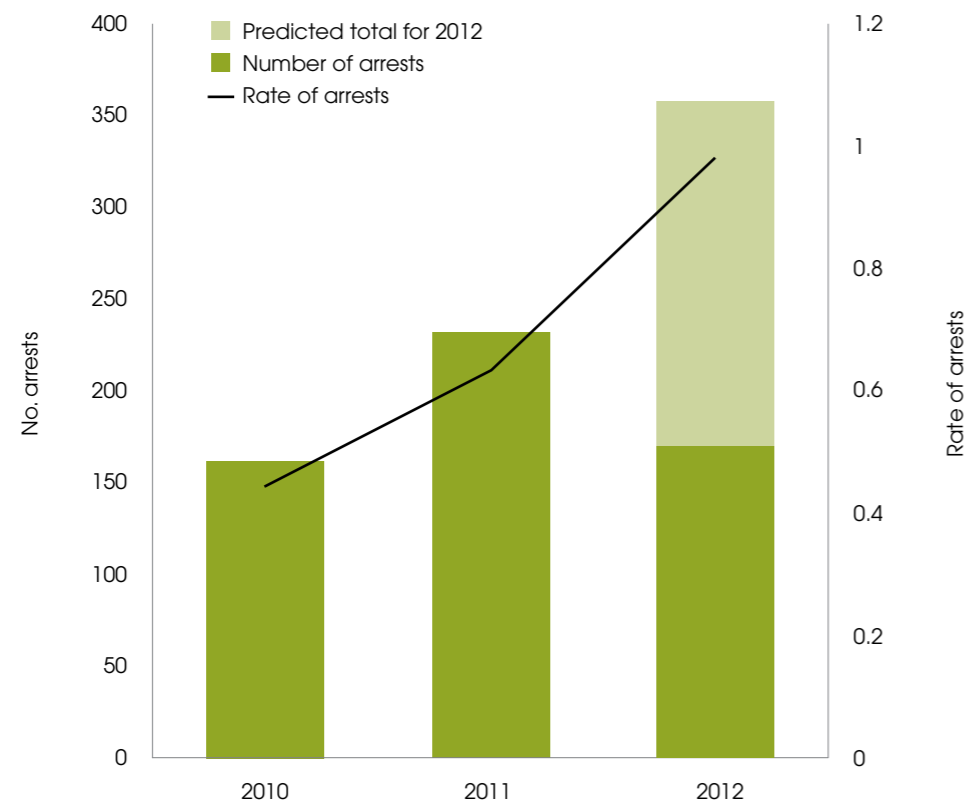
## RHINO CRIMES IN SOUTH AFRICA

### Rhino horn seizures

Previous work by TRAFFIC identified early indicators of a resurgent illegal trade in rhino horns. One of the important patterns in rhino-related crimes within South Africa has been the overall decline in the proportion of enforcement-related horn recoveries. The proportion of recovered horn (including both recoveries in the field and seizures) decreased from 64% during 2000–02 to 49% during 2003–05 in South Africa (Milledge, 2007a; 2007b). Most recent figures show that 162 horns were seized during 2009–12 (Appendix 2), yet 1152 rhinos were illegally killed in the same period, meaning 2304 horns potentially entered the black market but only 7% were recovered from this source if all horns seized represented poached animals.

According to enforcement personnel working in four different wildlife management authorities (SANParks and three provincial authorities), this trend is most closely linked to the enforcement challenges following increased organization within the criminal networks behind rhino poaching and horn trading. Horns entering illegal trade derive from multiple sources, including poached rhinos, legal trophy hunts, illegal dehornings, thefts and registered and unregistered horns in private hands. The legal acquisition of horns has created special difficulties for enforcement officials as legal documentation issued for legitimate horns can be used to provide a means for laundering illegally-sourced horns; further, some legally-acquired horns have subsequently been laundered into illegal trade (Milledge 2007a; 2007b).

To date, the greatest number of rhino horn seizures in South Africa (24 out of 64 seizures) have occurred in Gauteng province, with at least 12 seizures at O.R. Tambo International Airport involving 56 horns, from individuals attempting to export them out of the country illegally (Appendix 2). The relatively high number of seizures made in the province suggests that horns sourced elsewhere in the country make their way towards Johannesburg for export. This highlights the role of the airport as a significant trade route. Significant seizures were also made in KNP (11 seizures) and Limpopo province (12 seizures), both of which experience high rates of rhino poaching (Appendix 2).



**Figure 31** Total number of arrests and the daily rate of arrests of those involved in rhino crime in South Africa from 2010–20 June 2012 (data from SANParks and DEA)

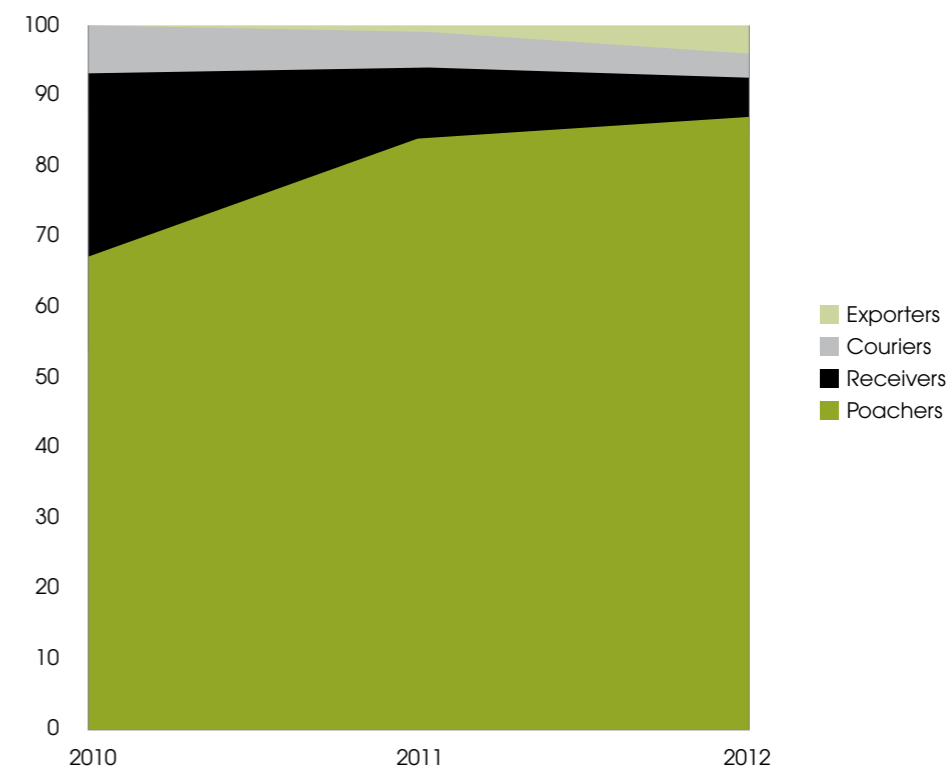
### Arrests

Successful arrests are the first, and thus perhaps the most critical, step in the judicial process. The increase in the rate of arrests of those involved in rhino crime in 2012, which appears to be nearly twice that of the two previous years, is to be lauded as a very positive development (Figure 31). The high rate of successful arrests seen to date in 2012 is generally attributed to increased intelligence activities, as well as better communication and collaboration between different government departments and an indication that networks developed between law-enforcement bodies are starting to show results.

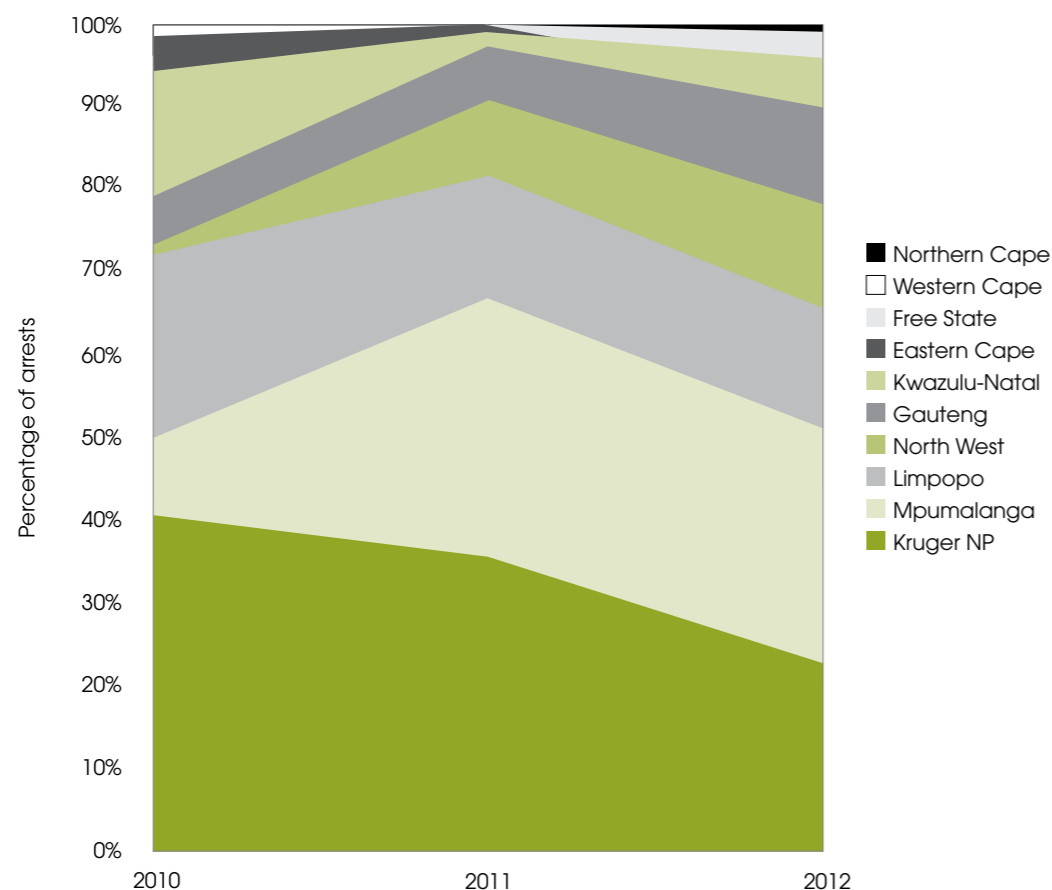
To 20 June 2012, 170 arrests have been made, including 10 receivers or couriers (Level 2), six couriers or buyers (Level 3) and seven exporters (Level 4). The marked increases in the number of very recent arrests in the higher echelons of the illegal rhino horn trade chain are particularly encouraging (Figure 32). As the most numerous group involved in rhino crime (Figure 28), it is understandable that poachers typically make up the majority of arrests. However, whilst all arrests are to be commended, experience shows that the impact of arrests at this level on rhino crime or other illegal wildlife trade activities is generally relatively short-lived. There are vast numbers of potential poachers available to fill this role as long as the perceived benefits outweigh the costs. To seriously disrupt the illegal rhino horn trade chain in the longer term, law-enforcement bodies must identify and remove the dealers, the middlemen and those in the international organized crime gangs working at higher levels. The challenge is to find those who are directing the crime, not just those pulling the trigger and acting as local couriers.

Since May 2012, there have been a number of high-level arrests of Vietnamese nationals believed to be operating as international exporters at Level 4 in the trade chain (Figure 32). Some observers have linked the recent apparent decline in the rate of rhino poaching (Figure 23) with the arrest of key individuals in the rhino trade chain. Preventing any such gaps from being filled by new players will require ongoing co-ordinated law-enforcement investigations and intelligence at an international level. It is believed there will soon be further substantive arrests as active poaching and illegal trade syndicates have been identified by investigators.

The provincial spread of arrests in South Africa in recent years clearly shows that a high proportion of apprehensions are associated with KNP, which is not surprising given that this park remains the epicentre



**Figure 32** Proportion of arrests at different levels in the illegal rhino horn trade chain from 2010 – 20 June 2012 (data from SANParks and DEA)



**Figure 33** Distribution of arrests between provinces from 2010 – 12 June 2012 (data from SANParks and DEA)

of the poaching crisis (Figure 25). Where poachers are intercepted within the park, their dockets show the park itself. However, if arrests occur outside the park borders, they are registered in the relevant province, Mpumalanga to the south and Limpopo to the north. These three areas account for approximately 70% of arrests for rhino crimes over the past three years. This highlights the need for all the law-enforcement agencies in the different provinces to co-operate and ensure that relevant intelligence information is distributed securely within their networks. Authorities in KwaZulu-Natal responded quickly to the increased poaching threat in 2010 and made significant arrests, which appeared to have reduced subsequent levels of poaching in the province for some time (Figure 33). North West, Gauteng and KwaZulu-Natal provinces have shown an increase in the proportion of arrests in 2012.

As expected, African nationals charged with rhino crimes in South Africa were predominantly South African citizens, though some Mozambicans, Zimbabweans and a small number of Congolese citizens have also been charged (Appendix 3). Asian nationals charged with rhino crimes in South Africa have been predominantly Vietnamese, though mainland and overseas Chinese, Malaysian and Thai citizens have also been involved (Appendix 4). Following the trends described earlier, those arrested of African origin were typically involved in Level 1 and Level 2 activities, such as illegal killing of rhinos, trespassing in protected areas and illegal possession of firearms (Appendix 3). Some South African nationals have also been arrested at Level 3 for activities at a national level related to the illegal possession of and trading in rhino horns. Asian nationals have mostly been charged with illegal purchase, possession and trading in rhino horn (and in some cases other wildlife products such as lion bones), predominantly filling the Level 3 or Level 4 courier or exporter roles in the trade chain (Figure 28).

The increased sophistication seen within poaching gangs and higher levels of security patrols within rhino reserves, and the increased aggression of gangs have also led to an upsurge in human fatalities. So



Black Rhino carcass.

far, in 2012, three poachers have been killed by anti-poaching units, two in KNP and one in KwaZulu-Natal, while a SAPS member and a game ranger were also killed in an incident in the KNP in April 2012. In 2011, 26 suspected poachers were killed in shootouts with anti-poaching units in South Africa.

### Arrests of alleged rhino crime syndicate operatives in South Africa

As seen above, the rate of arrests of those involved in rhino crimes in South Africa is on the increase. At the same time, some observers are frustrated by a perceived lack of justice associated with these crimes, as no high-profile syndicate leaders have been convicted to date and a number of cases have been removed from Court rolls. Given the complex nature of some of these trials, the most infamous of which consists of 1872 separate dockets, it is understandable that court proceedings may take a considerable period of time to conclude. Some of the more significant arrests and court proceedings are described in greater detail below. In order not to influence or jeopardize pending cases, only those who have been convicted and sentenced for rhino crimes to date are named.

#### • South African Syndicate #1

Nine South Africans, predominantly from the Afrikaans community, involved in the wildlife industry and referred to by some as the “Boere Mafia”, represented the first major rhino poaching syndicate to be busted when they were arrested in 2006. These individuals faced a range of charges relating to rhino poaching, including racketeering, money laundering, various counts of theft, malicious damage to property and contraventions of the various provincial Conservation Acts and the South African Civil Aviation Act. The syndicate had allegedly been involved in poaching rhinos in KNP, Hluhluwe-iMfolozi Park and private game farms since 2005. Two brothers, Gideon and Nicolaas van Deventer, were found guilty of illegal rhino hunting and received sentences of 10 and five years respectively (Carnie, 2010). Another man, Pieter Swart, was found guilty of the illegal trading of four rhino horns and imprisoned for three years (Carnie, 2010). The Asset Forfeiture Unit (AFU) in the NPA seized more than ZAR40 million (approximately USD5 million) of assets from alleged members of the syndicate in May 2010. However, the case against the two men described in Court as the “kingpin” and the “middleman” within the syndicate was ultimately removed from the Court roll due to the alleged intimidation of a key witness (Carnie, 2010).

#### • **South African Syndicate #2**

In September 2010, the sensational and widely publicized arrests of 11 wildlife industry professionals forming an alleged rhino crime syndicate began the most notorious rhino crime trial in South Africa to date (Naidoo, 2012). It has been reported that between June 2006 and September 2010, “hunters, agents or middlemen and the buyers started procuring rhinoceros on different game farms, wildlife parks and reserves across the country with the aim of dehorning them” (Child, 2012b) and that the syndicate “induced other farmers to dehorn their rhinos or sell their rhino horns”. It is alleged that more than 39 rhinos were killed on a farm in Limpopo province belonging to one of the syndicate members and the carcasses sold to a neighbouring farm without their horns (Child, 2012b). The 11 accused in the case face a total of 1872 charges that relate to the killing of rhinos, racketeering, money laundering and dealing in rhino horn. On 9 May 2012, a joint security force made up of the Hawks, the NPA’s Asset Forfeiture Unit and officials from the Environmental Affairs Department seized assets from the Limpopo properties of three members of the syndicate in an attempt by the State to recoup the ZAR55 million (approximately USD7.3 million) that the suspects allegedly made through the sale of the rhino horn (Naidoo, 2012). All of their assets are effectively frozen until the trial is over and, if they are convicted, the proceeds of these assets will be used to combat crime (Child, 2012b). The trial continues and the next court date is scheduled for October 2012.

#### • **South African Syndicate #3**

Nine members of one of the most prominent and notorious syndicates, including a South African police officer, were arrested in Hazyview, Mpumalanga, near KNP in March 2012 after a sting operation in which four rhino horns were found in a vehicle (Viljoen, 2012). It was suspected the horns came from an earlier poaching incident in KNP for which four park staff had been charged (Viljoen, 2012). Police later found more than ZAR5 million (approximately USD670 000), a variety of firearms and about 70 pangas, axes and knives hidden at three properties owned by the man believed to be the head of the syndicate (Naidoo, 2012). The trial continues.

#### • **Mozambican Syndicate**

On 31 January 2012, three Mozambican nationals (Aselmo Baloyi, Jawaki Nkuna and Ishmael Baloyi) who had been found guilty of illegally hunting rhinos in KNP were sentenced to 25 years’ imprisonment each by the Phalaborwa Regional Court. The poaching gang had been caught in the Mooiplaas section of KNP in July 2010, with two fresh rhino horns and an axe, and was also found guilty of possessing an illegal firearm and ammunition. A fourth member of the gang had attempted to escape from jail, but was captured and died in custody in 2011. The 25-year sentence was due to several of the charges running concurrently. The sentences were: illegal hunting of rhino, sentenced to 10 years’ imprisonment; possession of automatic firearm, sentenced to 15 years’ imprisonment; possession of a hunting rifle, sentenced to eight years’ imprisonment; and possession of ammunition, sentenced to 15 years’ imprisonment.

#### • **“Pseudo-hunting” Syndicate**

A Thai businessman was arrested in July 2011 as the alleged local “kingpin” for a syndicate accused of sourcing rhino horns for export via “pseudo-hunts”. It is claimed that he has been colluding with a South African lion farmer and safari operator to stage legal trophy hunts in North West province (Rademeyer, 2011d). Seized documents indicated this syndicate had plans to conduct 15 “pseudo-hunts” of rhinos each month (Rademeyer, 2011d). The syndicate also hired Thai women, some of them alleged “sex workers”, to pose as hunters. In line with permit regulations, a hunter may shoot one rhino per year and the women ensured that the syndicate had a ready pool of “hunters” (Rademeyer, 2011e). Another member of the gang was found guilty of the illegal possession of lion bones in June 2011 and he was also charged with the attempted purchase of rhino horn in a sting operation in September 2008, but was released due to lack of evidence (Appendix 4). A Thai national was arrested at Emperors Palace Casino in Johannesburg in March 2012 on charges related to illicit rhino horn trading. Another South African professional hunter was arrested in May 2012. The trial continues.

#### • **Vietnamese Syndicate #1**

In mid-May 2012, a Vietnamese man was arrested after a tip-off led to a raid on a house in Bedfordview, Johannesburg (Hosken, 2012). The suspect was charged with possession of 10 rhino horns and contravening endangered species legislation, possession of suspected stolen property and contravening foreign currency regulations. Police also recovered one elephant tusk, gold jewellery and approximately ZAR4 million (approximately USD530 000) in various currencies. This individual was viewed as a flight risk and refused bail. The trial continues.



White Rhino carcass.

#### • **Vietnamese Syndicate #2**

Two Vietnamese men were arrested during a sting operation at the Midrand Golfing Estate in Gauteng province at the end of May 2012 (Nair, 2012). They were charged with the illegal possession of eight rhino horns and illegal dealing in rhino horn. It has been alleged they are senior players in a multi-billion rand international syndicate. Luxury vehicles were seized from the crime scene, together with electronic scales, laptops, documents and files pertaining to the sale of rhino horn (Nair, 2012). The trial continues.

### **Prosecutions**

A variety of legal measures are relevant to the prosecution of individuals charged with rhino crime. NEMBA and TOPS are two prominent laws used in rhino crime cases, but a range of permit violations and transgression of CITES are also of importance. Additionally, it is possible to lay charges under the Health and Medicines Act and the South African Civil Aviation Authority whenever veterinarians and pilots transgress these laws (Swart, 2012).

The latest statistics for 2012 released by DEA on 21 May 2012 show that a total of 57 cases related to rhino poaching and rhino horn trade are in the courts at the present time. Of the 161 individuals charged in 2012, 65 (or 40%) of those accused are held in custody, while the remaining 96 (or 60%) have been released on bail. In fact, the conviction rate of those charged with rhino crimes in South Africa is relatively high. Both private investigators and NPA staff report that more than 90% of those arrested have gone to court, though cases may take a long time to complete due to lack of national capacity and the complexity of many syndicate cases, as well as delaying tactics used by defence lawyers and their clients.

### **Sentencing**

When the first rhino horn case was tried in his court in 2010, Magistrate Manyathi of the Kempton Park Regional Court made a decision that small fines or a “rap over the knuckles” would not suffice as punishment for rhino crime (Coetzee, 2011). Magistrate Manyathi is reported to have said:

*I do not want to have to show a picture of a rhino to my grandchildren one day just because greedy people destroyed the last one. Whether you are the courier or the person who killed the rhino makes no difference in my court. You will be judged, and on conviction will receive the appropriate sentence (Coetzee, 2011).*

Environmentalists in South Africa have applauded Magistrate Manyathi's message to would-be biodiversity criminals and believe it should be copied throughout all of the provincial and national courts in the country. The case of Xuan Hoang, sentenced to 10 years' imprisonment for possession of seven rhino horns by Magistrate Manyathi in May 2010 is a good example of these words being put into practice. His defence pleaded for mercy and a fine rather than a prison sentence, but Magistrate Manyathi reiterated that fines would no longer suffice as a measure of discouraging such crimes, saying he:

*wanted to send a strong message to Viet Nam with this sentence, as fines did not seem to be a deterrent to them (Coetzee, 2011).*

### **Illegal horn possession**

Sentences for those charged with possession of illegal rhino horn in South Africa now typically range between five and 10 years' imprisonment, plus additional fines in some instances (Appendix 2). These individuals are generally caught transporting horn within South Africa after the illegal killing of a rhino or in the process of smuggling the horn out of the country. Where suspects can additionally be linked to the illegal killing of a rhino, sentences are often markedly higher. Couriers or suspects transporting horn out of South Africa are often additionally charged with fraud, tax, Customs violations or for committing offences for which they receive additional fines or custodial sentences and, in some instances, are obliged to forfeit their assets (Appendix 3).

### **Illegal killing of rhinos**

Data provided by EWT's Law and Policy Programme show that all African nationals prosecuted to date for the illegal killing of rhinos have received custodial sentences. The majority received sentences of 10 years for the illegal killing of a rhino, with additional sentences for trespassing into protected areas and the illegal possession of firearms, which often add another three or four years each. The sentences handed out to those charged with Level 1 and Level 2 crimes, such as the illegal killing and dehorning of rhinos and the illegal possession of rhino horn, are increasing and beginning to match the severity of the crimes. Encouragingly, in a number of cases custodial sentences have been handed down without the option of a fine, recognizing that even a ZAR1 million (approximately USD130 000) fine would represent an affordable "tax" on turnover for a syndicate and would not act as a suitable deterrent. However, it is striking that none of the major rhino crime syndicates identified above have yet received fitting punishment and it is imperative that when these cases are charged the sentences are sufficient to act as a deterrent to others.



Face of a White Rhino at rest.

## LEGAL COMMERCIAL TRADE IN RHINO HORN



White Rhino drinking.

TIM JACKSON/AFRICA GEOGRAPHIC

Some of the major private and State rhino stakeholders in South Africa are actively campaigning for the legalization of trade in rhino horn, believing that a legal supply of horn could be part of the solution to the current poaching crisis and contribute to continued expansion of rhino range and numbers. The South African government has received a number of proposals for legalizing trade, including one from the provincial authority Ezemvelo KZN Wildlife, although all remain under consideration and none have been endorsed. Other observers are profoundly opposed to this approach for a range of ethical, moral, economic and practical reasons. There is no denying that the debate around legal trade in horn is an incredibly “hot topic” in South Africa and one that has become increasingly polarized, with few objective considerations of the costs and benefits of market approaches under different trade regimes and timeframes. However, at a recent national rhino dialogue meeting, a number of speakers called for a balanced evaluation of the pros and cons of all possible options in order to best identify the courses of action that will most likely support the realization of many fundamental rhino conservation objectives in South Africa.

Overall, there seems to be some lack of understanding for the CITES process, which remains the international mechanism under which any proposed trade solution linking South Africa with a rhino horn-consuming country will unfold. As a multi-lateral treaty with 175 Party States, CITES works by subjecting international trade in specimens of listed species to certain controls which mandate that all import, export and re-export of species covered by the Convention be authorized through a permitting system. If South Africa ever wishes to conduct a legal trade in rhino horn, the country will need to submit a proposal to CITES and gain a two-thirds majority vote in its favour. CITES is not overtly prescriptive concerning the specific requirements that will necessarily underpin a competent trading regime but, based on precedent established for trade in other highly contentious wildlife commodities, such as elephant ivory, a range of issues will most likely need to be addressed, including: the identification of trading partners and stakeholders participating in the system; the structure and trading protocols to be used in both source and consuming countries; the marking or identification system to differentiate

legal horn and horn products from illegal stocks; the control measures to prevent horns and products of illegal origin from leaking into legal trade channels; other law enforcement and regulatory procedures to ensure compliance with reporting and stock inventory obligations; the use of the revenues that will be generated through trade; and the delineation of public awareness initiatives to disseminate information and foster understanding for the system.

Moreover, and as was the case for the two one-off sales of elephant ivory under CITES, the Parties may also choose to activate a “panel of experts” or some other oversight body to vet the proposal, determine the acceptability of trading partners or audit implementation. A mechanism, possibly under the direction of the CITES Standing Committee, to stop the trade if failure to comply with agreed conditions occurs or unintended consequences result must be developed. And finally, the views of other rhino range States will need to be solicited and addressed through some kind of meaningful process, with a view to minimizing any potential negative impacts that might arise as a result of South Africa’s actions.

In any event, a legal rhino horn trade proposal moving into the CITES arena should holistically address the broadest range of concerns and the South African representatives to CITES should be fully prepared to address with thoughtful and confident answers the plethora of queries and concerns that will inevitably come forward. At the time of publication of this report, it seems unlikely, though not completely impossible, that the South African government will submit a proposal requesting legal trade in rhino horn to CITES CoP16 to be held in March 2013. As these meetings are held every three years, the next opportunity for the submission of a proposal would be CoP17 in March 2016, unless an intersessional postal process were followed.

What follows is not intended to be an exhaustive analysis of this issue nor an attempt to make a decision either way regarding legal commercial trade in rhino horn. Indeed, it seems premature to do so, when so many key issues and details concerning how any such trade would be structured and implemented remain unknown. It would be remiss, however, to describe the current situation in rhino conservation in South Africa without considering this important debate. Thus, a brief overview of the current scenario in terms of pros, cons and practical considerations is appropriate.

### Arguments given in support of legal trade in rhino horn

Proponents of legal trade in rhino horn accept that demand for rhino horn clearly exists in Asia and believe that meeting this demand with some form of legal supply may be far more effective than attempting to enforce a continued prohibition on the trade. They point to indications that demand for horn may be price inelastic and, therefore, argue that approaches that rely exclusively upon law enforcement may be doomed to failure because they simply create opportunities for organized criminals to make “big money”. In their view, this belief is buttressed by tangible evidence concerning what happened with the prohibition of alcohol in the U.S. during the 1920s or what is going on right now with respect to the so-called “war on drugs”. One of the fundamental arguments provided by resource economists in support of legal trade in rhino horn is the theory that the provision of an increased legal supply of rhino horn would reduce black market prices and, thus, the financial gains profiteers are currently making from illegal trade. This, in turn, it is reasoned, will lead to a reduction in illegal demand and, ultimately, rhino poaching (Eustace, 2012; ‘t Sas-Rolfes, 2012). In addition, proponents of legal trade additionally offer that the required rhino horn could be supplied from rhinos that did not have to be killed for this purpose, such as stockpiles of horn from natural mortalities or legal dehorning activities. The hope is that rhino horn could be provided on a sustainable basis without killing animals as horn regrowth occurs at the rate of about 3.5–6 cm each year, depending on the age of the animal (Pienaar *et al.*, 1991). Proponents do not expect poaching to stop completely, but hope that legal supplies would meet some of the demand that would otherwise have to be fulfilled by killing rhinos.

In theory, income generated by selling rhino horn could also provide much-needed revenue to help rhino owners and managers enhance rhino protection and intelligence-gathering activities to improve security for rhino populations on both State and private land. Shifting the cost-benefit equation away from poachers and crime syndicates currently profiting from illegal trade to those promoting rhino conservation values is a laudable goal. In general, increased security costs for rhinos in South Africa are not being augmented by international funding sources, but rather are being shouldered by the rhino owners and custodians themselves. Further, some argue that income from horn sales could be used to support *in situ* rhino conservation more broadly across both Africa and Asia, but private sector stakeholder buy-in for such a notion may actually be rather limited. Legal sales of horn could increase positive incentives for

rhino ownership by both private and State stakeholders, which could support the ongoing growth in rhino numbers and range in South Africa. Some hold the view that recent indications of declining live rhino sale prices and an increasing number of private owners divesting themselves of rhinos may continue without legalization of horn trade, thus reducing the land available for rhinos and negatively impacting upon rhino numbers in the long term. Whilst this is not yet an established trend, a reduction in potential rhino range, as well as financial resources available to support rhino conservation, have been identified as conservation challenges that exist above and beyond the current poaching crisis. Some proponents also argue that if legalizing the trade is found to not work, producing unacceptable consequences and outcomes, they would be accepting of interventions to shut the trade down completely.

It should be recognized that many proponents of legal trade are deeply concerned about the future of South Africa's rhinos and believe, as a matter of urgency, that trade may prove a compelling solution to the present crisis. At the same time, however, there is no unified viewpoint amongst legal trade proponents concerning the higher-level objectives of a legal trade, and there is a clear gap between those who are motivated to use trade to curtail rhino poaching and those wishing to use trade to generate maximum revenue.

In fact, the salient features of how a legal trade would be structured and which countries or markets would be part of the trade remain completely vague and any discussion of the issue is bedevilled by the fact that the “devil is in the detail”. For example, those in favour of legal trade argue that DNA analyses could be used to distinguish between legal and illegal horn at different stages in the market, but no details of exactly how this would be mechanistically undertaken, who would pay for it or how it would be enforced, have been set out to date. Another example concerns the range of different market mechanisms that have been proposed to manage a legal trade, but there is no consensus on how prices should be set or the best process for controlling the market. Some propose adopting a central selling organization approach like DeBeers did with its diamond cartel, others have mentioned an auction-type scenario that would allow rhino horn to sell at market values, whilst still others have advocated a central registration in South Africa for legally-obtained horns, which would be shipped to the government of the agreed trading partner; that government would then decide who could purchase the horns locally. Similarly, there is the issue of rhino horn that could potentially supply the trade coming from a number of different sources within both the State and private sectors. Whilst existing rhino horn stockpiles, ongoing natural mortalities or active dehorning operations could all supply horn, it is not always exactly clear which sources are being referred to in discussions around legal trade in rhino horn. Limited work has also been done in quantifying how much horn could be made available from South Africa from different sources under different trade scenarios, but this could have a significant impact on the efficacy of using a legal supply to mitigate poaching impacts. These kinds of unresolved issues serve to confound the discussion.

### **Arguments given against legal trade in rhino horn**

Opponents of legal trade in rhino horn also accept that a recharged demand for rhino horn currently exists in Asia, but remain opposed to legal trade at the present time for a variety of reasons. Like those on the other side of the fence, a diversity of opinions is found, ranging from dogmatic or philosophical opposition on principle to more pragmatic considerations of timing or other detail. On one side of the spectrum are those commentators who believe that any form of trade or sustainable utilization of wildlife is inherently wrong and should never be countenanced. However, such views are contrary to the sustainable-use philosophies that form the cornerstone of conservation approaches adopted by the majority of African rhino range States and many other conservation bodies. Indeed, the practical application of sustainable-use principles has been one of the reasons for South Africa's White Rhino conservation success story, the current poaching crisis notwithstanding.

It is an established fact that demand for rhino horn has been dramatically reduced in many former major markets in the past and some observers believe that this may be possible to achieve again in new markets such as Viet Nam. For example, Japan, South Korea, Taiwan and Yemen all were once major consumers of rhino horn, but no longer feature in the present rhino horn trade in a significant way. Even mainland China falls into this category to some extent as entire avenues of trade, for example the use of rhino horn in manufactured traditional medicines, is no longer occurring. It is further argued that awareness campaigns, coupled with unequivocal expressions of political will and government actions to curtail illegal trade, may have the potential to significantly reduce current rhino horn usage, particularly in the non-traditional market that Viet Nam represents. The effectiveness of such efforts, however, could be compromised by legalizing the supply of rhino horn, some argue.

A key issue to consider is the fact that all of the former rhino horn-consuming countries/territories in Asia, and also Viet Nam, have effected legal bans against the trade and most have moved to completely remove rhino horn as an approved ingredient in their traditional medicine pharmacopoeias. Any proposal to CITES to allow legal trade in rhino horn would require the identification of a trading partner in the form of a consumer interested in opening a legal rhino horn market, but there has been no clear indication of interest from any of the known end-user countries/territories in Asia to date. Furthermore, as domestic sales of rhino horn are illegal in virtually all consumer countries/territories that might be a trading partner, any move to lift internal trade bans would require necessary changes to national legislation to permit legal trade. And finally, if Viet Nam is targeted as the trading partner owing to the role it currently plays as the world's primary rhino horn consumer, many remain wary whether the country would be able to implement a structured legal trade regime and adequately police the internal market against illegal trade. The reasons for this are detailed in the Vietnamese section of this report, which addresses the current situation within that end-user market.

Another related concern is that a legal rhino horn supply could be seen to legitimize or encourage rhino horn use which might actually increase demand at different scales or encourage speculation, especially if legal horn is suddenly available at reduced prices. Because current levels of demand and consumption in Viet Nam and elsewhere are unknown (including the appearance of emerging illegal rhino horn utilization in China), demand expansion in the wake of a legal avenue of trade could potentially exacerbate the plethora of problems associated with the present illegal horn trade. Instead of decreasing demand for rhino horn, if increasing supply of legal horn at reduced prices actually stimulates a far greater number of consumers to purchase horn, and this leads to a rising demand that is difficult to supply with legal sources of horn, the activation of legal trade would be self-defeating in terms of reducing poaching pressure on rhinos. Some have also expressed moral concerns that providing a legal supply of rhino horn would tacitly legitimize current non-traditional uses, for example the treatment of fatal illnesses such as cancer, and that this is ethically wrong in the absence of clinical trials and scientific evidence attesting to the efficacy of such remedies.

A paramount concern of many observers is the possibility of laundering illegal horns from poached rhinos into a legal market. Such a development could equally impact on other rhino range States in Africa and Asia, as well as South Africa. There are many instances of wildlife commodity trade where legal and illegal trades have existed in parallel, and export, wholesale or retail dealers have had access to both sources of trade. In some cases, legal commerce has been undermined by the illegal trade over time, including the caviar trade from Central Asia (Vaisman and Fomenko, 2006; de Meulenaer and Raymakers, 1996), African Grey Parrots from Central Africa (Mulliken, 1995), the abalone trade from South Africa (Plagányi *et al.*, 2011; Raemaekers *et al.*, 2011), the snake skin trade from Indonesia (Nijman and Shepherd, 2009), and most recently the ivory trade in China (Martin and Vigne, 2011). Issues of price, availability and quality are important considerations in the legal vs illegal trade equation. The fact that rhino horn will most likely change form into a generic, nondescript powder in the end-use market presents a further challenging dimension for the development of an effective identification, monitoring and law enforcement system that precludes laundering of illicit horn into the trade. Given the challenges and the complexity that any workable system would necessarily entail, some question remains as to whether the kind of political will and oversight capabilities of potential user countries are sufficient to monitor and police such a trade effectively. For example, to date, Viet Nam seems unwilling or unable to control and monitor its hunting trophy imports, or to police its internal markets in spite of legal prohibitions making commercial trade in rhino horn illegal.

Within South Africa, a similar host of issues remain unresolved. Some have argued that unresolved issues *vis-à-vis* provincial permitting practices, the failure to implement TOPS regulations in all provinces, ongoing rhino horn stock registration problems and other lapses in government regulation and oversight do not bode well for the implementation of a legal trade regime in the country. South Africa needs to demonstrate a functional and integrated national permitting and information management system for rhinos. Others draw attention to the failure of many private sector stakeholders to provide information on numbers of rhinos on their properties and horn stockpiles in their possession. Some conservationists also have concerns that opening a legal trade supply may encourage farmers to selectively breed White Rhinos specifically for their horns, resulting in semi-domestication, giving rise to potential animal welfare issues and resulting in a genetic skew within farmed rhino populations.

As the full range of specifics for the practical arrangements necessary for implementation of a successful legal trade regime remain unclear at best, it remains difficult to thoughtfully examine the legal rhino horn trade issue until it moves beyond the realm of unresolved priorities and experimental theories.

## DISCUSSION AND RECOMMENDATIONS



White Rhino calf resting with mother.

Rhino conservation in South Africa has reached a pivotal point where the unequivocal successes of decades and the life work of many notable rhino champions are in serious jeopardy of unravelling. Without any doubt, in global terms, rhinos are emblematic of South Africa's greatest conservation achievement: saving the southern subspecies of White Rhinoceros from certain extinction more than 100 years ago and then painstakingly building up numbers from a handful of survivors into the world's most numerous rhino species. Indeed, the country remains the African stronghold of both Black and White Rhinos, holding around 83% of all rhinos in Africa and nearly three-quarters of all rhinos alive in the wild today in both Africa and Asia. But should the escalating poaching in South Africa continue unabated, these magnificent and ancient creatures could begin an inexorable decline towards low numbers and limited range, the very antithesis of the country's remarkable conservation history for rhinos to date. Drastic and concerted action is urgently required along the entire trade chain to counter the threats posed by a resurgent illegal rhino horn trade and to ensure the ongoing growth of rhino numbers in the world's premier rhino range State. The international repercussions of large-scale rhino losses in South Africa should not be underestimated; by its very nature, the recurrent and virulent rhino horn trade (even if it remains confined to demand in Viet Nam) inherently holds the potential to become an all-encompassing conflagration, producing devastating effects and consequences on a worldwide scale throughout the distribution of extant rhino. The situation currently facing South Africa remains a global challenge.

With the best conservation record for rhinos in the entire world, why is South Africa now gripped by a rhino crisis of unthinkable dimensions? In fact, a unique set of circumstances and a criminal coalescence of players that is not found in any other rhino range State at the present time fuels the carnage in South Africa. A mix of some greedy wildlife professionals, some corrupt government officials and hardened Asian criminal syndicates have converged in South Africa to create the "perfect storm" for wreaking havoc on the country's rhino populations. The annual rate of rhino poaching increases unchecked despite unprecedented media attention, a flurry of government responses and the best efforts of those on the ground. Organized criminal syndicates seemingly remain one step ahead of those fighting the rhino war, and these gangs are frequently better funded and better equipped than those risking their lives to protect Africa's rhinos. As government enhances the stringency of policies designed to prevent unnecessary rhino deaths, ever more loopholes seem to be identified and exploited by those relentlessly pursuing "easy money". As anti-poaching and security efforts are heightened, so is the level of aggression and sophistication displayed by poaching gangs. As the public outcry against

rhino poaching intensifies, the insidious reach of clandestine illegal trade networks extends ever more broadly and into unexpected quarters across the country. The enticement of potential income to be generated from the illegal trade in rhino horn has corrupted wildlife professionals within both the private and State sectors, who view the life of a rhino as inconsequential in comparison to the value of its horns. Depressingly, this sorry tale plays out against the implicit background knowledge that under current circumstances, the increased security and protection of specific rhino herds will simply shift the poaching threat to less protected animals elsewhere.

The valiant efforts of many in the South African government, both national and provincial, must receive due praise, as well as those within the private sector who are doggedly protecting their animals and fighting the illegal trade in rhino horn, both within their communities and at higher levels. However, the worrying fact remains that the rate of rhino poaching continues to increase year on year and there is no clear indication that this critically dangerous situation is starting to come under control. This scenario is being played out most clearly in KNP, where the majority of rhinos currently live and are being killed and where the rate of deaths continues to increase, despite unprecedented security activities. Kruger holds the largest population of White Rhinos and the second largest population of Black Rhinos in Africa and it is critically important that these populations are not severely depleted in number or lost altogether. Despite being the main focus of media attention, rhino poaching is not the only method used to source rhino horns. The actions of those involved in the "pseudo-hunting" of trophy rhinos, selling off unregistered rhino horns in their possession and thefts from horn stockpiles, as well as those couriers responsible for transporting horns out of the country, should be viewed and penalized with equal severity. Valid concerns have also been raised regarding live exports of White Rhinos to Asia.

There are some hopeful signs. So far in 2012, there has been a rise in the rate of arrests in South Africa and an increase in the severity of punishments for those accused and convicted of rhino crimes. Many law enforcement insiders believe that further high-profile arrests are imminent and that continued harshness in sentencing of those already convicted will prevail. Such a development holds the promise of starting to bring illegal activities under control. In addition to these actions, the following recommendations are offered to combat the illegal trade of rhino horn from South Africa and associated threat to rhino populations:

### Concerning political will

- **The need for strong political will to make addressing rhino crime a non-negotiable, high-profile national priority:** Whilst the many important initiatives and efforts that have served to elevate rhino conservation to be a top-level concern of the South African government are to be applauded, it is essential that government institutions and high-ranking political figures, including the President, continue to see the rhino crisis as one that negatively impacts on the country's international image and reputation; undermines economic development, especially in the tourism sector; poses a serious national security threat, including armed incursions of poachers operating from bases in neighbouring countries; entrenches the presence of international organized crime syndicates in the nation; and concerns an ecological, biological and conservation issue of global significance. Furthermore, the rhino poaching crisis has been identified as a critical problem in South Africa by CITES and other international biodiversity conservation forums. The eyes of the world are clearly upon South Africa now, creating a unique opportunity to demonstrate leadership in ensuring the conservation of rhinos globally. Failure in this regard will certainly seriously damage South Africa's conservation reputation and prestige as an ecotourism destination. It is further recommended that rhino issues be raised to a higher political level in the international dialogue between South Africa and consumer countries such as China and, particularly, Viet Nam.
- **The requirement to address capacity and resource constraints affecting South Africa's conservation authorities at national, provincial and site levels:** The challenge of preventing rhino poaching and illegal horn trade is shared between several government entities operating at different scales, but a common thread in almost all arenas is the lack of resources available to address the issue. Shortfalls in training, staff capacity, manpower, vehicles, equipment and, in some cases, sufficient operational budgets to cover expenditure for basic things like cell phones and fuel, hamper the activities of many, if not all, government operatives. To combat this problem, South Africa needs to rapidly address the constraints upon resources through governmental and institutional budgeting procedures so that conservation officials in all departments are empowered to take on the criminals behind rhino crime without the impediment of capacity and resource limitations.

- **The implementation of a secure, national, electronic permit system for all activities related to threatened and protected species, specifically rhinos:** The Department of Environmental Affairs has repeatedly promised the long-awaited development of a national, integrated, electronic permitting system to authorize and monitor restricted activities related to threatened and protected species, including the regulation of rhino. Delays, abuse and miscommunications within the current permitting structure have provided loopholes and opportunities for illegal or unintended activities to proliferate. A national permit database, linked to the rhino horn stockpile database (Milledge, 2004) and the RhoDIS system (Harper, 2011), would provide much greater transparency for monitoring rhino numbers and trends, horn stockpiles information and all restricted activities relating to rhinos. Streamlining the process through which permissions are granted would hopefully enhance buy-in from private rhino owners and ease identification of those abusing the system. Furthermore, the TOPS permitting process needs to be reviewed with a view to finding a more streamlined process that incentivizes private landowners to participate. Over-regulation will not necessarily provide the desired outcome of a co-operative private sector. The majority of private rhino owners who are fully compliant ought to be rewarded with more efficient and simplified approval processes.

### Concerning policy and legislation

- **The mandatory registration, marking and DNA sampling of all legally-owned or -held rhino horn stocks:** The amended Norms and Standards relating to the trophy hunting of White Rhinos and the marking of horns legally mandates any owners or custodians of rhino horn to thoroughly mark, micro-chip, register and take DNA samples from any horns in their possession. It is of paramount importance that all rhino stakeholders in South Africa engage in this process to ease the differentiation of the legal and illegal horns and their origin and movements. Specifically, greater transparency and buy-in is required from the private sector and all private stakeholders are urged to take responsibility for their horn stocks and participate in this process.
- **The importance of developing and implementing bilateral treaties to promote collaborative law enforcement action:** Greater collaboration between the supply and demand sides of the illegal trade chain is essential for combating rhino crime. Government officials from South Africa and Viet Nam have undertaken two bi-lateral exchanges over the past couple of years, but the proposed Memorandum of Understanding for law enforcement co-operation between the two countries remains unsigned. This needs to be addressed as a matter of urgency as Viet Nam is more heavily implicated in the South African rhino crisis than any other single country in the world. Additionally, it is becoming increasingly clear that Mozambique appears to form a significant and growing link in the rhino horn trade chain. Strengthening protocols and mechanisms between South Africa and Mozambique for collaborative and co-ordinated responses to the rhino poaching and rhino horn trade threat is also an urgent priority. Specifically, an extradition treaty under which those suspected of rhino poaching or rhino horn trafficking from Mozambique can be extradited to South Africa urgently needs to be developed and implemented. Finally, on another level, there needs to be greater international co-operation to ensure that confiscated rhino horn, particularly from consumer countries, is sampled and sent to South Africa's RhoDIS database for DNA analysis in order to facilitate investigations and possible prosecutions.
- **The necessity of ensuring that appropriate penalties that serve as a deterrent are given to those convicted of rhino crimes:** The potential of high black-market prices for rhino horn, and the subsequent high-income generation possible from illegal trading, mandates the necessity of imprisonment and asset forfeiture in place of fines if suitable penalties for deterring rhino crime are to be effected. Recently, severe prison sentences and large-scale asset forfeiture have been imposed on those believed to have profited from illegal trade in rhino horn. Praise must be given where it's due to those in the NPA, SAPS, SARS and other government departments who have made great strides in this key area and enacted suitable deterrents. There have also been recent positive developments in the denial of bail to those charged with serious rhino crime, especially foreign nationals apprehended in South Africa, and such action should be considered as a precedent for such offences in the future. Greater consistency in this kind of approach should be mandated by those in the judiciary in all provinces to ensure a committed and standardized hard-line response. Given the exceptional prices paid for horn by the end-user, it is critical that any punishment meted out is commensurate with the crime itself so that those profiteering from illegal trade in rhino horn are hit where it hurts. Other rhino range States, such as Kenya and Zimbabwe, also need to consider this approach in addressing the current rhino crisis.



White Rhino being protected by game ranger.

TIM JACKSON/AFRICA GEOGRAPHIC

- **The importance of denying those charged with outstanding rhino crime cases continued legal access to permits for restricted activities with TOPS species, especially where rhinos are concerned:** Several prominent members of the game ranching industry currently awaiting trial for rhino crimes are out on bail and continue to obtain permits for restricted activities related to rhinos and other threatened or protected species, including the purchase of rhinos at government game auctions and the pursuit of White Rhino "pseudo-hunting" operations with Asian clients. These individuals are allowed to buy, sell, hunt and dehorn rhinos, despite strong evidence indicating that they have been highly involved in illegal activities associated with these very actions. Whilst there are no doubt constitutional issues that need to be carefully considered, the South African government should investigate legal options available to national and provincial authorities in terms of implementing a ban on the provision of TOPS permits to anyone charged with wildlife crimes, especially where rhino crime is concerned. Notwithstanding the notion of "innocent until proved guilty", there are already a number of legal precedents in South Africa which buttress this consideration. For example, individuals facing criminal charges for armed robbery offences can be denied permits for the purchase of a gun; drivers with unresolved proceedings for allegedly driving under the influence of alcohol can have the renewal of their driver's licences blocked; and teachers charged with sex offences involving a minor can be denied teaching opportunities until a final verdict is rendered (R. Coetzee, pers. comm., 2012).

### Concerning law enforcement and regulation

- **The imperative of improving scene of crime investigative capacity and intelligence gathering and analysis:** Despite the positive increase seen in arrests thus far in 2012, there is still much room for improvement to be made in this realm, particularly with regard to investigating the middlemen and kingpins operating at higher levels of the trade chain. For example, whilst a number of Asian nationals have been arrested and documents, cell phones and computers seized, if information is in Chinese or Vietnamese languages, it typically is never analysed to become a proactive part of the investigation. It is believed that much valuable and relevant information is lost through the lack of capacity to work in foreign languages. The NWCRU should promote and co-ordinate a more holistic and centralized approach to intelligence gathering and standardized investigative procedures. Laudably, the DPIC is currently engaged in better analysis of all open dockets to amass information that might be related to rhino



poaching activities, such as instances of trespassing onto rhino properties or illegal possession of firearms in areas adjacent to rhino populations, but more resources and institutional support are required to support these efforts.

South Africa is the only rhino range State to currently have invested in costly commercially-available software for holding wildlife crime information and data. The purchase of Memex, a highly-regarded but very expensive information management tool, by SANParks, SAPS and others in the country holds the potential to galvanize higher-level analysis of rhino crime, but seems to be under-utilized to date. A range of “teething” issues no doubt currently impairs data collection, dissemination, management and analysis, and institutional buy-in and pro-active access to Memex by the range of rhino crime investigators in South Africa remains unresolved. Nonetheless, the prospect of competent investigators having a centralized body of data with which to share information, undertake threat analysis and forecasting, and effectively manage intelligence information is an exciting innovation to support wildlife conservation. Spatial and temporal analysis of poaching data, in conjunction with the detail of *modus operandi* of specific gangs of poachers, could lead to the identification of rhino poaching “hotspots” for the pro-active deployment of manpower and the development of intelligence networks. Additionally, especially at South Africa’s ports of entry and exit, there is an urgent need to implement pro-active law-enforcement activities utilizing suspect profiling to support the interdiction of illegal movements of rhino horn. Related to this, the need for better communication and collaboration with other implicated countries, both rhino range States and consumer countries, to identify suspicious individuals is required. More broadly, whenever possible, the fight for rhinos needs to be pro-active, not reactive, and directed at those planning rhino crimes before they kill the rhinos.

- **The need to tighten law-enforcement activities at all ports of entry and exit from South Africa to better detect the illegal movement of rhino horn:** It is clear that large numbers of rhino horns continue to leave South Africa’s borders undetected. The deaths of 448 rhinos last year produced nearly 900 horns, of which only a fraction were seized. There is an urgent need to increase capacity and provide training to border staff from the different departments responsible for detecting rhino horns to increase the risks to those involved in moving illegal horns out of the country. Empowering those responsible for this critical role, with targeted training and better provision of more sophisticated equipment, is a key requirement. Recent developments in the provision and training of dedicated wildlife product sniffer dogs is to be commended, but this level of response needs to be employed consistently and on a much greater scale. Increasing the risk of arrest will act as a strong disincentive to those currently involved in the illegal trafficking of horn. In conjunction with this, the profiling of suspects travelling along trade routes and using airline carriers that have frequently been known to move rhino horn illegally would also serve to increase the rate of detection of illegal traffickers.
- **The importance of effective monitoring and regulation of sport hunting of rhinos:** The recent comprehensive amendments to South Africa’s Norms and Standards for trophy hunting of White Rhinos have addressed many of the identified loopholes exploited in the past by those engaged in “pseudo-hunting”. However, the trophy hunting industry requires ongoing monitoring to ensure that its actions continue to provide genuine support and benefit to rhino conservation. Concerns have been raised about recent increases in the hunting of female rhinos and younger animals by people from non-traditional hunting countries. It is important that the demographics of White Rhinos taken as trophies are monitored to ensure this trend does not negatively impact on population growth. The possible adoption of a national quota and some simple criteria that would need to be satisfied before issuing hunting permits could be considered. It is acknowledged that the trophy hunting of White Rhinos has contributed to their conservation through population growth and range expansion in the past and that a blanket moratorium on trophy hunting would create further disincentives for rhino ownership at this time. However, comments from the Minister regarding local moratoriums in provinces found to exhibit ongoing permit abuse should be noted and the implementation of provincial-level moratoriums may be appropriate if serious infringements of permit regulations continue.
- **The requirement for better regulation of professionals within the wildlife industry:** The involvement of wildlife professionals, including professional hunters, hunting outfitters, wildlife veterinarians and game capture operators, in “pseudo-hunting” and the illegal killing of rhinos and subsequent horn trade is probably the most shocking aspect of the current rhino crisis in South Africa. The prevailing structure of self-regulation and minimal restrictions upon those employed in this field is apparently insufficient to prevent unethical practices. The fact that so many professional hunters are not members of PHASA

is a compounding factor in the absence of a strong self-regulatory mechanism. Overall, it is believed that tighter regulation and restrictions on who can actually participate in rhino hunts in South Africa would reduce the potential for abuse of the system. Additionally, those charged with biodiversity crimes should automatically have their hunting licences suspended. It is evident that some wildlife veterinarians have been involved in illegal activities, including the poaching of rhinos. The SAVC is urged to act more strongly to regulate activities within the wildlife industry and to automatically withdraw the registration to practise from veterinarians convicted of wildlife crimes. Finally, it is clear that there is a critical need for tighter controls on access to scheduled veterinary medicines as slack restrictions on distribution of these substances has led to their use in criminal activities.

- **The ongoing designation of rhino crime cases to specific prosecutors in each province:** It is unfortunate that specialized environmental crime courts cannot be established in South Africa, but it is recognized that insufficient resources and other constraints ultimately prevent this from occurring. Still, rhino crime is a form of severe crime and should be linked to investigations of other organized criminal activities. Dedicated rhino crime prosecutors need to be found in each province and these should be managed by a provincial rhino crime co-ordinator to ensure “best practice” in terms of prosecutorial content and strategies. Provincial rhino crime co-ordinators should also sit on some kind of national forum that links all provinces and allows information sharing and problem solving at a national level in a co-ordinated fashion. Certain key individuals within the judiciary system are to be applauded for their actions as true champions of the rhino cause. However, there is a general need for more training of prosecutors and magistrates regarding this specialized environmental crime, to raise awareness of the issues around rhino conservation and the impact that rhino poaching has on the national economy. Information should continue to be made available and presented in court in support of aggravation of sentencing and on the significant role in the trade chain played by foreign nationals involved in couriering and exporting rhino horn to ensure they receive appropriate sentences. Finally, several recent cases have been hampered by the need for translators, particularly those proficient in the Vietnamese, Chinese and Thai languages, to participate in trials. A solution needs to be found to overcome this challenge.

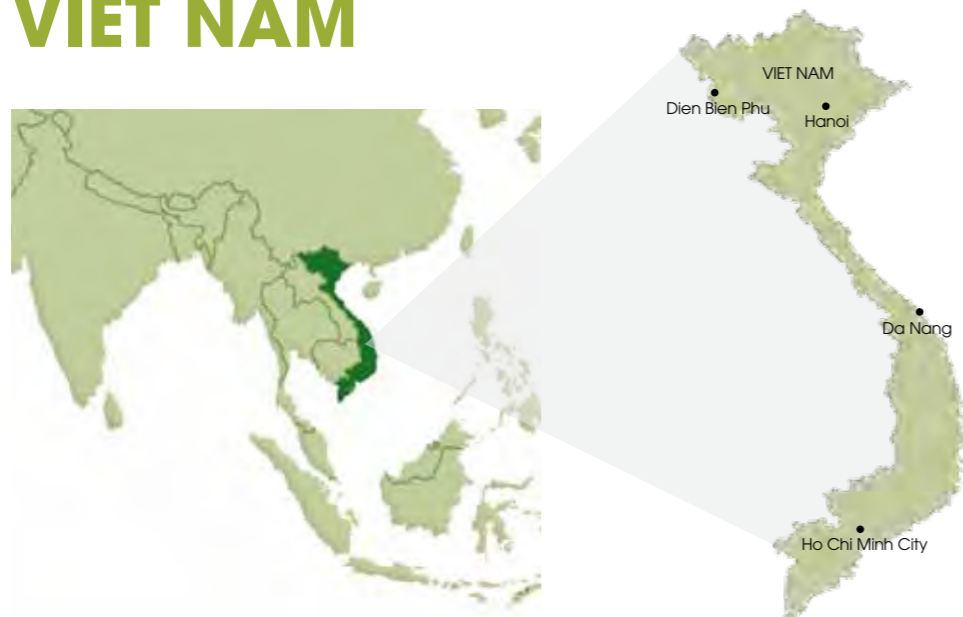
### Concerning the option of legal commercial international trade in rhino horn

- **The need for an objective and strategic approach to assess the long-term outcomes of any future interventions in relation to global rhino conservation objectives and trade:** At present, opinion is widely divided within South Africa over the efficacy, ethics and practicality of the legalization of commercial trade in rhino horn, even amongst those who are ostensibly on the same side. For example, some argue for a highly-managed, low-value legal trade as a means to deliberately undermine the illegal price of rhino horn, whilst other proponents of a trade option expect unfettered market forces to maximize revenues to rhino owners and managers. Unfortunately, clear measures of rhino horn demand, consumption and even price are absent, and the role that speculation plays in end-use markets remains unknown. Thus, any attempt to model potential supply and demand scenarios is purely theoretical or experimental in nature.

There is still much uncertainty as to how illegal markets would be affected by legal trade in terms of supply–demand dynamics. More research into the Asian end-use markets is required to increase understanding of these issues and advise the best solution going forward. To date, the South African government has not made any comment on its position on legalizing trade and no workable, practical mechanisms for the legal trade in rhino horn have been proposed by the government. Thus, much of the attention and speculation around this topic seem premature, although some who own and manage rhinos have argued there is an urgent need for alternative strategies to be tried. The challenges associated with regulating a legal trade in horn in Viet Nam, believed to be the main consumer country at this time, are addressed in the next section.

## THE SITUATION IN THE END-USE MARKET

# VIET NAM



### BACKGROUND

Slightly bigger in size than Italy, Viet Nam is a similarly-shaped long, thin country, with a 3444 km coastline along the South China Sea (CIA, 2011). Two major fertile river deltas, the Red River in the north and the Mekong River in the south, provide the agricultural underpinning of the country, whilst about three-quarters of the terrain is hilly or mountainous. Nearly half of Viet Nam was forested some 60 years ago, but since then, rampant deforestation continues as a major environmental issue. Following the American War, which resulted in U.S. military forces spraying 72 million litres of herbicides over 16% of the country and destroying some 20 000 km<sup>2</sup> of natural cover, only 20% of Viet Nam's forest cover remained in 1995, although re-forestation efforts have reportedly boosted that figure upwards in recent years (Ray *et al.*, 2007). The ecologically rich tropical forest habitats of Viet Nam have in the past included the Javan Rhinoceros *Rhinoceros sondaicus* and the Sumatran Rhinoceros *Dicerorhinus sumatrensis* as native fauna in historical times (Foose and van Strien, 1997; IUCN, 2011). Sadly, both species are now acknowledged as being extinct, with the last Javan Rhino believed to have been shot in the Cat Tien National Park area in late 2010 or early 2011 (WWF, 2011).

Viet Nam's long and evocative national history is heavily entwined with that of neighbouring China. Some 1000 years of Chinese domination ended with a nationalistic rebellion in 938 AD, but the ensuing centuries have seen plenty of "push and pull" in the political interactions between successive Vietnamese governments and the ever-looming Chinese giant to the north. Throughout, and to this day, a fiercely independent streak has prevailed and characteristically defines the national identity of Viet Nam's nearly 87 million people (the 13th largest nation in the world). In the process, the country willingly absorbed many attributes of Chinese culture, including Chinese traditional medicine, whilst charting a unique and decidedly Vietnamese historical course.

Today, a modern Socialist Republic of Viet Nam has emerged amongst the new generation of "Asian Tigers" to become one of the region's growth-oriented powerhouses that seem to defy global economic trends. Although Viet Nam's economy continues to be dominated by State-owned enterprises, which account for about 40% of the country's GDP, the government is pursuing an aggressive commitment to economic liberalization and international integration (CIA, 2011). Viet Nam's increasingly politically-unfettered economy has grown by more than 7% annually for an entire decade, and slightly less so over the last two years (CIA, 2011), even if the benefits of such growth seem heavily skewed towards the south of the country (Ray *et al.*, 2007). Viet Nam is projected to be one of the fastest growing emerging economies by 2025 and is expected to be within the world's top 20 economies by 2050 (PricewaterhouseCoopers, 2011), an astonishing achievement for a country that only recently ranked among the world's most impoverished nations.



A street with traditional medicine shops in Hanoi.

Wildlife, however, has paid a heavy price and steadily retreated in the face of decades of war, followed by unprecedented human population growth, intensive economic development and the absence of a strong conservation ethic. Most wildlife populations in Viet Nam are now greatly reduced and facing a wide range of ongoing threats from destruction of habitats, rampant wildlife trade and consumption, pollution and other factors. Like the country's rhinos, many of Asia's most iconic animal species are on the verge of extinction in Viet Nam, for example the Asian Elephant *Elephas maximus*, Indochina Tiger *Panthera tigris* and Siamese Crocodile *Crocodylus siamensis* all represent highly endangered species that probably number fewer than 100 animals in the wild (Nguyen *et al.*, 2007). Although one of the most important areas in the world for biodiversity, the 2004 Red Data list identified 1056 endangered species in Viet Nam and the country's Red List of Medicinal Plants comprised 139 threatened medicinal plants species in 2006 (Nguyen *et al.*, 2007). Overall, a large proportion of Viet Nam's biodiversity hangs in the balance and the country is on the cusp of unprecedented and irreplaceable species loss.

## LEGISLATION REGULATING WILDLIFE TRADE IN VIET NAM

The trade in wildlife products, including anything made from or comprising either native or exotic rhino species, is regulated under Vietnamese law and legislation provides for either the issuance of fines or the imposition of prison sentences depending on whether or not the violation in question resulted in “serious consequences”.

Domestically, the exploitation of the indigenous Javan Rhino is regulated under *Government Decree 32/2006/ND-CP on the Management of Terrestrial Endangered, Precious and Rare Species of Wild Plants and Animals* of 30 March 2006. The Javan Rhino is listed in Group 1B of this Decree, which covers species whose “populations are very small in the wild or are in high risk of extinction” and expressly prohibits “exploitation and use for commercial purposes” (Article 2.2.a). More specifically, under this Decree, it is prohibited to “hunt, shoot, trap, capture, keep, slaughter, endanger” (Article 5.2.a), or “transport, process, advertise, trade, use, hide, export, import” (Article 5.2.b) species or their products in this category. However, the Decree makes an important distinction (discussed further below) between those acts that qualify as criminal offences and those which are deemed administrative violations. Some 30 native plant and 90 native animal species are protected in this manner as Group 1 species (Tung, 2011).

Viet Nam has been a signatory to CITES since 1994, becoming the 121st Party to the Convention. CITES is implemented in Viet Nam through *Decree 82/2006/ND-CP on Management of Export, Import, Re-export, Introduction from the Sea, Transit, Breeding, Rearing and Artificial Propagation of Endangered Species of Precious and Rare Wild Fauna and Flora* of 10 August 2006. This Decree covers the international trade in endangered or threatened fauna and flora of both domestically protected species and those covered by CITES (Article 1.a). This Decree also legislates the application of the CITES Appendices in accordance with Articles III, IV and V of the Convention (Article 2.5), and adopts the international permit system as a requirement for such trade (Article 3). Thus, all CITES Appendix I species, including all non-indigenous rhino species, are regulated under this Decree, and any allowances for exceptional trade require CITES export or import permits.

Through this legal instrument, international trade in White Rhino trophies from South Africa is permissible with valid export CITES permits for Appendix II species from exporting countries. Since Viet Nam has been identified as a leading importer of rhino horns obtained through legal sport hunting in South Africa, further procedures have been defined. To import a rhino horn specimen as a hunting trophy, the following documents have to be presented to the CITES Management Authority in Viet Nam: (1) a CITES export permit from the country of origin; (2) the hunting permit issued by the government authority in the country of origin; (3) a copy of the passport of the Vietnamese hunter to verify that the person stayed in the country where the rhino was hunted; and (4) a residence certificate issued by the local police (Tung, 2011). Viet Nam’s CITES Management Authority will then, based on the copy of the export permit, confirm legality and the particular details with the CITES Management Authority in the country of export, more specifically South Africa. If importation is allowed, stipulation is made that the horn is not eligible for sale, but it is taxed at the rate of 3% of its value, which is calculated at USD25 000 per kg (Tung, 2011).

Penalties for the violation of these laws are covered under the country’s Penal Code if the violation is considered to be a serious or criminal offence, or *Decree 99/2009/ND-CP on Sanctioning of Administrative Violations in the Domain of Forest Management, Forest Protection and Forest Product Management* of 2 November 2009 if the violation is regarded as an administrative infraction. Thus, *Decree 99/2009/ND-CP* applies to violations considered to be less serious in nature, with financial penalties for the exploitation of species protected under this decree based on the value of the goods, with a maximum penalty of VND500 million (approximately USD29 000). If an offence is determined to be “serious”, more so than an administrative violation, then criminal law will be applied and penalties are issued under the revised Penal Code of 19 June 2009 (Article 190.1). Penalties under the Penal Code include fines, non-custodial reform (i.e. non-detention re-education) for up to three years, or a prison sentence of six months to three years (Article 190.1).

Severity of a case under the Penal Code is determined by the value of the goods seized and whether a violation: (a) is conducted in an organized manner, (b) results through abuse of position held, (c) results through abuse of the power under position held, (d) entails hunting in a prohibited area or prohibited seasons, and/or (e) has caused severe or exceptionally severe consequences. Such violations result in a maximum penalty of VND500 million (USD29 000) and up to seven years imprisonment (Article 190.2 and 3). However, the degree of ambiguity around this definition allows enforcement officials some discretion.



Antelope horn trophies in Viet Nam.

## LAW ENFORCEMENT STRUCTURE FOR WILDLIFE TRADE IN VIET NAM

Many agencies and branches of government are involved in Viet Nam’s management and law enforcement structure with regard to wildlife trade. First and foremost, the CITES Management Authority under the Viet Nam Administration of Forestry in the Ministry of Agriculture and Rural Development (MARD), is responsible for CITES Management, including issuing all CITES import and export permits internally, and liaising with the CITES Secretariat and the CITES Parties externally. Also under the Viet Nam Administration of Forestry is the Forest Protection Department (FPD), which is responsible for enforcement of the country’s forestry legislation, monitoring all types of forests and carrying out initial investigations of forest violations. In the Ministry of Natural Resources and Environment (MoNRE), the Viet Nam Administration of Environment is charged with managing the country’s national parks and protected areas, including Cat Tien National Park where Viet Nam’s last rhino population was known to exist.

Within the Ministry of Public Security, the General Department of Police is mandated to investigate any law enforcement case that has been determined to be “serious” under the Law on Forest Protection and Development. In this regard, the Environmental Police play a special role and carry out initial investigations of forest violations, including wildlife trade infractions involving rhino horn. Although assuming a much lesser role in wildlife trade matters, the Marine Police are charged with preventing the illegal importation of contraband goods through the country’s coastal borders and, in doing so, engages in direct co-operation with the Customs Service. Similarly, the Transport Police play a parallel role in preventing the illegal transportation of goods overland. In the Ministry of National Defence, the Civil Defence Force engages in military preparedness, social safety and maintaining public order through co-operation with the police. In particular, the Border Guard has special powers to control encroachment into Viet Nam and prevent illegal border crossings, including cases that involve the illegal exploitation of natural resources.

A key institution for policing wildlife trade within the Ministry of Finance is the General Department of Customs, which monitors the import and export of goods. This body plays a fundamental role in the implementation of CITES and other wildlife trade laws of Viet Nam. Although rather infrequent, when seizures of rhino horn occur in Viet Nam, Customs are usually involved. In the Ministry of Industry and Trade, the Department of Market Control also has responsibilities for inspecting domestic markets and controlling trade violations. This is the primary agency for policing traditional medicine markets that illegally dispense rhino horn.

Finally, the Ministry of Justice reviews legal normative documents and monitors implementation of the country’s laws, while the Provincial People’s Committees direct the operation and law enforcement of functioning departments and People’s Committees at the provincial or local level.

In summary, with various competencies, market control, environmental police, Customs officers and forest rangers are all authorized to control trade in wild plants and animals, including the seizure of their parts and derivatives or products in which they are used as ingredients. Unfortunately, most of these enforcement personnel are not trained or equipped to identify endangered species listed in *Decree 32/2006/ND-CP*, or many partially processed or processed products and derivatives of plants and animals used in traditional medicine (Nguyen and Nguyen, 2008).

## TRADITIONAL MEDICINE AND RHINO HORN USAGE IN VIET NAM

For thousands of years the Vietnamese have treated illness and disease with plants, herbs and animal products gathered from the country's forests, wetlands, coasts and gardens. These medical traditions are strongly influenced by the traditional medicine practices of China. Vietnamese typically call Chinese medicine "Northern medicine" and refer to their own system as "Southern medicine" (Nowell, 2012). That said, Viet Nam's extant traditional medical literature only dates from around the 13th century due to the persistent loss of books from the effects of tropical humidity and relentless war (Miyanagi, 2010). Tue Tinh, a 17th century author of two major medical treatises, described 580 indigenous drugs in 3873 prescriptions in *Nam Duoc Than Hieu* (The Miraculous Efficacy of Vietnamese Medicines), and then later summarized the indications of 630 drugs and the essential theory behind traditional medicine in *Hong Nghia Giac Tu Thu* (Medical Book from Village Hong Nghia) (Loi, 1991). A century later, Le Huu Trac, another prolific writer, produced a grand treatise of traditional medicine comprising more than 30 volumes (Loi, 1991), and his classification system continues to shape the distinct identity of Vietnamese medicine (Miyanagi, 2010). Consequently, Le Huu Trac is regarded as the person with the greatest achievement in the history of Vietnamese traditional medicine.

The use of traditional medicines has experienced a significant resurgence, especially in the last quarter of the 20th century, with government policies designed to enable the development of both traditional and Western medicines. The trade in traditional medicine has also benefited from the relaxation of international trade barriers, particularly with China, and the progressive move to a free market economy (Nguyen and Nguyen, 2008). The scale of traditional medicine usage within Viet Nam is significant with at least 48 hospitals and institutes devoted to the practice, over 240 traditional medicine departments in central and provincial hospitals, and over 9000 health centres reportedly licensed to practise traditional medicine (Nguyen and Nguyen, 2008). In addition, other unregistered herbalists and healers are actively engaged in providing traditional medicine treatments to patients all over Viet Nam.

Within this context, Viet Nam has an ancient history of using rhino horn as a traditional medicine to cure a range of illnesses. According to the dichotomised system of traditional medicine in East Asia, rhino horns are characterized by traditional medical practitioners as having cooling abilities, with bitter, acidic and salty properties (Nowell, 2012). These attributes reportedly make rhino horns effective in reducing temperature, especially internal heat in the blood, and purging the body of toxins (Dr Ban Tran Van, pers. comm., 19 October 2010). In terms of chemical properties, recent literature on Vietnamese traditional medicines states that rhino horn is mainly composed of keratin, calcium carbonate and calcium phosphate (Do *et al.*, 2006). When hydrolysed, rhino horn is believed to release amino acids such as tyrosine and cysteine (TRAFFIC interviews with traditional medicine practitioners, April 2009). It is also reported that rhino horn solutions can produce alkaloid reactions, but the active element remains unknown (Do *et al.*, 2006).

Between 2002 and 2007, at least five comprehensive Vietnamese-language pharmacopoeias of plant and animal substances used in traditional medicine have been published which have specific sections on rhino horn as medicine (S. Robertson, Wildlife Conservation Society, *in litt.* to TRAFFIC, 31 May 2012). In Viet Nam, rhino horn has most commonly been used to treat high fevers and convulsions, to control haemorrhaging, and to assist the liver, kidney and spleen in cleansing the blood of toxins resulting from alcohol or poison (Do *et al.*, 2006; TRAFFIC Southeast Asia interviews with traditional medicine practitioners, April 2009). Rhino horn is also reportedly used in Viet Nam to treat people who suffer from epilepsy, high blood pressure, allergy, measles, stroke, long-term sleeping disorder or who have "fallen down from a height", presumably resulting from dizziness (Dr Ban Tran Van, pers. comm., 18 October 2010; Anon., 2011c). Another published reference on medicinal plants and animals in Viet Nam lists "high fever, delirium, severe headache, convulsion, haematemesis, epistaxis, jaundice, carbuncle on the spine, ulcer, and impotence" as ailments that rhino horn "can cure" (Do *et al.*, 2006). Pregnant women and people with "internal cold" are advised not to use rhino horn (TRAFFIC interviews with traditional medicine practitioners, April 2009; Dr Ban Tran Van, pers. comm., 18 October 2010).

Some measure of folkloric distinction is made between the various species of rhinoceros, with the horns of the native Javan Rhino said to be more efficacious than the horns from other species, but in reality any rhino horn is acceptable (TRAFFIC interviews with traditional medicine practitioners, April 2009). Both traditional and modern preparation of rhino horn medicines typically involves grinding the horn (in some situations "burned" horn) to produce a fine powder or, more typically, ground in hot water to produce a white, cloudy liquid (Beech and Perry, 2011). If only powder is produced, it can be combined with other



Cutting a piece of "rhino horn" in the street in Hanoi.

ingredients to concoct particular medicines. Nowadays, rhino horn is most frequently ground in specially-manufactured porcelain bowls with serrated bottoms filled with water until a milky solution for drinking is produced. For this purpose, pieces of rhino horn are commonly sold in lots weighing between 25 g to 500 g (TRAFFIC interviews with traditional medicine practitioners, April 2009; Anon., 2011c).

For some practitioners, apart from the horn, no other parts of a rhino are believed to have significant medicinal value (TRAFFIC interviews with traditional medicine practitioners, April 2009). For others, however, the entire rhino was once reportedly regarded as a "pharmacy store". Dried rhino skin could be cut into small pieces and used to suck poison from wounds associated with snake or rabid dog bite. Although there is no medicinal report or evidence on the efficacy of rhino skin for drawing out snake poison, amongst Viet Nam's snake farming community, it is reported that snake handlers often keep a piece of dried rhino skin for this purpose (TRAFFIC interviews with traditional medicine practitioners, April 2009). Rhino blood was also once believed to cure many diseases and was mixed with strong wine and drunk accordingly (TRAFFIC interviews with traditional medicine practitioners, April 2009). Rhino dung, too, could be dried and then dipped into a strong alcoholic solution to relieve chronic joint pains (TRAFFIC interviews with traditional medicine practitioners, April 2009). The rhino gall stone, locally known as "*nguu hoang*", is recorded in the traditional medicine literature as a precious medicinal element for the treatment of water retention, boils and tumours (TRAFFIC interviews with traditional medicine practitioners, April 2009). These uses, although noted in various interactions with traditional medicine practitioners, do not appear to be prevalent practices today.

Unlike China where, prior to the 1993 rhino horn trade ban, a vibrant manufacturing industry once turned out a wide variety of name brand traditional medicine products with rhino horn noted as a prominent ingredient, similar manufacturing in Viet Nam has always been far more restrained and undeveloped. Nevertheless, the Hanoi office of the Vietnam Oriental Traditional Medicine Association reported four medicinal products that purportedly contain rhino horn that are commonly available in Viet Nam: Cong Thuc (to reduce temperature in the heart); An Cong Nguu Hoang Hoan (for treatment of stroke and blockage of blood in the brain); Cuc Phuong Chi Bao Don (for treatment of "evil wind" conditions such as dizziness or faintness, loss of consciousness or the power of speech, breathing difficulties and blood clots in the brain); and Nguu Hoang Thanh Tam Hoan (for treatment of myocardial problems, high fever and convulsion) (Dr Ban Tran Van, pers. comm., 19 October 2010; Ms. Ha Tom, natural products specialist *in litt.* to TRAFFIC, 17 February 2012). The scale of local manufacturing is unknown and most of these medicines are probably only produced by traditional medicine practitioners for patients as required. However, it was suggested that some of these medicines may actually be imported in a manufactured form from China and then sold to Vietnamese consumers (Dr Ban Tran Van, pers. comm., 19 October 2010), possibly with local packaging.

## RHINO HORN AND THE CONTEMPORARY TREATMENT OF CANCER AND OTHER MODERN USES

As an integral part of human culture, medical practices necessarily evolve and change over time and such is certainly the case with respect to rhino horn usage in Viet Nam. Consequently, there is a wide and important gap between what traditional medical practitioners have said historically about the curative properties of rhino horns and the way many dealers currently promote horn consumption. New uses beyond those found in the historical pharmacopoeia have arisen. Emerging evidence of rhino horn being used as a palliative medicine for cancer is central to this consideration and is believed to be a significant factor in the upsurge in rhino horn trading in Viet Nam. In recent years, cancer rates in Viet Nam have soared upwards, which inadvertently appears to have produced grave consequences for the world's rhinos.

Cancer stands behind the deaths of some 82 000 Vietnamese each year, according to statistics from the International Agency for Research on Cancer (Tung, 2010). The rate of male patients with cancer increased from 141.6 per 100 000 people in 2000 to 181.2 per 100 000 people in 2010, whilst the figure for female patients rose from 101.6 per 100 000 to 134.9 per 100 000 during the same period (Anon., 2010d). Some observers report that cancer victims in Viet Nam have limited access to radiotherapy or chemotherapy (Smith, 2012b). Although never previously described as a use for rhino horn in the traditional medical literature, recent popular belief in Viet Nam seemingly promotes rhino horn usage as treatment, and possibly a cure, for life-threatening cancer.

As early as June 2009, TRAFFIC researchers assessing rhino horn trade in Hanoi's traditional medicine markets were told stories by local traditional medicine practitioners of important individuals – an unnamed Prime Minister, or his beloved wife, or another celebrity, for example – who had cancer but were miraculously cured, or were at least in remission, following treatment with rhino horn. Similar stories have also been reported by other wildlife trade researchers, including one which identified an “Assistant Minister” who was ostensibly cured of cancer (Ammann, 2011). The CITES Secretariat, which conducted a mission to Viet Nam in August 2009 “as this country appears to be significantly affected by illegal trade in rhinoceros horn”, subsequently reported in an account of the trip in a document to the 15th meeting of the Conferences of the Parties to CITES:

*The Secretariat has heard, from a variety of sources, suggestions as to what may be prompting the dramatic increase in demand for rhinoceros horn that has taken place in recent years. Following its mission to Viet Nam, it is satisfied that, to a significant degree, it is being driven by a belief that rhinoceros horn may prevent persons from contracting cancer. It is apparently also believed that the ingestion of powdered rhinoceros horn will halt the progress of cancers among those already suffering from the disease. It seems this belief is spreading throughout parts of east Asia, but is especially strong in Viet Nam and China. Huge sums are being demanded of cancer sufferers from those who are trading in rhinoceros horn. A significant market also seems to have developed in the production and sale of fake rhinoceros horn. As might be imagined, some people who have contracted cancer (or their relatives) are willing to pay almost anything in the belief that they can enter a state of remission. Should these beliefs continue to spread, poaching of rhinoceroses in the wild is likely to continue unabated and perhaps increase even further (CITES, 2010a).*

Journalists have repeatedly reported similar findings. For example, following several days of undercover investigation in Hanoi's traditional medicine market, including interviews with both doctors and patients, a *TIME* magazine exposé presented evidence of rhino horn cancer treatments:

*Hanoi resident Nga Do (who does not want her full name used) is suffering from cancer. Doctors recommended rhino horn, so she bought a chunk (Beech and Perry, 2011).*

More recently, an AFP news account reported:

*“I was diagnosed with stomach cancer nine years ago. I’ve tried everything including rhino horn powder every day. Now, doctors have told me I’m in a stable condition,” wealthy Hanoi-based octogenarian Nguyen Hung told AFP. “I have lots of money, I am old (and) I just love to live... I have no reason not to spend money on buying the expensive rhino horns and drinking its powder if it helps me,” said Hung, who asked his real name be withheld (Barton, 2012).*

Further, individuals representing a leading traditional medicine association in the country have also alluded to the benefit and usage of rhino horn in cancer treatment in formal interactions with international



A “grinding bowl” for rhino horn.

audiences. For example, at a meeting between a delegation of South African officials and the Vietnam Oriental Traditional Medicine Association in Hanoi in October 2010, Dr Ban Tran Van, the organization's Vice-President, defended the idea that rhino horn could play a useful role in treating cancer, noting that its intrinsic detoxification properties would work to mitigate the abnormal cellular development that occurs in cancer patients. This spokesperson further speculated that rhino horn usage could be increasing in Viet Nam because instances of cancer have increased appreciably in recent years. The Vietnam Oriental Traditional Medicine Association is a highly influential body and reportedly has a membership of 60 000 people throughout the country.

In a similar vein, a *National Geographic* magazine writer recently travelled in the country with a Vietnamese woman who had been diagnosed with signs of both breast and ovarian cancer and reported the following experiences:

*Our travels took us from cancer hospitals and traditional clinics in Hanoi and Ho Chi Minh City to herbal shops, boutiques selling exotic animal skins and private homes in small towns. We found rhino horn every place we looked ... Although a number of Vietnamese doctors I spoke with said rhino horn was not an effective cure for anything, let alone cancer, several other respected physicians claimed rhino horn could be part of an effective cancer treatment. Some said they prescribed it in pill form as a palliative for patients receiving chemotherapy and radiation treatments. Others, including Tran Quoc Binh, director of the National Hospital of Traditional Medicine, which is part of Viet Nam's Ministry of Health, believe that rhino horn can retard the growth of certain kinds of tumors. “First we start with modern medicine: chemotherapy, radiation, surgery,” Tran said. “But after that, maybe some cancer cells still exist so then we use traditional medicine to fight the cells.” He said that a mixture of rhino horn, ginseng, and other herbs could actually block the growth of cancer cells, but he could not produce any peer-reviewed studies to support his claims (Gwin, 2012).*

That rhino horn is currently being used to treat oncological disorders has been overtly recognized by Vietnamese government wildlife officials. At a meeting of the Coalition Against Wildlife Trafficking (CAWT) on rhino horn trade issues, in September 2011 in Johannesburg, South Africa, the presentation from a representative of Viet Nam's CITES Management Authority specifically noted that traditional medicine practitioners in his country considered rhino horn to be a “panacea” for various ailments, including as “treatment for cancer ... and other fatal disease/illness” (Tung, 2011).

And finally, law enforcement personnel in South Africa have reported individuals using cancer as an integral part of their defence in rhino horn court cases. For example, Mrs. Bui Thi Van, a Vietnamese woman arrested and charged with illegal rhino horn possession and import in December 2010, admitted to acquiring the rhino horn because she had been diagnosed with cancer (R. Coetzee, Endangered Wildlife Trust *in litt.* to TRAFFIC, 14 December 2011).

These stories and reports from a range of different sources lend credence to the notion that rhino horn has become widely associated with the treatment of cancer and other serious disease in Viet Nam in recent years. On the other hand, there are also credible reports that some traditional medicinal practitioners dispute this notion. For example, one Hanoi dealer openly admitted in an interview with a local investigator who had indicated a desire to buy rhino horn for a friend's father suffering from cancer:

*You are dreaming. Rhino horn can never cure cancer. People buy it maybe as a last resort ... it is good if you eat poisonous or bad food or when you have drunk too much. It will help you to recover easily* (Ammann, 2011).

Similarly, a Viet Nam-based Western journalist has reported that a recent article on a popular Ho Chi Minh City Vietnamese-language website, entitled *Does Rhino Horn Cure Cancer*, dispelled the “cancer-cure myth that was growing everywhere in Saigon”, whilst roundly lauding the powers of rhino horn for treating a number of other ailments (Smith, 2012a).

Local environmental groups, such as Education for Nature-Vietnam who has been conducting market research and covert investigations into the trade, are also finding that rhino horn usage for cancer is perhaps more limited than originally suspected:

*Initial findings from the ENV investigation do not fully discount the idea that desperation amongst cancer patients may account for a portion of the trade. However, as traditional Chinese medicine (TCM) practitioners, doctors, pharmacists, and even those afflicted with cancer suggested in interviews: rhino horn's value as a treatment for cancer was a minority view. “A lot more interviews are required to get a better sense of direction on where this is going,” says Hendrie, “but we have not yet found a strong cancer-linked demand for rhino horn. Our feeling is that the ‘mania’ surrounding use of rhino horn in Vietnam is more likely linked to its perceived general health benefits. Certainly we will know more in the coming months”* (ENV, 2012).

There is other evidence suggesting that rhino horn as a cure for life-threatening diseases in reality represents a cynical marketing ploy to increase the value of rhino horn and the profitability of the rhino horn trade. One such dealer in Hanoi claimed, “*Rhinoceros horn is very rare and valuable. Sometimes I do use it but only [for] wealthy people*” (Anon., 2011c). It is not surprising that, as effective urban myth, each particular story remains ubiquitously elusive: identifying the actual individuals behind the “miracle cure” rhino horn testimonials in order to probe deeper into the details of their stories and credibly establish the facts remains an unresolved challenge. Where urban myth is concerned, the absence of real names is not really a shortcoming, and repeated tales of miraculous recovery remain essential background “buzz” around the edges of Viet Nam's rhino horn trade.

There are at least two prominent exceptions, however, to the endless series of nameless stories associated with rhino horn usage in Viet Nam. It has been reported that the renowned Vietnamese singer/songwriter, Trinh Cong Son, an individual often touted as the “Bob Dylan of Viet Nam” because of his protest songs, used rhino horn to treat diabetes (Smith, 2012b). The story was reportedly told by a former driver who regularly brought the rhino horn medicine to Trinh Cong Son:

*It [rhino horn] came from a traditional medicine shop in a Hanoian part of Saigon [Ho Chi Minh City]. He said the shopkeeper would pulverise it for him by rubbing it on the earthenware lid of an old fashioned clay water pot. The medicine seller would then mix it with water in the dish-shaped lid then pour the milky liquid into a plastic water bottle, ready for sale ... This had been back in the days when it was harder to get* (Smith, 2012b).

Even more sensational, a *National Geographic* magazine writer reported that no less than the revered independence leader of Viet Nam, the venerable Ho Chi Minh himself, was also an habitual user of rhino horn:

*The café owner explained that he and a friend had bought the horn as a health supplement and hang-over preventive ... their interest had been prompted in part by one of Ho Chi Minh's former secretaries, a regular at the café, who told them that Ho, a firm believer in traditional medicine, had taken rhino horn every day* (Gwin, 2012).

But like typical urban myth, it is not possible to verify directly either the Trinh Cong Son or the Ho Chi Minh stories as both individuals are now deceased. Further, whether other Vietnamese are using rhino horn to treat diabetes is unknown, but it is abundantly clear that contemporary usage extends well beyond cancer. *TIME* magazine investigators found:

*A man who works as head of security for a government institute in Hanoi says he spent \$5 000 for a rhino-horn treatment for his liver disease ... “If you want it, you can get it easily,” says the man, who claims the smoky-tasting liquid produced by mixing rhino-horn powder with water is rejuvenating* (Beech and Perry, 2011).

In fact, the reported efficacy of the detoxification properties of rhino horn, especially following excessive intake of alcohol, is probably the most common routine usage promoted in the marketplace today. In the *TIME* magazine investigation, for example, one dealer reported that his customers were frequently:

*“Communist bureaucrats who aren't sick but need something to revive them after long nights at state-funded banquets”* (Beech and Perry, 2011).

Similarly, another researcher who recently investigated the market in Viet Nam found:

*[Rhino horn] is considered effective in treating symptoms that can accompany the new lifestyle expectations of the rich – a lot of drinking, eating and drugs, which create body heat and which some believe can be eradicated by consuming rhino horn powder (mixed with rice wine)* (Ammann, 2011).

Popular influential websites such as [www.anninhthudo.vn](http://www.anninhthudo.vn), which is linked to an official government newspaper called “Security of the Capital”, have carried articles that promote the ability of rhino horn “to improve concentration and cure hangovers” (Smith, 2012b). An article on the website [www.vietbao.com](http://www.vietbao.com) proclaims that “rhino horn with wine is the alcoholic drink of millionaires”, while another story on [www.anninhthudo.vn](http://www.anninhthudo.vn) claims that such a drink is “like a luxury car” (Smith, 2012b).



Drinking rhino horn powder and water from a “grinding bowl”.

And finally, Viet Nam appears to be the only country in the world where rhino horn is popularly gaining a reputation as an aphrodisiac: one Vietnamese-language internet offering claimed that “rhino horn is more effective than Viagra allowing men to have sex for two to four hours” (Smith, 2012a). A couple of years earlier, a *TIME* magazine writer also reported hearing similar stories but wondered about their accuracy (H. Beech, pers. comm., 20 October 2010). Finally, TRAFFIC’s own research has substantiated the use of rhino horns in a medicine called “tuu giac” meaning “rhino wine” to improve the sexual prowess of men. Used fairly exclusively by wealthy consumers, tuu giac can apparently be made from any part or derivative of rhino including blood, dried dung, penis or horn dipped into or mixed with strong rice wine. Adding further credibility to the claim, one authoritative compendium on medicinal plants and animals recently published in Viet Nam lists “impotence” as an ailment for which rhino horn is “highly valued” and “can cure”, stating that “recently it [rhino horn] is used as a powerful aphrodisiac” (Do *et al.*, 2006).

Indeed, using the word “recently” in a Vietnamese traditional medicine book published in 2006 to characterize rhino horn as an aphrodisiac is highly revealing. For years, the fallacious notion of rhino horn usage in Asia as an aphrodisiac has been cynically and erroneously perpetuated in Western media, much to the chagrin of conservationists who believe that such denigration serves as a distraction to effective engagement and dialogue with Asian traditional medicine communities on important endangered species issues. More than three decades ago, serious examination of rhino horn usage in both the traditional medicine literature and in practice led to the unassailable conclusion that it was neither classified, nor used, as an aphrodisiac in Asia (Martin and Martin, 1982). The perpetuation of such notions on current Vietnamese websites, and even in contemporary iterations of the sanctioned traditional medicinal literature, makes one wonder if a patently false but ubiquitous Western-based rumour from the distant past has now been reinvented and embraced as a valid rhino horn attribute in Viet Nam. If so, a once denigrating characterization of Asian men by smug Westerners has apparently come full circle, no doubt aided by the cynical power of unfiltered, persistent internet marketing. Like the notion of “weapons of mass destruction” in pre-war Iraq, does amplifying a false premise in the media long enough make it a believable and actionable reality? This certainly seems to be the case in Viet Nam with rhino horn currently being promoted as an exceptional aid to sexual performance.

On the other hand, negative publicity in the form of testimonies where rhino horn usage is associated with disappointment and grief are beginning to emerge. In June 2011, the following story was published in the Vietnamese media:

*A 21 year old woman, Hang, from Hoan Kiem, Hanoi revealed she had spent a large amount of money buying rhino horn to treat her mouth rash after trying other medicine without success. Hang tried rhino horn as a treatment after reading a document that indicated rhino horn was a good medicine for releasing heat and poison as well as for the treatment of mouth-rash. Two days after Hang used the rhino horn to treat her mouth rash she developed further erythema and pimples. The irritation also spread to her face and arms and she developed a fever. When Hang went to the Clinical Allergy - Immunity Department in Bach Mai Hospital, her disease was diagnosed as an allergic reaction due to poisoning as a result of using the rhino horn medicine. Dr. Nguyen Huu Truong from the Allergy Clinic, Immunity Center in Bach Mai Hospital said there is no evidence to prove that rhino horn reduces fever. In addition, rhino horn can cause an allergic reaction and poisoning due to unfamiliar ingredients in the mixture. People are warned not to self-medicate with rhino horn but instead to seek the advice of a doctor for the treatment of their illness (Anon, 2011d).*

The above story was remarkable in that it seems to represent the first time that a failed rhino horn treatment has been publicly exposed and amplified in the Vietnamese media. Indeed, outspoken Dr Truong was again back in the press in April 2012:

*Nguyen Huu Truong, a doctor at Hanoi’s Center for Allergy Clinical Immunology, said a handful of patients visit him each year complaining of rashes he links to rhino horn consumption. “Many Vietnamese believe that anything expensive is good, but if you’re going to spend a lot of money on rhino horn, you might as well bite your nails,” he said (Ives, 2012).*

English media in Viet Nam is also beginning to publicize other hard-luck stories of rhino horn usage. For example, near Ho Chi Minh’s largest cancer hospital, Ung Buu in the Binh Thanh District, a Western journalist interviewed a woman who operated a rent-a-kitchen business where the relatives of sick patients could prepare food. This woman observed that:

*There were desperate people going through that hospital that used sung te giac [rhino horn], but it doesn’t cure cancer, and fake or real, it is a waste of money. Surrounded by the realities of late diagnosis and ineffective treatment, she had observed these poor people get their hopes of a miracle cure shattered, victims of cruel sung te giac traders who prey on the sick (Smith, 2012b).*

At this same location, another emaciated man diagnosed with leukaemia reported spending more than two months wages on a piece of rhino horn and used it to no effect, although he now wonders whether he had purchased a fake horn (Smith, 2012b).

Indeed, such stories are probably fairly common, but until very recently few credible accounts of the failures or unintended consequences of rhino horn usage had been documented and placed in the public domain, especially in the Vietnamese language. As a counterpoint to the urban myth of miraculous cures, these real life experiences of failed treatment and victimization hold the potential of changing public perceptions about the validity of rhino horn as medicine for serious illness. For example, an AFP reporter wrote in May 2012:

*Two cancer patients taking rhino horn as part of their treatment who were contacted by AFP for this story died before interviews could be arranged (Barton, 2012).*

More such reporting holds the potential to dispel prevailing attitudes about the efficacy of rhino horn as a cure for cancer. But for some cancer patients, especially the elderly, hopeful cultural imperatives will seemingly trump hard medical realities:

*Tran Thi Hiep, a 60-year-old retired official who discovered a tumour on her neck six years ago and has been using rhino horn, said that traditional Vietnamese culture encourages people to try every possible treatment. “When we are sick, we should pray to the four corners of the earth for a cure,” she said, quoting a common Vietnamese saying (Barton, 2012).*

## THE DOMESTIC MARKET FOR RHINO HORNS IN VIET NAM

Market folklore distinguishes between two different horn sources: “*xiem la*” from Asia and “*quang*” from Africa or, put another way, “black” horns from Asia and “white” horns from Africa, a dichotomy that neither refers to species nor colour. “Black” horns are more favoured in the Vietnamese market than “white” horns, and those from Indonesia, Myanmar, Thailand and Lao PDR representing Asian rhino species are reportedly most valued due to the appealing belief that animals living in these areas principally feed on medicinal herbs, imbuing their horns with intrinsic healing properties (TRAFFIC interviews with traditional medicine practitioners, April 2009). Interestingly, horns from India or Nepal deriving from the Greater One-horned Rhino [Indian] *Rhinoceros unicornis* never overtly factor into these discussions, although the mention of Myanmar as a source country could be a conduit for such horns; the TRAFFIC/IUCN report to CITES CoP15 reported that “*about one-tenth of Indian rhino horn moves to end-use destinations through the India-Myanmar border*” (Milliken *et al.*, 2009b), although it is not subsequently clear whether such horns eventually move on to Viet Nam or go to China.

According to one source, during the French colonial period, rhinos were “*ferociously*” hunted and various records from the time document the hunting of at least 30 rhinos in Viet Nam, Lao PDR and Cambodia since 1930 (Do *et al.*, 2006). Such horns are very rare today, however, and several times more expensive than so-called “white” horns. Both sellers and buyers do not know the scientific names for rhino species, but if the provenance of a particular horn is Myanmar, Indonesia or other parts of Indochina, their prices may be twice as high as those imported from Africa (TRAFFIC interviews with traditional medicine practitioners, April 2009). On the other hand, and in contradiction to the notion that Asian rhino horns are inherently more valuable, horns weighing four to five kilogrammes (which would most likely derive only from African White Rhino species and thus would be categorized as “white” horns coming from Africa), are reportedly most prized in the Hanoi market today, and prices for such large horns are higher than ordinary specimens. It is claimed that frequent users of rhino horns can tell the difference between “black” and “white” horns and avoid buying fake horns (Martin, 1992).

In fact, at least since 2003, African horns have decisively replaced the far scarcer Asian horns, effectively creating a new market called “*quang giac*” meaning “white rhino horns”. Nowadays, it is widely believed that virtually all rhino horns in the Vietnamese market are imported from Africa. For example, a 2004 study of Viet Nam’s traditional medicine market found that most rhino horn in the country was of African origin (Nguyen and Nguyen, 2008) and, according to one wholesale trader contacted by TRAFFIC, 98% of the rhino horns in the Viet Nam market are from African sources (TRAFFIC interviews



Great One-horned (Indian) Rhino *Rhinoceros unicornis*.

with traditional medicine wholesaler, April 2009). In the meantime, Vietnamese rhinos are now considered extinct with the last animal reportedly killed in Cat Tien National Park in early 2010 (WWF, 2011).

The distribution networks for rhino horn have typically overlapped with the trade in other traditional medicinal products, which encompasses many facets of the country’s flourishing illegal wildlife trade. In and around Hanoi, there are two major wholesale/retail markets. Ninh Hiep market, where an estimated 200 businesses are located, is situated approximately 13 km northeast of Hanoi in Gia Lam District, and has a tradition of processing and trading traditional medicine products that reportedly spans centuries. A survey conducted in December 2004 revealed that Ninh Hiep dealers offered over 30 types of animal-based traditional medicines, including three traders who could supply rhino horn if ordered sufficiently in advance; obtaining dried tiger bone, bear gall bladder from wild specimens and rhino horn reportedly took two weeks to a month (Nguyen and Nguyen, 2008). These shop owners further offered quality-testing assurances and claimed that they were shielded from investigations by securing protection from enforcement personnel (Nguyen and Nguyen, 2008).

Likewise, Lan Ong Street, the traditional medicine centre in the heart of Hanoi, supports at least 50 businesses comprising approximately 70 shops, whilst other similar businesses are found along several adjacent streets. At least half of the businesses conduct both wholesale and retail trades, and most are formally registered, possessing either business licences issued by the Department of Trade for wholesale and retail traders, or practicing licences issued by the Department of Health for traditional medicine practitioners; or, in some cases, both (Nguyen and Nguyen, 2008). On the other hand, licensing confers no legality concerning the products traded. A survey in 2004 found a general lack of quality control and specimens of many species for which trade was banned were publicly displayed for sale; rare, endangered species were even overtly used in advertising, for example, on the printed business cards of certain dealers (Nguyen and Nguyen, 2008). One shop owner noted an ability to supply any animal that could be used for medicinal purposes, including rhino horns and complete sets of tiger bones (Nguyen and Nguyen, 2008). This individual, when asked if he was concerned about law enforcement officers, responded that he was “*only afraid of the local tax unit*” (Nguyen and Nguyen, 2008).

In the southern part of the country, Ho Chi Minh City serves as the major distribution centre for traditional medicine products. There, more than 500 companies are engaged in traditional medicine businesses, many of which are located in the Cholon District of the city, otherwise known as Chinatown (Nguyen and Nguyen, 2008). One survey in Ho Chi Minh City in 2004 revealed that medicinal products from wild animals were conspicuously and routinely available for sale, including live tigers, tiger parts or rhinoceros horn, all species for which trade is strictly forbidden, provided the price negotiated was high enough (Nguyen and Nguyen, 2008). Elsewhere in the country, larger cities generally have active traditional medicine outlets and, in some places, Da Nang for example, some 100 companies, both private and state-owned, are involved in the processing, trade or use of traditional medicines (Nguyen and Nguyen, 2008).

In addition to the major markets and shop-based retail and wholesale dealers in traditional medicine, there also exists in Hanoi (and possibly elsewhere in the country) traditional medicine businesses that operate without a fixed market place (Nguyen and Nguyen, 2008). This informal network of traditional medicine operatives, including individuals occupying positions of responsibility in government agencies dealing with traditional medicine, was reportedly often used to procure endangered wildlife products, including rhino horns (Nguyen and Nguyen, 2008).

As with so many other wildlife commodities, including wild meat and medicinal products such as tiger bone and bear gall bladders, rhino horns are secretly traded in Viet Nam, even if it is a rather “open secret” in many local markets. In some situations, rhino horn is traded by those engaged in illegal trade in wildlife meat. For example, a prominent Vietnamese weekly publication recently carried a feature that highlighted this ongoing situation:

*Minutes after local wildlife inspectors walked out of her restaurant, Tu Loan went right back to business. “[VND unit price] for one hundred grams [of rhino horn]. No bargain.” Tu Loan told a Tanh Nien Weekly reporter posing as a client. “I just want to help you,” she said. “Let me ask a friend of mine to bring the rhino horn here. I used to trade in it but it has become scarce in the past three years.”... But forest protection officials in the Central Highland province of Lam Dong regard her as the head of perhaps the largest wildlife trade network in town. Tu Loan, who appears in her mid-sixties, is allegedly well-connected to local officials. “She’s the most infamous wildlife kingpin, sure enough, in Dat Lat.” said Tran Tranh Binh, director of the Lam Dong’s Forest Protection Department. “Any rhino horn [sold*





Wildlife products for sale in Asia.

in her restaurant] *must have been sourced from her, not anyone else.* Representatives of the New York-based Wildlife Conservation Society (WCS) allege that Tu Loan represents a very well-known trading family with links to trafficking rings in Africa, Myanmar and America (Anon., 2011e).

Whilst the primary centres of trade for rhino horns in Vietnam remain Hanoi in the north and Ho Chi Minh City in the south, informal trading networks that lie beyond the traditional medicinal community are becoming increasingly more active in the trade. TRAFFIC's research has found that there are at least two major wholesalers of rhino horns who reportedly supply traditional medicine shops, hospitals and clinics throughout the north, including businesses located in Hanoi, Hai Phong, Quang Ninh, Bac Ninh, Bac Giang, Thai Binh, Nam Dinh, Vinh Phuc, Ninh Binh, Thanh Hoa and Nghe An. It is not understood how many individuals are actively engaged as wholesalers in the south of the country, but it is known that from bases in Ho Chi Minh City, the cities of An Tho, An Giang, Dong Nai and the Central Highlands are serviced.

Like most illegal commodities, procurement of rhino horn often involves personal connections to access networks of trade.

*If you want the real rhino horn you have to be connected. I met Thao, a hairdresser shop owner, through a mutual friend at the very popular Highlands Coffee shop on Le Loi Street, District 1. The second time we met, I asked her about rhino horn. She said her uncle had purchased some for her grandfather who at that time was dying of cancer; he has since died. Her uncle was a worker on the wharf at the Saigon shipping ports and "knew people"* (Smith, 2012b).

Numerous reports in Viet Nam suggest that the "people" with rhino horn referred to by the uncle above are often government officials, or members of their retinues, who play active and important roles as conduits in the trade between Africa and Asia. For example, the *TIME* magazine cover story investigation reported two separate anecdotes describing government complicity in the trade, firstly a female cancer patient in Hanoi claimed:

*the source [of her rhino horn]? A friend who accompanied Vietnamese government officials to South Africa* (Beech and Perry, 2011),

whilst a second Hanoi man, working at a government institute but suffering from a serious liver disease, reported:

*receiving his cache [of rhino horn] from someone who worked for a Vietnamese embassy in southern Africa* (Beech and Perry, 2011).

The credibility of these anecdotal revelations is further buttressed by stronger evidence from South Africa in which various Vietnamese Embassy personnel – the Commercial Attaché, the First Secretary, an Embassy Counsellor – have either been arrested, captured on film or otherwise implicated in serious instances of illegal rhino horn trafficking in the country (see "Involvement of Vietnamese Embassy personnel" section above). Still other reports suggest that at least one former Pretoria-based Embassy employee, Tran Manh, later became resident in South Africa and actively engaged in rhino horn trade (Anon., 2008c). This individual's wife, identified in media reports as Nguyen Thi Thu Thuy, was also allegedly involved in the trade, with one unconfirmed report indicating she was once temporarily arrested at Tan Son Nhat airport in Ho Chi Minh City but later released (Anon., 2008c).

Beyond Vietnamese officialdom in South Africa, a *TIME* magazine reporter indicated that Hanoi-based rhino horn dealers frequently mentioned Vietnamese Embassies in Mozambique and, curiously, Ghana (a West African country far beyond the geographical range of any of Africa's extant rhino populations), as other sources of rhino horn from Africa (H. Beech, pers. comm., 20 October 2010). In view of this evidence, it is not surprising that TRAFFIC investigators, researching Viet Nam's domestic commerce in rhino horn in early 2009, repeatedly heard warnings from informants that the trade was a highly sensitive issue in the country and that there was direct involvement of senior political figures, some of whom are also engaged in the consumption of rhino horns. Virtually all Vietnamese government officials contacted by TRAFFIC were reluctant to discuss the trade on the record or were in denial that there was any problem at all. Since then, in the wake of the CITES CoP15 decision which identified Viet Nam as the principal consumer country for illegal shipments of rhino horn and the subsequent mission of South African law enforcement officers to Viet Nam for bilateral discussions in October 2010, the government has gradually moved towards engagement, at least on the international level.

Another evolving feature of the trade, internet marketing of rhino horn, has proliferated in recent years and represents a new channel of commerce in Viet Nam that generally functions independently from the more entrenched trade structure embedded within the traditional medicine community. Product reliability concerns notwithstanding (see "The presence of fake rhino horn in the domestic market" section below), the ease with which rhino horn is purportedly available on Viet Nam's internet is apparent:

*All we had done to find this woman's mobile number was to search for sung te giac (rhino horn) on Google. The results had revealed about 20 advertisements, most on buy and sell sites* (Smith, 2012b).

Moving to make a purchase, however, is far more difficult, certainly a consequence of the illegal nature of the trade. One Western journalist described a futile attempt to visit a Ho Chi Minh City rhino horn dealer in the Go Vap District of the city at an address obtained from a website offering horn. Upon arriving at the designated street, but unable to locate the office because of the chaotic street numbering system:

*I asked my translator, Giang, to call the number on the website to ask for directions ... The woman [said] "Why do you want to come to our office? We don't have any products. Call us and our representative from Sapa will come to you." (The website said the company was headquartered in Sapa, in Viet Nam's far northern Lao Cai Province). Then Giang inquired about the rhino horn displayed on the website; the woman's guard went up quickly saying they did not stock it (although it was advertised with the price – a cheap [VND unit price for rhino horn]. She was emphatic that we could not come to the office* (Smith, 2012b).

Such stories mimic TRAFFIC's own efforts to track down those who advertise rhino horn through Vietnamese-language websites on the internet. On such sites, six of which TRAFFIC has actively monitored since 2009, rhino horns are described as authentic, but generally no specific place locations were given and only mobile telephone numbers were provided in terms of contact details. As such, any attempt to instigate a horn purchase always becomes a one-way vetting process with any face-to-face meeting arranged by the dealers themselves, following multiple calls through various cell phone numbers and other interactions. The inferred desire of these traders is to remain anonymous and beyond scrutiny, a key feature of this avenue of trade that is certainly rooted in the illegal nature of the business.

In further competition with the traditional medicine dealers, rhino horns are increasingly also sold through a range of other retail outlets, often through dealers who have access to both authentic and imitation horns. Some local environment groups, such as the highly visible ENV, are increasingly of the opinion that rhino horn marketing is taking on new dimensions:

*Rhino horn is not readily available at commercial retail establishments, but is sold in the shadows like other high-value and illegal goods such as tiger bone and narcotics. Much of the rhino horn on the market is fake, particularly that which is readily visible and accessible to the public, according to TCM practitioners. "If you want rhino horn," says [ENV's Doug] Hendrie. "You talk to someone who knows someone, not skip down to the pharmacy" (ENV, 2012).*

Vendors of unrelated products or services, such as a shop whose primary business is restringing badminton rackets, are inexplicably involved in the rhino horn trade (TRAFFIC market research, May 2009). In this particular case, the badminton racket shop conspicuously displays a sign advertising the sale of special crockery, the so-called rhino horn bowls, used for grinding horn into powder. These outlets serve as contact points for potential rhino horn consumers, who can then be directed to suppliers that have horns for sale. In Ho Chi Minh City, several of these sellers also claim to be able to supply rhino skin and blood, although orders must reportedly be placed one month in advance (Vo, 2008).

Another route in which potential consumers are connected to rhino horn suppliers involves staff or other individuals in or around particular hospitals in Hanoi, Ho Chi Minh City and possibly other locations in the country. These individuals function as rhino horn "touts" who actively seek out and approach patients diagnosed with terminal cancer or other serious illness and offer to put them in touch with traders who sell authentic rhino horns for treatment (TRAFFIC market research, May 2009; Smith, 2012b). Such contacts appear to be well-calculated events and may not necessarily involve the concurrence of the patient's primary doctors.

There is little doubt that rhino horn distribution networks in Viet Nam are varied and continue to evolve beyond the long-established trading and dispensation structures that have historically existed within the country's traditional medicine communities. The internet, including a range of business and social networking sites, together with other informal trading channels that operate between political, economic and social elites, are now playing a far greater role in connecting Vietnamese rhino horn consumers with the product of their desire.



Poster advertising rhino horn "grinding bowls" for sale.

CHRIS TURTON / TRAFFIC

## THE PRESENCE OF FAKE RHINO HORN IN THE DOMESTIC MARKET

Any assessment of rhino horn trade in Viet Nam has to take into account the substantial number of imitation horns that are available in the market. Fraud, it seems, is not simply limited to claims concerning the curative powers of rhino horn, but also characterises a major part of the trade itself. The production of fake horns, which are widely available in urban centres of Viet Nam, is driven by the high demand for authentic rhino horn and by the high prices that imitations are able to fetch. Credible fake rhino horns are said to be made from cow or buffalo horns which are very black in colour, though black bovine horns are rarely found in Viet Nam and are imported from South Asia or Africa. Some fake rhino horns made from hair and plastic pressed together have also reportedly appeared on the market. The production of bogus rhino horns is something of a "cottage industry" in several Vietnamese villages, including well-known production centres in Ning Hiep in Bac Ninh Province on the outskirts of Hanoi and in the Thuong Tin District of Hanoi (TRAFFIC market research, May 2009). According to some practitioners offering self-serving justification for involvement in the bogus horn trade, imitation rhino horns that are derived from buffalo horn do not produce beneficial medicinal effects, but they are not harmful to a users' health unless plastic has been used in some way.

Shops offering fake rhino horns commonly appear to be traditional medicine stores, but also include other vendors selling completely unrelated products. In Ho Chi Minh City's Cholon district, fake rhino horns have been observed openly displayed in jewellery and other curio shops (T. Osborn, pers. comm., October 2010). Because of the illicit nature of the rhino horn trade, it is difficult to determine precise trade chains between producers and retail outlets, or the point at which the trades in authentic and imitation rhino horns become connected (C. Turton, *in litt.*, to TRAFFIC 2009). Regardless, it is clear that there is considerable overlap as the following account illustrates:

*On a busy street in Chinatown, one Traditional Chinese Medicine dealer's wife chopped off a piece of a horn she claimed to be from a rhino. The pieces flew all over the place and it became clear that a lot of fake horn products are in circulation and that the naïve and inexperienced consumer is often taken for a ride. I did buy two samples – assuming they were fake – and had them DNA-tested. Both were from water buffalo and had undergone a special adaption/fabrication process. On the next trip, I sent my investigator ahead with a hidden camera to confront some of the dealers about the DNA results. They freely admitted that they had sold us fake horn products. We then went to visit a factory where the fake horns were manufactured and we were shown the production process, which we filmed (Ammann, 2011).*

The descriptions given to rhino horn by some traditional medicine practitioners further present ridiculous notions concerning the physiology of a rhino. One such dealer in a Hanoi market, in an attempt to sell rhino horn to a prospective buyer, stated:

*"Rhinoceros have two kinds of horn: one on the top of the head and one under the jaw. This type of horn is the one on top of the head" (Anon, 2011c).*

Such ignorance not only suggests a total lack of fundamental knowledge about the origin of the product in question, but also should make one question the legitimacy of the proffered horn itself. To a non-discerning public, however, such nonsense is probably not even noticed.

Overall, it is evident that a large number of fake rhino horns are in the market and that many dealers have no qualms whatsoever about selling them as efficacious products. Forensic testing is required to separate fake substitutes from bona fide rhino horns conclusively. It appears, however, that forensic examination has only been undertaken when rhino horn samples have been purchased or otherwise acquired in Vietnamese markets and then sent abroad (presumably illegally under CITES) to foreign laboratories for testing. It is technically possible, however, for forensic examination to be done locally at, for example, the Vietnam Criminal Sciences Institute in the Ministry of Public Security, and the Institute of Ecology and Biological Resources in the Viet Nam Academy for Science. Testing capabilities include isolating proteins in the horn structure or comparison of samples with a real horn under a microscope. Currently there is no evidence indicating that such testing is being done in Viet Nam. It is widely reported that professional traders and traditional medicine practitioners can identify real rhino horn without the aid of a laboratory test.

The extent of trade in fake rhino horns in Viet Nam is not known at this time, but one knowledgeable investigator who has observed market dynamics on at least two occasions concluded:



Vietnamese woman with a "fake" Asian rhino horn.

... that a very large percentage of the "rhino horn" on the market in Vietnam comes from water buffalo (and we were told that some of the Chinese horns were even better fakes). [Overall] possibly 90% of the rhino horn products offered to consumers are fake (Ammann, 2011).

A recent AFP reporter claimed:

There is also a huge trade in counterfeit horn as local demand far outstrips supply and Thao [a specialist in Vietnamese traditional medicine] said well-known traders have months-long waiting lists for the genuine substance (Barton, 2012).

Because it is appreciated that authentic rhino horns are very expensive, traders offering rhino horns for cheaper prices are often suspected of trying to sell imitation horns. The growing internet trade in rhino horn clearly presents challenges in terms of product authenticity for potential buyers. Interestingly, following the May 2010 announcement by the WWF office in Viet Nam that the country's last extant rhino had been shot for its horn and the species was now presumed extinct in Viet Nam, TRAFFIC monitors observed that certain internet rhino horn traders suddenly, but temporarily, became very quiet, only to return back on the internet a few weeks later with reassuring claims that their horns were 100% authentic.

## TRADE ROUTES FOR RHINO HORNS INTO VIET NAM



Annam, the ancient name for Viet Nam, was historically ranked in the highest echelons of the hierarchical system of tributary nations with Imperial China. Champa, which until the 1400s constituted a separate southern kingdom within the present day territory of Viet Nam, was also a tributary state. As the principal means of diplomatic and commercial relations, Annam and Champa regularly sent tribute to the Chinese Emperors for hundreds of years, typically on a triennial basis. Tribute implied a gift or offering, rather than a tax, from a lower rank to a higher rank. In this regard, the horns of indigenous rhino species, along with elephant ivory and hawksbill tortoiseshell, were frequent and prized wildlife commodities of value from the so-called vassal states of Viet Nam (Needham, 1956).

So treasured was rhino horn that some of China's tributary states in Indochina were sometimes known in Imperial shorthand as the "lands of the rhino" (Beech and Perry, 2011).

Quaint historical precedents aside, Viet Nam's contemporary rhino horn trade is essentially a modern day phenomenon. For decades, Viet Nam has not been a rhino horn source of any consequence, but in recent years its status in the trade has transformed dramatically into arguably the world's premiere destination country and end-use market. In fact, even throughout most of the 20th century, rhino horns were not commonly marketed to the general public. Not until the very end of the 1990s, when the country began experiencing consistently high economic growth rates, did rhino horn begin to appear with some frequency in local markets. For example, in March 1990, an early study of Viet Nam's wildlife trade reported a host of animal products openly sold in Hanoi's medicine markets, including tiger bone, pangolin scales, primate skeletons and dried gecko, but rhino horns were remarkably absent:

One significant wildlife product expected to occur but missing from these pharmacies was rhino horn. On several occasions, the author returned to the many small shops in the congested Lan Ong Street area where shopkeepers had promised to supply rhino horn. On each occasion, they offered fake horn at a fraction of the price that genuine horn would have [been] worth ... It seems likely that because of the poor economy in Hanoi and elsewhere in Viet Nam, any trader who actually possessed rhino horn would either arrange to have it exported or would sell it to a foreigner. This is happening in neighbouring Laos where almost all rhino horn is bought by visiting Thais (Martin, 1992).

In January 1991, in Ho Chi Minh City, the same researcher found rhino horn equally difficult to locate. On only one occasion was a real horn observed, a Black Rhino horn weighing 2.35 kg that had just been sold to an overseas Chinese businessman (Martin, 1992). (In the early 1990s, rhino horn trade in Taiwan was considered to be one of the largest in the world; see Nowell *et al.*, 1992). The dealer selling this particular horn reported that:

He had only seen three [genuine] rhino horns in Ho Chi Minh City over the past few years, and he believes that only the Chinese traders in Cholon and he himself can distinguish them from fakes (Martin, 1992).

A decade later the situation began to change appreciably, especially once an entrepreneurial Vietnamese presence in Africa began to take root. The combination of more people in the consumer market with greater levels of disposable income and the presence of Vietnamese middleman traders in key source countries in Africa, especially South Africa, has underpinned the rapidly escalating trade in rhino horns. Only over the last decade have rhino horns been imported directly to Viet Nam from Africa, and local demand for rhino horn has surged ever since (Milliken *et al.*, 2009b).

South Africa's legal sport hunting industry for White Rhino drew the attention of Africa-based Vietnamese nationals and the first 10 "exploratory" Vietnamese rhino hunts reportedly commenced in 2003, according to South Africa's CITES export data. But by 2010 hunters from Viet Nam reportedly conducted 171 rhino hunts in South Africa in a single year (Borchert, 2012). According to one report, the first wave of rhino hunting involving Vietnamese nationals was orchestrated by a retired Vietnamese diplomat, a former Embassy Counsellor identified as Tran Manh, operating from a base in Pretoria and affiliated with a local company called Newtato S.A. (Anon., 2008c). Shortly thereafter, South African hunting and conservation circles were abuzz with a plethora of disturbing stories suggesting:

*... the frequent involvement of a small number of Vietnamese nationals in rhino hunting, often on the same game ranches repeatedly; ... Vietnamese "trophy hunters" paid above market price for rhino hunts, but then had to be instructed how to shoot and would completely forego any proper trophy preparation (Milliken et al., 2009b).*

The advent of Vietnamese hunters in South Africa is a decidedly odd development. Gun ownership in Viet Nam is very restrictive and civilians are only allowed to possess shotguns under rather strict conditions. The number of shotguns in civilian possession was reported to be 70 000 in July 2011 for a nation of 87 million people (Anon., 2011f). By any measure, sport hunting is not commonly practised in Viet Nam, and only a single company offering a sport hunting experience could be found during a recent search of the English-language internet. Advertised as "approved by government" and indicating that trophies could be prepared for shipping abroad, water buffalo, deer, wild boar, junglefowl and rabbit were reportedly on offer in the Pang Pa-Lam Ha forest some 90 km from Da Lat (Anon., 2012a). Vietnamese government officials have also reacted with utter skepticism concerning the notion of large numbers of sport hunters from their country actively seeking to hunt rhinos in South Africa. For example, during discussions held during the South Africa/Viet Nam bi-lateral mission in 2010, Environmental Police and Ministry of Agriculture officials strongly indicated that there was no sport hunting tradition in Viet Nam (in the Western sense of the word), and reported that penalties for illegal possession of a firearm were considerably greater than the penalties for unlawful possession of rhino horn.

In any event, commencing in the mid-2000s, rhino horns obtained from legal sport hunting were regularly imported into Viet Nam, sometimes completely legally under export permits issued by South Africa's CITES Management Authority which were surrendered to Vietnamese authorities upon importation. More typically, however, the import of sport hunted trophies into Viet Nam was seldom officially reported to the authorities and valid export permits were subsequently re-used to accompany additional shipments of rhino horns from Africa into Viet Nam until they eventually expired (Milliken *et al.*, 2009b). Various sources in South Africa have indicated that throughout this period, Vietnamese middlemen in South Africa were actively engaged in the procurement of unregistered rhino horns from private sector sources throughout the game ranching communities of the country (R. Taylor, *in litt.* to TRAFFIC, 2009). These local rhino horn solicitors stealthily developed illegal trade networks linking rogue, private sector operators with Vietnamese middleman traders, a potent feature of the illegal trade equation that has remained entrenched ever since.

In a related development, personnel affiliated with the Vietnamese Embassy in South Africa became complicit in the trade. Whilst the use of a diplomatic pouch to transport rhino horn from South Africa to Viet Nam has been alleged on occasion (Anon., 2010g), the public evidence to substantiate such claims remains circumstantial. More typically, transport of rhino horns from Africa to Viet Nam has involved the use of couriers or "mules", many of whom were recruited in Viet Nam exclusively for this purpose. Vietnamese students, a security guard, a cameraman and, apparently, even wealthy individuals have willingly served as rhino horn couriers, as the following account indicates:

*From a wealthy Saigonese family, Nga was a sales-rep for a foreign firm at that time. As her father moved in powerful circles I thought Nga might know something of sung te giac. I said I was looking for the people who smuggled it into the country and asked if she had heard anything about it. At first she said no,*



Asian woman with a White Rhino trophy hunt.

*but after a long pause she decided to share a story with me. It turned out that Nga's father had been visiting a rich family friend when the woman invited him to view something special in her room under oath of secrecy. In the room she produced seven rhino horns that she claimed to have had travelled to South Africa to get. Nga said she had brought them into Vietnam herself through customs (Smith, 2012b).*

Individuals arrested in South Africa have revealed that they were typically on tight, turn-around missions in which they were only scheduled to spend a day or two in the country before flying out again with the contraband. In some instances, these rhino horn "mules" reportedly arrived and left the country without any check-in luggage (TRAFFIC research in South Africa, 2012). At O.R. Tambo Airport in Johannesburg, rhino horns have been found in both check-in and carry-on luggage, and it has been alleged that packaged rhino horn handovers may actually occur inside the departure terminal on occasion (TRAFFIC research in South Africa, 2012).

In terms of airline routes, there are no direct flights between South Africa and Viet Nam, thus at least one connecting flight is required en route for rhino horn to reach the principle end-use markets. From Johannesburg various options are available several times each week, including Cathay Pacific and South African Airways to Hong Kong, Thai International to Bangkok, Malaysian Airways to Kuala Lumpur and Singapore Airlines to Singapore. All of these airlines and routes offer timely, convenient onward connections to Hanoi or Ho Chi Minh City numerous times each day. The arrest of Vietnamese couriers in transit on connecting flights into Johannesburg that originated in Maputo, Mozambique have also recently occurred, suggesting that new routes are evolving.

Land routes from neighbouring countries, primarily Lao PDR, have also been used to smuggle rhino horns into Viet Nam; some evidence suggests that such horns may first be imported into Thailand (TRAFFIC monitoring, 2011). There is also very limited evidence that rhino horns are moving north from Viet Nam across the land border to China. Rhino horn seizure data in Viet Nam serve to highlight the use of specific border crossings with Lao PDR, including Nam Can in Nghe An Province, Na Meo in Thanh Hoa Province and Lao Bao in Quang Tri Province (Khuong and Quang, 2008). A seizure demonstrating this last trade route occurred in 2003 when a man was apprehended entering Viet Nam from Lao PDR at Lao Bao with nine rhino horns weighing between one and eight kilogrammes each. Reports referring to the seizure indicate that the smuggler was also found to be carrying 180 packets of heroin when his car was inspected (Lao, 2006), testifying to the links rhino horn trafficking has with organized criminal elements involved in the drug trade. On two separate occasions, people were reportedly found in possession of single rhino horns at the Cau Treo border crossing with Lao PDR, and other seizures have reportedly occurred in Bac Ninh Province, although the origin of the horns and their means of transport into the province remain unclear (Khuong and Quang, 2008).

It is clear that rhino horns are continually arriving in Viet Nam through a diversity of channels involving a similar range of players, including politicians and government officials, various individuals opportunistically recruited as couriers, even hardened criminals. Many of the rhino horns reaching Viet Nam are increasingly sold and distributed through social networks and internet websites that often completely bypass traditional medicine markets and dealers. In many respects, the rhino horn trade in Viet Nam is becoming increasingly divorced from the historic purview of the traditional medicine industry.

## RHINO HORN CONSUMERS IN VIET NAM

Older generations of Vietnamese, hardened by decades of war and poverty, are naturally inclined to be frugal spenders, especially where expenditure is directed at purchases they consider to be nonessential. But such attitudes are rapidly changing in modern Viet Nam, where 65% of the population is under the age of 30 (Ray *et al.*, 2007). Like neighbouring China, this younger generation is fuelling a booming market for luxury products. According to the General Statistics Office, Viet Nam imported USD10 billion worth of luxury products in 2010 (Petcu, 2011). While the super rich represent only 1% of the population, the number of upper middle class luxury consumers is growing at a staggering rate (Petcu, 2011). This demand for luxury items and products extends well beyond top-range watches, designer bags and expensive cognac and encompasses a wide range of high-price consumer items. Given the exceptional prices that rhino horn commands and the social status its consumption confers upon members of certain user groups, in many instances, the rhino horn trade can be viewed as just another aspect of the luxury product trade. In recent years, rhino horn consumption has seemingly grown exponentially and includes a broad spectrum of Vietnamese society. A *National Geographic* writer researching rhino horn use in Viet Nam in 2011 found the following:

*Most of the users we met belonged to Viet Nam's fast growing middle class and included Western-trained doctors, a bank executive, a mathematician, a real estate salesman, an engineer, and a high school teacher, among others. Often families would pool money to buy a piece of horn and share it. Some donated it to gravely ill friends who couldn't afford it. Mothers gave it to children with measles. Old people swore it cured poor circulation and prevented strokes. Many considered it a sort of super-vitamin (Gwin, 2012).*

Although rhino horn usage is widespread, especially amongst the affluent classes, not everyone uses it for the same purposes. According to a range of informants, rhino horn consumers in Viet Nam can be classified into four main descriptive categories:

### Terminally or seriously ill patients

As discussed in detail above (see section on *Rhino horn and the contemporary treatment of cancer and other illnesses*), the advent of rhino horn as a medical treatment for individuals suffering from cancer or other serious illness underpins the first group of consumers. These individuals suffer from serious, generally fatal, diseases and have turned to rhino horn to cure or improve their conditions. Those who fall into this group are often desperate individuals who are irrationally susceptible to notions of a panacea, especially if promoted by someone with authority like a traditional medicine doctor or encouraged by worried family members. The discussion concerning the promotion of rhino horn as a curative medicine for cancer is instructive in trying to ascertain the motivation of most individuals in this important consumer group. Evidence of rhino horn dealers or their touts deliberately seeking out and targeting individuals suffering from cancer underscores a controversial, if not predatory and unethical, aspect to rhino horn marketing directed at this particular consumer group. In the absence of credible clinical trials providing evidence of the efficacy of rhino horn in cancer treatment, most victims of debilitating oncological disorders and other serious illnesses potentially also become hapless victims of false hope and financial fraud, expending large sums of money on rhino horn remedies that will probably do little, if anything, to improve their medical conditions. To date, Viet Nam's government has done little to intervene directly into this aspect of the trade and address the issue of rhino horn's effectiveness for treating cancer and other serious diseases.

### Habitual users on the social circuit

A second, and very different, consumer group entails habitual users of rhino horn. These consumers are usually affluent, middle-aged, urban-dwelling individuals, mostly – but not exclusively – men, who frequently imbibe rhino horn mixed with water as part of a detoxifying beverage, often after excessive drinking or binging.

*Nguyen Huong Giang loves to party but loathes hangovers, so she ends her whiskey benders by tossing back shots of rhino horn ground with water on a special ceramic plate (Ives, 2012).*

The notion of rhino horn mixed with water as a general health, body-rejuvenating hangover-curing tonic has further evolved to occasions where rhino horn is added directly to rice wine and drunk in elaborate social or business settings. Within this group, social status is attached to one's ability to consume rhino horn casually and conspicuously without being overtly ill.



Fake horns and packaged rhino horn product.

*"Why did she want the horns?" I asked. "Because they are so rare and expensive," was the answer (Smith, 2012b).*

This obsessed group of buyers is likely to be the largest consumer group. Preliminary results of a four-month investigation by the dynamic local conservation group Education for Nature Vietnam suggests:

*...that rising income and a strong desire to flaunt new money and success amongst friends and business partners, may be a more important factor driving the trade with Vietnam. "We call it 'the Ferrari factor'" says Douglas Hendrie, a technical advisor to ENV who has been involved with the investigation, referring to the growing prevalence of expensive sports cars on the streets of Hanoi. "The new rich want luxury goods that are rare, exotic, and expensive as indicators of their success," says Hendrie. "These values in addition to the fact that rhino horn is also supposed to be good for you may be driving the surge in demand here in Vietnam" (ENV, 2012).*

And there seems to be little consideration of the impacts of such usage beyond one's own hedonistic indulgences:

*Giang, the young Vietnamese woman who regularly uses rhino horn to prevent hangovers, says she's unfazed by doctors' assessments of the substance's efficacy and doesn't care to know how her father acquired the horn (Ives, 2012).*

Various sources indicated that this group also includes mainland and overseas Chinese, Korean, and Japanese expatriate entrepreneurs living in Viet Nam, especially those forging business relationships through active participation in "rhino wine associations" with rich Vietnamese colleagues and associates. Such usage is strongly linked to the concept of "face consumption", a potent consumer value in both China and Viet Nam (Cimigo, 2010). In collectivist societies, this important cultural value leads consumers to believe they need to engage in acts of conspicuous consumption in order to enhance, maintain or save face. Accordingly, the social networks of affluent Vietnamese and the concept of face consumption serves to drive more frivolous rhino horn usage as each individual strives to function as an integral part of a larger social group and demonstrate compliance with group values.

*That same night I went out to a Turkish restaurant ... with a friend and his date, a Vietnamese woman who owned a business in Taipei. Diem was obviously well-off, so ... I casually asked her about rhino horn. She (not knowing why I was asking) told me enthusiastically that she had tried it recently for the first time at a private Chinese Lunar New Year (Tet) party at her mother's house in Go Vap District near*

*the airport. She shared a situation akin to any sharing of illicit substances at a party, the woman's friend had invited family and close friends aside to share some rhino horn that he had received in a business deal. In a private room, he produced a section of horn that she described as round as a beer can and about 2 cm high. He also produced a small grinding stone, ground it, mixed it with water and served the milky liquid in tiny cups... She partook and said everybody was impressed and curious to take part in the impromptu ceremony (Smith, 2012b).*

This group of rhino horn consumers also comprises certain male users who have embraced the curious notion that rhino horn functions as a cure for impotence or as an aid for enhanced sexual performance. Here again the concept of face consumption is central in that if key individuals in a group use rhino horn for sexual purposes, others will unquestioningly follow suit and continue the narrative irrespective of whether there is any discernible improvement in their sexual prowess or not. Beyond “men talk”, their partners seemingly offer some degree of concurrence too, as one journalist reported in a recent article:

*She said it made men “strong” (an aphrodisiac) and was good for women's complexions (Smith, 2012b).*

Similar cultural evolutionary developments have been found with respect to other high-value wildlife trade commodities. A recent TRAFFIC assessment of contemporary rhino horn usage in Asian markets for the CITES Secretariat stated:

*It should be noted that these new developments of rhino horn as an aphrodisiac or as a wine for special occasions parallels the evolution of tiger bone, another endangered species ingredient in traditional medicines. While tiger bone was traditionally prescribed for treatment of arthritic conditions, tiger farmers in China are marketing tiger bone wine for banquets and as a sex tonic (Nowell, 2012).*

Acceptance without dissent is a key attribute of face consumption, as the last line of the following narrative between a Vietnamese owner of a video production company and a Western journalist illustrates:

*Phung read the site then translated. The article said the whole body of the rhino is a “miracle medicine”. Even its shit is a miracle – a pain killer – when drunk with alcohol. In an article called “Why is rhino horn more expensive than gold” the writer claimed to have drunk some of this rhino-dung alcohol made by a man named Viet from Cat Tien National Park (rhinos had lived in Cat Tien National Park, which is near Saigon, until early 2010). He claimed it had reinvigorated him after an exhausting day of trekking in the forest. I told Phung cynically that it would be a miracle feeling better after a strong drink mixed with rhino dung and added that the account of drinking shit only showed how desperate some Vietnamese were to experience the famed rhino elixir. Phung totally gobsacked me by saying that he believed it. “Why would there be so much talk if it wasn't true,” was his reasoning (Smith, 2012b).*

In sum, young, affluent, habitual users of rhino horn are, generally speaking, the most superficial, one could argue mindless, consumers in Viet Nam, but probably account for the greatest volume of rhino horns consumed in the country today. For this group, procurement of rhino horns is through more informal channels of trade, including internet distributors as well as personal connections through social networks which may include government officials. This usage is predicated upon self-medication that takes place in the complete absence of a doctor's advice. Rather, like prohibited recreational drug usage in other cultures, one's peer group becomes the vehicle for initiation and acceptance of rhino horn usage. Indeed, social status is enhanced or reaffirmed by joining this exclusive, if not flippant, club of rhino horn users in Viet Nam.

### Protective young mothers

The third group of rhino horn users appears to represent a relatively recent trend amongst affluent, middle to upper income, young mothers who feel it is important to keep small quantities of rhino horn at hand for home preparation of medicines to treat high fever, especially that which occurs in children. The volume of rhino horn used by these young mothers appears to be significant, but probably is less than that required for the first two consumer groups. Consumers in the category are heavily influenced by social media. TRAFFIC's monitoring of Vietnamese language web-based chat fora (see for example <http://www.webtretho.com/forum/archive/t-27822.html>) revealed a strong demand for bona fide rhino horns and a sincere concern for procuring “real” rhino horns for self-medication purposes within the framework of traditional medicine. Many young mothers claimed in the forum that rhino horns helped to reduce temperature better than any Western medicinal product. Most of those who posted messages

wanted to have a piece of rhino horn at home, regardless of its cost, so that if other forms of medicines failed to reduce fever, they would have an alternative at hand in the event of emergencies. Very few of these internet-savvy respondents doubted the medicinal benefits of rhino horns, but their purported usage generally concerns the anti-pyretic properties of rhino horn, which is in line with the tenets of traditional rhino horn usage (TRAFFIC monitoring, September 2010). Whilst procurement of rhino horns by this group may include a variety of more informal sources, some degree of consultation with traditional medicinal practitioners is also characteristic. More than any other user group, rhino horn usage by this group of consumers links most strongly with traditional notions of rhino horn as medicine.

### Elite gift givers

A fourth group of consumers is not directly related to medical treatment at all, but rather links with gift giving as a means to curry favour and gain influence, an ancient attribute of Vietnamese social and political intercourse. In this regard, many rhino horns are apparently purchased and offered as high-value, status-conferring gifts to important political officials and other socio-economic elites within the country. Whilst it is not possible to quantify the volume of rhino horns used as gifts, the fact that it occurs, and sometimes for the purpose of bribery, has been illustrated by certain publicized cases. For example, on 6 August 2010, Nguyen Van Khoe, Chairman of the Hoc Mon District's People's Committee was sentenced to 26 years imprisonment by the Ho Chi Minh City People's Court for accepting a monetary bribe and part of a rhino horn valued at USD10 000 (Anon., 2010h). Another incident involving a political leader in the Office of the Prime Minister occurred in 2007; this individual confessed that USD9000 found in an unattended bag at Noi Bai International Airport in Hanoi was for purchasing a rhino horn for his friend, again revealing that certain high ranking officials are involved in the illegal trade of rhino horns (C. Turton, *in litt.* to TRAFFIC, 2009).

Related to gift giving is the emergence of rhino horn as an acceptable currency for payment of luxury products in certain circles in Viet Nam. The extent of this practice is unknown and is possibly rather limited, but nonetheless has surfaced as a feature of the contemporary trade as the following account illustrates:

*The man with the rhino horn was a car salesman and had acquired it from a client as part payment for a new car in lieu of [U.S.] \$5 000. In other words it was being used as currency (Smith, 2012b).*



Luxury lifestyle in Viet Nam.

## REGULATION, LAW ENFORCEMENT AND RHINO HORN SEIZURES IN VIET NAM

Since 2003, the only legal trade in rhino horns coming into Viet Nam has been directly from South Africa as legitimate sport hunted trophies. According to South African CITES export data, 657 rhino horns have been legally exported to Viet Nam as hunting trophies from 2003 through 2010. Viet Nam's CITES import data acknowledge the import of only 170 rhino horns, indicating that 74% of South Africa's total went undeclared at the time of importation (Table 9).

Year	No. of rhino horns imported by Viet Nam from South Africa (Viet Nam CAWT presentation data)	No. of rhino horns imported by Viet Nam from South Africa (CITES annual report data)	No. of rhino horns exported from South Africa to Viet Nam (CITES annual report data)	Percentage of South African exports represented in Vietnamese import data (Viet Nam CAWT presentation data)	Percentage of South African exports represented in Vietnamese import data (CITES annual report data)
2003	6	10	20	0.30	0.50
2004	0	0	6	0.00	0.00
2005	7	8	24	0.29	0.33
2006	8	12	98	0.08	0.12
2007	42	26	146	0.29	0.18
2008	22	60	96	0.23	0.63
2009	14	26	136	0.10	0.19
2010	20	28	131	0.15	0.21
2011	24	-	-	-	-
<b>Total</b>	<b>143</b>	<b>170</b>	<b>657</b>	<b>0.22</b>	<b>0.26</b>

**Table 9** Comparison of South African exports and Viet Nam imports of rhino horns, 2003-2011 (CITES Annual Report data and Vietnamese government data)

An earlier assessment of CITES annual report data in the TRAFFIC/IUCN rhino report to CITES CoP15, addressing the period 2006 through 2009, first pointed out the large discrepancy between reported South African exports of rhino horn trophies to Viet Nam and reported Vietnamese imports of the same commodity, stating “Viet Nam has received only 38 rhino horns since 2006, indicating that 87% of the South African trade apparently went undeclared at the time of importation” (Milliken *et al.*, 2009b). It appears that since that revelation, and despite a range of bilateral rhino initiatives following CITES CoP15, only marginal improvement has occurred with respect to the Viet Nam government's tracking of rhino horn trophies at the time of importation into the country. The most recent data in 2010 suggest that only one out of five legally exported rhino horns is currently being declared upon importation (Table 9).

The failure to adequately account for legal rhino horn trophies is a serious issue and serves to foster a legal channel of trade into an otherwise illegal market for rhino horn. Under the CITES provisions that govern the export of White Rhino *C. s. simum* trophies, legitimate rhino horn trophies are not eligible for commercial trade and are to remain non-commercial “personal effects” in perpetuity. To be effective, however, this condition requires the government of Viet Nam to account for such trophies at the point of importation and, thereafter, have a mechanism to monitor their ownership once they are within their country. At CITES CoP15, in March 2010, the government of Viet Nam addressed this issue in an information document they produced for distribution to the CITES Parties, seeking guidance on how to regulate sport hunted trophies internally:

*Viet Nam would like to suggest to the Secretariat, and to the Parties, the following elements with the intention of improved management of legal rhino horn trade, and improving law enforcement of any illegal rhino horn trade:*

- Clear guidance or recommendation for Parties regarding management of trophies acquired through legal trophy-hunting after the trophy arrives in the country of import; without guidance on an appropriate

*legal mechanism from CITES, it is difficult for Viet Nam to interpret or formulate appropriate national regulations;*

- *The Management Authority of the exporting country should advise the Management Authority of the importing country the identity of the person who applies for any hunting permit before issuing a hunting permit, and any resultant export permit. As soon as possible following the issuance of the export permit, the Management Authority in the country of export should inform the Management Authority of the designated country of import (CITES, 2010b).*

Since then officials from Viet Nam's CITES Management Authority have outlined procedures for legally importing rhino horn trophies into the country, including the submission of CITES export permits, hunting documents, copies of passports and residence certificates (Tung, 2011; see section *Legislation regulating wildlife trade in Viet Nam*). These procedures also reportedly stipulate that hunting trophies are not allowed for sale and legal importation results in taxation at the rate of three per cent of the trophy's value calculated at USD25 000 per kg (Tung, 2011). As shown in Table 9, Viet Nam's CITES import data suggests that rhino horn importers are failing to declare most legal rhino horns moving into the country, thus calling the effective implementation of this policy into question. Further, it suggests that the government is losing millions of dollars in tax revenues each year. For example, if the 657 rhino horns that have been legally exported from South Africa each weighed 4.0 kg per horn, an average horn weight figure commonly used for White Rhino (Martin, 1983), and were all declared and taxed, the Vietnamese government would have earned nearly USD2 million in tax revenue over this period. The amount of tax revenue actually generated in Viet Nam from rhino horn trophies since this policy took effect remains unknown, but it is certainly a small fraction of this figure.

Further, little is known about what actually happens to rhino horn trophies once they are imported into Viet Nam. Addressing the second bullet point above, South Africa's CITES Management Authority has, since 2010, instigated a policy to send their Vietnamese counterparts the information contained in all CITES export permits which have been issued for rhino horn exports to Viet Nam. That said, there is little evidence to suggest that the Viet Nam government has moved forward to develop a coherent monitoring protocol and regulatory framework for ensuring strict compliance with the CITES requirement for legitimate rhino horn trophies to remain beyond the reach of commercial markets. In September 2011, one Forest Protection Department official described to TRAFFIC their first attempt to track a single rhino horn trophy that had previously been imported from South Africa to an address in Ho Chi Minh City. Apparently the importer was duly located at the address on the import document but was unable to produce the rhino horns in question, claiming that it had been taken to another family home in a province hundreds of kilometres to the north. It was then reported that, at considerable expense, Forest Protection Department officials subsequently made a follow-on attempt to visit this new location and view the horn trophy, only to be told upon arrival that it had been removed to yet another location in the custody of a sick uncle. The described “wild goose chase” scenario apparently never resulted in the rhino horn trophy being produced and was offered as an example of Viet Nam's difficulties in monitoring the possession of rhino horns once they have been legally imported into the country.

At this time, it is not clear whether any of the responsible Vietnamese authorities have made any additional attempts to track the existence of previously imported rhino horns into their country, although it is evident that South African authorities are periodically providing permit information concerning the importers of legal rhino horn trophies to Viet Nam's CITES Management Authority. South Africa's Minister of Water and Environmental Affairs Edna Molewa addressed this issue in a Minister's statement to the press on 29 March 2012 stating:

*In January, we indicated that the Department of Environmental Affairs will pursue a halt to the issuance of hunting permits to hunters coming from countries that do not have appropriate legislation to monitor whether the trophy is used for the purpose as reflected on the permits. In tandem with that decision and as part of our wider engagement with other countries, the Department of Environmental Affairs is in engagement with the Vietnamese Department of Agriculture and Rural Development on collaborations aimed at addressing the issue of hunting permits and measures to stop possible abuse of the system. We have also asked the Vietnamese Ministry of Agriculture and Rural Development if they could conduct inspections and verify that the White Rhinoceros trophies exported from South Africa to Vietnam are still in the possession of the hunters (Modise, 2012).*



Rhino horns being smuggled in luggage.

Since then there are indications that the Vietnamese authorities are attempting to undertake some kind of survey of known importers of rhino horn trophies. Presently, however, there is no evidence to suggest that any individuals who were the recipients of legal sport hunted trophies from South Africa have ever subsequently been arrested and prosecuted for failing to prevent their rhino horn trophies from entering commercial trade.

Overall, and not dissimilar to the problematic situation facing almost all other aspects of the Viet Nam's burgeoning wildlife trade, it is apparent that rhino horn crime has not been made a government priority for active attention. A further worrying and possibly related issue concerns the extent of corruption in the country. A 2012 survey by the Viet Nam Chamber of Commerce and Industry reported that nearly half of Viet Nam's companies have had to bribe officials in order to do business (Cassin, 2012). The anti-corruption organization Transparency International ranks Viet Nam in the top one-third of world's most corrupt countries. The Business Anti-Corruption Portal, a comprehensive and practical business tool to help businesses avoid and fight corruption, says:

*Vietnam is in a phase of transition from a centrally planned economy to a "market economy with socialist orientation". Vietnam's efforts to attract foreign investment have led the ruling party to seek to improve the business climate for foreign investors. This involves attempts to combat corruption which is rampant throughout the country and permeates the activities of the many state companies that still dominate the economy's strategic sectors. The lack of implementation and weak enforcement mean corruption continues to be cited as one of the most problematic factors for doing business in the country (Anon., 2012).*

Recent comparative evaluations of governance issues at the global level have indicated that corruption remains a rampant and serious issue in Viet Nam:

*An annual survey by Political and Economic Risk Consultancy, a Hong Kong consulting firm, indicates that in Asia, only Cambodia, Indonesia, the Philippines and India are more corrupt than Vietnam. On a scale from 0 to 10, with 10 indicating extreme tolerance for corruption, Vietnam earns a score of 8.3 in the PERC survey this year. The PERC report says many factors contribute to corruption in Vietnam, including the fact the public sector is much bigger than the private one, while average government salaries are low. It says the police, the taxation and licensing agencies and the stock market are considered the most corrupt sectors (Nguyen, 2011).*

Against this backdrop, a range of sources continue to report ongoing collusion between vendors of illegal wildlife commodities and the law enforcement agencies charged with the protection of endangered species and control of banned substances in the marketplace (Nguyen and Nguyen, 2008; Smith, 2012b). In fact, until very recently, denial of any kind of rhino horn trade problem at all has been a consistent refrain from Vietnamese government officials. During bilateral deliberations between South African law enforcement officers and their Vietnamese counterparts in Hanoi in October 2010, for example, the notion that Viet Nam only played the role of a transit country for onward trade to China was repeatedly heard through a succession of meetings with Forest Protection Department, Environmental Police and Customs officers. As further discussed below, there is very limited evidence of cross-border rhino horn trade between the two countries to support any such contention credibly.

In comparison to South Africa, seizures of rhino horn at Viet Nam's two international airports in Hanoi and Ho Chi Minh City have been relatively infrequent, but continuing (albeit unsubstantiated) anecdotal reports of government complicity in allowing "free passage" and "protection" continue to surface, for example the story of the wealthy woman who reportedly brought seven horns from South Africa into Viet Nam:

*[She] said it had all been arranged through official connections. Nga sipped her coffee and said the woman was extremely nervous about having the horns, which was why she insisted on secrecy. Nga said that without the right contacts it wouldn't have been possible to smuggle it in. "Ordinary people couldn't do it," because it is "so illegal" (Smith, 2012b).*

Other stories indicate that individuals apparently located at key international airports function as important sources of rhino horn, although it is not clear whether the horns in question were previously seized or not:

*I told her I was interested in buying some because my father has cancer and rhino horn was not available in Australia; she said it was a good idea to buy some for him and she would like to help me. She called her uncle then and there and he said he'd make enquiries. He came back saying his contacts at Saigon's Tan Son Nhat International Airport didn't have any [rhino horn] at present (Smith, 2012b).*

And once inside the country, other individuals with rhino horn apparently remain unconcerned about the potential consequences of having an illegal substance because of the perception that their personal contacts and connections resulted in protective immunity:

*Diem added that her mother ... was not concerned about the illegality of the rhino horn because of her connections with Hanoi's Vien Kiem sat nhan dan (The People's Court of Investigation). With connections like these her mother could do "whatever she wanted". Diem smiled broadly saying she was happy to get some for me if I wanted at which point my friend changed the subject (Smith, 2012b).*

"Protection", if it indeed exists at all, is not necessarily pervasive as rhino horn seizures have taken place on numerous occasions, both at Noi Bai International Airport in Hanoi in the north and Tan Son Nhat International Airport in Ho Chi Minh City in the south, as well as at various border crossings along the Lao border and in the marketplace, especially in Hanoi. According to the Forest Protection Department, by mid-2009, approximately 100 kg of rhino horns had been seized and were being stored at the National Treasury as valuable commodities (Vice-Director of VN CITES MA, pers. comm., June 2009). Since then, the Vietnamese government has reported that, from 2006 through 2008, 12 seizure cases have occurred at the country's international airports, yielding a total of 118 kg of rhino horn (Tung, 2011). News reports and other published sources available to TRAFFIC yield details on seven such rhino horn seizures that were made at Viet Nam's international airports since 2004:

**In October 2004**, a "young" Vietnamese student who was studying at Nelson Mandela Metropolitan University in Port Elizabeth, South Africa, was apprehended at Hanoi's Noi Bai International Airport carrying two White Rhino horns, totalling 10.75 kg. The suspect, who had previously worked in Angola for two years before coming to South Africa for studies, claimed to have bought the horns from a local man on a farm near Johannesburg for USD11 000. This individual was reportedly expelled from school and was given a two-year suspended prison sentence on probation by the People's Court of Hanoi (Tien, 2006).

**In November 2004**, a man was detected carrying four rhino horns which were seized by Customs officers at Noi Bai International Airport upon his arrival in Vietnam. Reportedly the director of a company based in



Angola, when the case was prosecuted in early 2005, the suspect had apparently left for Angola. Later in 2008, this individual was re-arrested and prosecuted in June 2008, but it is not clear what, if any, sentence was given (Anon., 2008d).

**On 24 March 2006**, a 58-year old man and his wife were arrested by Customs at Noi Bai International Airport with five rhino horns in their luggage. Arriving in Viet Nam on a connecting flight from Hong Kong, the couple had commenced their journey in Maputo, Mozambique, taking a LAM Mozambique Airline flight to Johannesburg, then flying on to Hong Kong using Cathay Pacific Airlines. Apparently, this couple did declare the rhino horns in question to Customs, but their importation was determined to be a violation of CITES regulation and were confiscated. The Vietnamese authorities did not have a scanner so they were not able to determine whether the horns in question were micro-chipped or not (D.Q. Tung, CITES Management Authority *in litt.* to TRAFFIC, 15 July 2010).

**On 25 June 2007**, a 4.22 kg rhino horn was seized from a passenger's luggage at Tan Son Nhat International Airport. The suspect, a young man, was arriving on a flight from Hong Kong (ENV, 2007a).

**On 27 July 2007**, a man was found carrying two rhino horns, which allegedly were covered by a hunting certificate showing trophy ownership, and a third rhino horn, weighing 2.04 kg (Education for Nature-Vietnam *in litt.* to TRAFFIC, 6 May 2012), which was not covered by any legal documentation. It is not clear if all three horns were seized by Customs at Tan Son Nhat International Airport, but the suspect had failed to declare the rhino horns following a flight from South Africa that involved a transfer in Singapore. It was later reported that, over the period 2005 through June 2007, this suspect had taken the same flight to and from South Africa on seven different occasions (Khuong and Quang, 2008).

**On 3 January 2008**, five rhino horns, weighing 17.66 kg, were discovered hidden in the baggage of a Hanoi resident arriving on a flight from Singapore at Tan Son Nhat International Airport (Anon., 2010i). The rhino horns reportedly originated in South Africa, four of which had certificates indicating they were hunting trophies from two separate White Rhinos, but the fifth horn had no documentation whatsoever (ENV, 2008a; 2008b). The defendant was charged with illegally trading one rhino horn and not declaring the other four horns for which he had permits. Twenty months later, on 25 August 2009, the suspect was convicted by Ho Chi Minh People's Court and sentenced to three years in prison for smuggling according to government sources (Tung, 2011). The information regarding the sentence, however, remains somewhat unclear. It has also been reported in the Vietnamese media that the prosecutors originally asked for an eight to 10 year prison sentence, but that the defendant, identified as a cameraman, was ultimately given a one year, one month and 20 day prison sentence (Anon., 2010j; Anon., 2009a). The prosecution appealed this verdict, but the court originally dismissed the case due to a lack of significant evidence. Then, in January 2010, the original verdict was apparently cancelled by a court order and, at a retrial in March 2011, the defendant did not appear, suggesting that he was not in State custody at the time (Education for Nature Vietnam, *in litt.* to TRAFFIC, 6 May 2012). It was reported that a warrant was issued for his arrest on 30 July 2010 and that the defendant was sentenced to three years imprisonment for the illegal transport of goods into the country (Education for Nature-Vietnam, *in litt.*, 6 May 2012). Thus, whether this individual actually served time in prison remains unknown, but it is apparent that this case has been over four years navigating the Vietnamese judicial system.

**On 14 May 2008**, a Vietnamese man arriving at Tan Son Nhat International Airport from Hong Kong was found carrying two rhino horns that weighed 9.2 kg. The suspect claimed to have purchased the horns in South Africa (ENV, 2008b).

Viet Nam's CITES Management Authority has further reported that, from 2004 through 2008, there were ten cases of individuals illegally selling rhino horn in the domestic black market and other seizures at border crossings with Lao PDR (Tung, 2011). TRAFFIC has documented the following seven seizures through various published accounts:

**In June 2003**, a man was caught entering Viet Nam at Lao Bao in Quang Tri province with nine rhino horns weighing between one and eight kilograms each, together with 180 packets of heroin, hidden in the smuggler's car (Khuong and Quang, 2008). This case represents the very first rhino horn seizure in Viet Nam and is apparently the only case in which illegal drugs were also seized (Tung, 2011).

**In January 2007**, Environmental Police arrested a woman who had been advertising rhino horns and tiger bone "glue" on the internet after the woman met with Education for Nature-Vietnam staff posing as



Raw elephant ivory.

prospective buyers at a Hanoi café. It was reported that the police seized the alleged rhino and tiger bone products (ENV, 2007c).

**On 9 December 2007**, traffic police stopped a car illegally carrying two whole and four small pieces of rhino horn weighing 547 g, as well as two dried bear gall bladders, in Thanh Hoa, Quang Trach District, Ha Tinh Province. The illegal contraband reportedly originated in Lao PDR and was being transported to Hanoi (ENV, 2007b).

**On 7 January 2008**, Hanoi Environmental Police raided the Ha Tay premises of a wildlife trade dealer following the confiscation of two live tigers from a vehicle in Hanoi. The raid yielded parts of five more tigers, bear paws, elephant tusks and rhino horns weighing an estimated one kilogram (ENV, 2008a).

**On 9 June 2008**, one rhino horn (24 cm long, base diameter 13 cm, 1.27 kg) and another rhino horn piece, weighing 64 g, were seized by the Environmental Police at a man's house in Hanoi. The suspect, a resident of Nghe An Province, claimed he had bought them at the Cau Treo border crossing with Lao PDR from a stranger and had made a deal to sell them to a person in Hanoi (ENV, 2008b).

**On 11 June 2008**, Environmental Police arrested two individuals attempting to sell 1.26 kg of rhino horn in Thanh Xuan Trung Ward, Thanh Xuan District in Hanoi. Two gaur gall bladders, tiger teeth and 10 tiger claws were also seized (ENV, 2008b).

**On 23 December 2011**, police in Ho Chi Minh City arrested two individuals for illegally engaging in endangered wildlife trade, including possession of a tiger skeleton weighing 9.4 kg, six lion skeletons weighing between seven to 50 kg, two tigers each around three kilograms soaked in wine, a tiger head, a bear skeleton, six pairs of bull horns, four pairs of elephant tusks, three elephant tails, five kilograms of monkey bones, several fangs and a rhinoceros horn. Tests by Vietnam Science and Technology have confirmed that all of the items were genuine (Anon., 2011g).

Other, less specific, reports of rhino horn seizures have been found, including two cases reportedly made at the Cau Treo border crossing in Ha Tinh province. A number of rhino horn seizures have also apparently occurred in Bac Ninh province, but there are few details concerning the origin of the horns and how they were transported into the province (Khuong and Quang, 2008).

Looking at illegal exports of rhino horns, there are only two confirmed instances of cross-border trade with China in which rhino horns that originated in Viet Nam were purchased and taken to China.

On 30 December 2009, a Chinese man allegedly spent CNY430 000 (USD63 000) purchasing two rhino horns from a Vietnamese dealer at the town square in Pingxiang City bordering Viet Nam. This individual was subsequently arrested at a toll gate en route to Nanning City, the capital city of Guangxi Province, with the rhino horns, which were subsequently valued at CNY830 000 (USD121 500) by the Chinese authorities (Anon., 2010e). The case was heard in Jiangnan District Court in Nanning City on 24 August 2010 where it was stated by the prosecution that the suspect had admitted to transporting and trading rhino horns on other occasions. In terms of *modus operandi*, the suspect would reportedly go to Viet Nam to examine the rhino horns on offer first and then would transfer money for the sale, taking possession of the horns at a later date in Pingxiang City. After that, he would transport the horns to Guangzhou Province via Nanning (Anon., 2010e). This individual was subsequently given sentenced to 12 years in prison and fined CNY30 000 (USD4400) (Anon., 2010f).

On 19 April 2011, another sensational seizure occurred in China at the exact same toll station in Guangxi Province: 707 elephant tusks and 32 ivory bracelets, weighing 2237 kg, were uncovered during a routine inspection of a large truck, and amongst the ivory contraband a single rhino horn was also discovered. This event constitutes one of China's largest ivory seizures ever, and the consignment had originated from Viet Nam (TRAFFIC, 2011). TRAFFIC had previously identified Viet Nam as a suspected "backdoor" transit route for consignments of ivory to China (Milliken *et al.*, 2009a), but the same is not evident with respect to rhino horn trade.

Through these seizures it is apparent that some law enforcement effort is being directed at curtailing illegal trade in rhino horns in Viet Nam, and most horns confiscated at the country's international airports have originated in South Africa. Most smugglers have been young or middle-aged males, but not exclusively, and some individuals have reportedly made multiple trips, indicating that they probably functioned as regular couriers. Still, none of these cases, appears to have led to broader investigations that result in the identification of the criminal syndicates and networks that lie behind these transactions.

Further still, it is significant to note that no rhino horns have reportedly been seized coming into Viet Nam since 2008. Whilst Vietnamese authorities have pointed to this development as evidence that illegal trade in rhino horn is subsiding in the country (D.Q. Tung, pers. comm., 26 September 2011, CAWT meeting), the data on rhino poaching losses and the number of Vietnamese nationals participating in legal sport hunting have progressively increased in South Africa, with the prospect of more horns than ever moving into trade channels to Viet Nam since 2008. At the same time, South African authorities have also provided more information than ever before to their Vietnamese counterparts concerning the names, addresses and details of Vietnamese nationals that are conducting rhino hunts in Africa and identified as exporters and importers on CITES export permits. These individuals essentially constitute an obvious list of suspects engaged in rhino horn trade in Viet Nam, but their activities do not seem to have garnered much oversight attention. And finally, since 2008, the number of arrests of Vietnamese nationals trafficking in rhino horns in South Africa has been at its highest. African law enforcement authorities are increasingly of the view that their Vietnamese counterparts are failing to address the issue seriously and reports of official corruption and complicity in the trade only exacerbate this perception. For example, a recent AFP article amplified this issue by reporting:

*A surge in hunting permit applications from Vietnam has prompted South Africa to suspend issuance and ask Hanoi to conduct inspections to verify that exported trophies are still in the possession of the hunters. But senior police man Tran Huy Tu, who had a stroke three years ago and is himself an ardent user of rhino horn, say such efforts will likely be in vain. "Vietnamese have been going to South Africa to try and bring back rhino horns for years," said Tu, who asked that his name be changed to avoid prosecution. Tu takes rhino horn regularly to counterbalance heavy work pressure and a large drinking habit. "I can drink a lot of alcohol but I am still sober and strong. I don't have a headache and I do not feel tired. It has some effects, I believe," Tu told AFP. "It's not legal to buy this stuff, but in Vietnam you can buy anything with money – or lots of money," he said (Barton, 2012).*

Articles such as this one are clear reminders that governance shortfalls continue to play a role in Viet Nam's inability to come to grips with its rhino horn trade problems.

## DISCUSSION AND RECOMMENDATIONS



Fake African and Asian rhino horns and a small piece of real horn.

Although much is still to be learned about the resurgent rhino horn trade that inextricably links Africa with Asia and drives the ever-escalating toll of rhino losses, there can be little dispute that Viet Nam is the paramount consumer in today's rhino crisis. It is acknowledged that the situation continues to be dynamic and evolving, knowledge gaps inevitably remain, and the roles and dimensions of other countries in the trade (such as China and Thailand) remain somewhat out-of-focus and imprecise at this point in time. Nevertheless, the growing body of evidence presented in this study leads to the conclusion that Viet Nam is the world's leading destination and consumer of rhino horn. Moreover, this highly unfortunate status is unlikely to change any time soon in spite of longstanding legal prohibitions outlawing its usage in the country.

This unenviable distinction is the direct result of a complicated mix of contemporary factors. It is no coincidence that the rhino horn trade revival coincides with Viet Nam's arrival on the international stage as a major economic powerhouse generating unprecedented levels of disposable income and supported by a conspicuous government retreat from intensive economic management. This has given rise to an energetic globalized period of cultural and social transformation, and a largely unfettered youthful population fully embracing the attributes of modern technology, luxury and conspicuous consumption as never before. Not surprising, in this context, the traditional standing of rhino horn as medicine in a highly ritualized doctor/patient setting of ancient dimensions has been largely superseded by a preponderance for self-medication and new-fangled uses for rhino horn that is obtained through casual trading channels and social networks that are often completely divorced from the formalized structure of the traditional medicine industry itself. A considerable portion of the current trade in rhino horn has morphed into a product of faddish extravagance – a self-indulgent treatment for hangovers, an aid for sexual excess or simply a means to be part of a particular "in-crowd" – in which the idea of "rarity" and "expense" mindlessly trump most other virtues and responsibilities. Another part of the trade remains cynically wrapped in contentious, unproven – some would argue utterly fraudulent – notions of a medicinal panacea for life-threatening disease such as cancer, with the "gift of life" dispensed at record-breaking prices to hapless, terminally-ill individuals victimized, it seems, by their innate desire to live.

This state of affairs unfolds in the relative absence of serious government commitment for effective law enforcement and regulatory action in the market place. The lack of political will addressing rhino horn

trade issues seems to grip the highest echelons of government and sets the tone through most other layers of official administration. That fact, in turn, serves to foster an acute “sensitivity” and an official state of denial concerning the fact that Viet Nam is driving Africa’s rhino crisis unlike any other country in the world today. Collaborative engagement with South Africa and the broader CITES community to scale-up and seriously address rhino horn crime seems to remain in the realm of perfunctory obligation rather than evolve into a vigorous, innovative commitment of common goals and imperatives. Even the recent total extinction of the only extant rhino population in Viet Nam, an endemic subspecies no less, has been met by key government ministries with studied indifference, rather than serving as a galvanizing wake-up call of a serious, in-country conservation failure of irreplaceable dimensions. If such significant biodiversity losses at home are regarded as essentially unremarkable events, the destruction of entire rhino populations in faraway Africa are probably of even less consequence in the national psyche. In the meantime, the criminal syndicates behind Viet Nam’s recent national obsession for rhino horn continue to consolidate their low-risk, high-profit operations at home and in Africa, and further enrich themselves at the expense of unleashing a pronounced corrupting influence on both government and society. In the process, the international reputation of Viet Nam is steadily diminishing in the eyes of a world desiring a positive conservation future for the five beleaguered rhino species.

With respect to the rhino horn trade in Viet Nam, the following recommendations are offered:

### Concerning political will

- **The need for strong political will to make rhino horn crime a national priority:** It is vitally important that the highest political leadership in Viet Nam recognize the serious nature of Viet Nam’s continuing illegal trade in rhino horn and speak out against it in an unequivocal manner. Such trade is indirectly compromising conservation efforts within Viet Nam, and directly undermining the conservation policy of South Africa, a key African ally, resulting in the unprecedented loss of not only hundreds of protected rhinos, but also serious loss of human life, especially those on the front lines of the country’s anti-poaching response. The perception of official government tolerance has been created through the numerous documented instances in which senior Vietnamese government officials have been directly implicated in the trade, for example the situation that prevailed at the Viet Nam Embassy in South Africa in recent years. It is incumbent on the country’s top leaders to develop and publicize a “zero tolerance” policy against any government official found to be trading in controlled wildlife commodities. Further, considered



Vietnamese embassy employee in Pretoria.

SOSO/SABC2

condemnation of rhino horn usage, both as an unverified medicinal product for serious illness and as a non-essential, detoxifying antidote to excessive indulgence, should be promoted.

### Concerning policy and legislation

A review of national policy and legislation with a specific focus on rhino horn trade is needed to identify and close gaps and legal loopholes which currently give rise to rhino horn trade and consumption. Special attention should be paid to the following issues:

- **The need to review penalties for illegal rhino horn trade:** Given the escalating prices for rhino horn on the Vietnamese market, current penalties for rhino horn smuggling and illegal trade, possession or usage need to be evaluated and updated to ensure that they serve as an effective deterrent.
- **The necessity of addressing infractions regarding legally imported rhino horn trophies from South Africa entering commercial trade:** As documented in this report, pseudo-sport hunting in South Africa involving questionable Vietnamese hunters has resulted in a plethora of rhino horn trophies being imported into Viet Nam. It is not clear whether current legislation makes sufficient provision for addressing instances where these “personal effects” trophies are used for “commercial purposes” in violation of CITES. The obligations concerning legal rhino horn ownership need to be carefully reviewed in order to comply fully with CITES requirements.
- **The importance of curtailing internet advertising and trading in rhino horn:** The proliferation of internet trading in endangered species products represents an evolving challenge to wildlife authorities on a global basis. As rhino horn is commonly marketed in Viet Nam through the internet, the authorities need to ensure that the country’s wildlife trade legislation adequately provides legal authority to act against internet traders in a proactive and forceful manner. Websites selling rhino horn and other endangered species products should be shut down and perpetrators prosecuted.
- **The significance of addressing “fake” rhino horns in the marketplace:** The trade in “fake” rhino horns constitutes a kind of fraud in its own right, but more importantly contributes to the social perception of rhino horns as a rare and valuable commodity, which in turn generates demand for authentic horns. Wildlife legislation needs to be reviewed and updated to ensure that this avenue of trade can be curtailed and legally addressed in an efficient manner.

### Concerning law enforcement and regulation

A range of improvements and changes in current law enforcement and regulatory practices are called for if illegal trade in rhino horn in Viet Nam is to be adequately addressed. The following issues are of particular concern:

- **The importance of developing and implementing bilateral treaties to promote collaborative law enforcement action:** The immediate adoption and implementation of the draft Memorandum of Understanding between South Africa and Viet Nam to underpin future law enforcement collaboration between the two nations on rhino crime cases is needed. Scaled-up law enforcement, including a programme of investigative assistance, should necessarily follow the formal signing of this treaty. Within the Southeast Asian region, the use of ASEAN-WEN as a platform for enforcement agencies to collaborate in addressing rhino horn crime should be explored, as well as the INTERPOL officer based in Bangkok. Viet Nam’s trade has linkages with Thailand and Lao PDR in particular, so this vehicle could afford a basis for engagement and joint action.
- **The requirement for a strict regulatory mechanism to track legal rhino horn trophies:** As documented in this report, pseudo-sport hunting in South Africa involving questionable Vietnamese hunters has resulted in a plethora of rhino horn trophies being imported into Viet Nam legally. On the other hand, there does not appear to be any kind of regulatory framework in place to ensure that these “personal effects” are not used for “commercial purposes” in violation of CITES. The failure to regulate such trade constitutes an avenue of trade and should be addressed as a matter of urgency. Thus, an ongoing programme to track legal rhino horn trophies in the private sector is required. Private possession of rhino horns should only be allowed under special ownership permits in which individual horn trophies are licenced to a particular physical address and owner. Any subsequent movement of these trophies to a new address or transfer to a new owner (including other family members) should only transpire by amending the ownership permits prior to the actual transfer of the rhino horn trophy.

- **The importance of employing effective law enforcement strategies in the market place:** Whilst rhino horn trading (including fakes) in the country's retail market is rampant, the fact that no seizures of *bona fide* rhino horn has taken place since 2008 is indicative of serious law enforcement failure in Viet Nam at the present time. This issue, including initiatives to address internet trading, requires special attention and cross-sectoral collaboration amongst various law enforcement agencies if the current situation is to be mitigated. Operational strategies and concrete investigative actions for ferreting out illegal rhino horn trade in retail markets and on the internet need to be devised and vigorously executed.
- **The commitment of adequate financial and human resources:** A reaffirmed government commitment to curtail rhino horn trade in Viet Nam is needed, followed by the allocation of additional resources to key law enforcement agencies so that ongoing market (including internet monitoring) research, investigation and prosecution in rhino horn crime cases is supported.

### Concerning trade research and monitoring

- **The value of ongoing research and monitoring:** A continuing programme of market-level research and monitoring in Viet Nam is required to help quantify demand, assess the role of speculation in the market, understand underlying trade dynamics and “real price”, track the impact and effectiveness of future interventions in terms of regulatory controls, law enforcement actions and demand reduction efforts.

### Concerning public awareness and demand reduction

- **The imperative of promoting demand reduction:** There is a compelling need to develop options for a campaign-type approach to demand reduction in Viet Nam. In this regard, well-researched strategies that target specific consumer groups with appropriate messages and influential delivery mechanisms need to be identified and implemented with the objective of influencing consumer behaviour away from rhino horn use. In particular, the evolving role of rhino horn as a non-essential lifestyle attribute needs to be directly challenged as an unacceptable form of social behaviour. Demand reduction should focus on dispelling obvious myths about the efficacy of rhino horn, promote acceptable alternatives if appropriate and create awareness of the consequences of illegal trade and usage and the conservation implications of continued rhino horn trade.
- **The need for clinical trials and peer review research on the medicinal properties of rhino horn to find alternative substances:** Although the usage of rhino horn in traditional medicine is ostensibly illegal, it is no secret that it continues to be dispensed widely for a variety of ailments, including life-threatening disease such as cancer. In fact, there is a severe gap between the traditional belief systems and modern applications of rhino horn as medicine. The Vietnamese government needs to take the lead and assess the medicinal value of rhino horn, firstly, through clinical studies to determine whether there are any pharmacological effects for rhino horn, including anti-pyretic, anti-inflammatory, analgesic, procoagulant or others. Secondly, and simultaneously, the pharmacological effects of a range of rhino horn substitutes should be evaluated in order to ascertain appropriate alternatives for promotion in lieu of rhino horn. To the extent possible, these efforts should be undertaken using the best-practice method of randomized, double-blind trials and the results should be written up and submitted to the peer-review medical literature.



Black Rhino browsing.

# CONCLUSIONS



The eye of a rhino.

TIM JACKSON/AFRICA GEOGRAPHIC

The South Africa/Viet Nam rhino saga continues. It remains unclear when the present crisis will bottom out and what shape final outcomes will ultimately take. Based on data through 20 June, predictive projections of South Africa's rhino poaching losses for 2012 are again on track to reach record-breaking numbers unless law enforcement actions over the next six months give rise to a serious decline in the rate of poaching. Whilst the South African government has rallied over the last two years to forcefully address the crisis through a multi-pronged front of initiatives, it is not yet evident that the tide is turning and the country's rhino conservators are decisively gaining the upper hand. Nonetheless there is great expectation that improved law enforcement co-ordination, investigative diligence and prosecutorial performance will produce significant deterrence effects that lead to a reduction in rhino poaching losses in the near future. No doubt, time will tell, but on the other side of the globe, in Viet Nam, there is little suggestion that any meaningful remedial action is being taken to address potent market forces that are driving the illicit trade in rhino horn. The fact that the rate of seizures and arrests has markedly dissipated in recent years is not in any way indicative of less trade and consumption, but rather a worrying sign that law enforcement effort is increasingly ineffective and possibly compromised. Strict implementation of the country's legislation that prohibits rhino horn trade and compliance with CITES requirements for regulating rhino horn trophies does not appear to be a government priority at this time. This state of affairs serves to undermine any optimism for a "quick fix" turn-around of rhino fortunes in South Africa.

Indeed, there is no "silver bullet" solution to the rhino crisis, but bilateral co-operation and commitment between source and consumer countries is a prerequisite for forward progress. This report has made a series of recommendations that both South Africa and Viet Nam can undertake to further address important issues and improve prospects for turning the current rhino crisis around. However, the ongoing imbalance between South African and Vietnamese efforts to curb illegal trade in rhino horn remains stark and rhino conservation will remain in a precarious state until this gap is bridged. Beyond what South Africa and Viet Nam can do together to address rhino crime issues of mutual concern, the international community can also play a positive role to leverage a conservation outcome for the world's beleaguered rhinos. Oversight mechanisms and processes under CITES can and should be

more forcefully harnessed to promote action and accountability to an international community actively supporting the conservation and protection of the world's rhino species. Further, the known involvement of organised, transnational criminal syndicates in the illegal trade in rhino horn highlights the severe global crime aspects of this issue and certainly provides a platform for greater involvement of INTERPOL, the World Customs Organization and other law enforcement institutions to combat it.

In many respects the South Africa/Viet Nam story is emblematic of the fate of so many of Africa's wildlife resources. The ascendancy of Asia's economic power in today's world comes precisely at a time when the greatest part of the natural resource base in Asia has been irretrievably lost or is in a state of severe depletion. Out of necessity, Asian wealth, global mobility and increasing political clout is actively seeking and harnessing new sources of natural resources for domestic consumption: the Asia/Africa connection has never been stronger. Not only China and India, the two largest emerging economic markets in the world, but also a host of other Asian countries, including Viet Nam, successively exhibit economic growth rates that are far ahead of Western Europe and North America (Anon, 2010). This rapid economic growth is making Asia the world's largest luxury market, whilst disposable income continues to rise many times faster than income in the developed world (BCG, 2007). With Asia regaining the economic dominance that it enjoyed for 18 of the past 20 centuries (Anon, 2010), it comes as no surprise that direct investment in resource-rich Africa is increasing exponentially. For example, since 2000, Chinese investment alone in Africa has risen over 700% to reach USD1.44 billion in 2009, with more than 2000 Chinese enterprises setting up branches throughout the continent (FOCAC, 2010). These shifting economic patterns and relationships can hold grave consequences for the continent's biodiversity and record volumes of African wildlife products are now moving directly to Asian markets, often illegally. In sum, Asian destinations have usurped the colonial and historical trade precedents of African commerce within the last decade and Europe is no longer the first port of call for so much of Africa's traded commodities.

The South Africa/Viet Nam rhino horn trade is unfolding against this larger backdrop of Asian expansion into Africa. In the final analysis, these two nations should be natural allies for a variety of contemporary political reasons. Instead, they remain locked in a dance of deadly ramifications for two of the world's most iconic wildlife species. In no small measure, the fate of Africa's Black and White Rhinos directly straddles the Asia/Africa wildlife trade fault line and resolution of the South Africa/Viet Nam rhino horn trade nexus will necessarily hold important lessons for the future of so much of Africa's biodiversity.

# REFERENCES

Adcock, K. and Emslie, R. H. (1994). The role of trophy hunting in white rhino conservation, with special reference to BOP Parks. In: Penschorn, B. L. *et al.* 1994. Proceedings of a *Symposium on Rhinos as Game Ranch Animals*, Onderstepoort, South Africa, 9-10 September 1994. pp. 25–41.

AFP. (2008). *Vietnam to recall diplomat filmed taking rhino horn*. Mail and Guardian Online. <http://www.mg.co.za/article/2008-11-19-vietnam-to-recall-diplomat-filmed-taking-rhino-horn>. Viewed on 19 November 2008.

Ammann, K. (2011). *The Vietnamese and Rhino horn – a dealer speaks*. *Swara*, October-December 2011, pp 33-37.

Anon. (2008a). *Rhino horn smuggling, diplomat in South Africa recalled*. <http://english.vietnamnet.vn/dataimages/200811/original/images1661925>. Viewed on 20 November 2008.

Anon. (2008b). *Vietnamese diplomat linked with rhino horn smuggling syndicate*. <http://ethanhtuan.journalism.cuny.edu/2011/02/16/vietnamese-diplomat-linked-with-rhino-horn-smuggling-syndicate/>. Viewed on 28 March 2011.

Anon. (2008c). *“You bring the wild”*. [http://www.bbc.co.uk/vietnamese/vietnam/story/2008/11/printable/081120\\_rhino\\_links.shtml](http://www.bbc.co.uk/vietnamese/vietnam/story/2008/11/printable/081120_rhino_links.shtml). Viewed on 05 May 2012.

Anon. (2008d). *Xử lý giám đốc mang 4 sừng tê giác tiền tỷ về Việt Nam*. VN Express, Tin Nhanh Vietnam. <http://vnexpress.net/gl/phap-luat/2008/06/3ba0355d/>. Viewed on 09 May 2012.

Anon. (2009a). *Ho Chi Minh: Subject sentenced to imprisonment for transporting rhino horns*. [http://envietnam.org/E\\_News/E\\_329/Lanh\\_an\\_vi\\_van\\_chuyen\\_sung\\_te\\_giac.html](http://envietnam.org/E_News/E_329/Lanh_an_vi_van_chuyen_sung_te_giac.html). Viewed on 31 December 2011.

Anon. (2010a). CITES CoP15 Inf. 32: *Illegal killing of rhinoceros in South African*. Information document to the 15th meeting of the Conference of the Parties to CITES, Doha, Qatar, 3-25 March 2010.

Anon. (2010c). *Man linked to poaching in dock*. Iol News. <http://www.iol.co.za/news/crime-courts/man-linked-to-poaching-in-dock-1.681466>. Viewed on 24 September 2010.

Anon. (2010d). *Cancer keeps rising throughout Vietnam*. VietNamNetBridge. <http://english.vietnamnet.vn/social/201010/Cancer-keeps-rising-throughout-Vietnam-941396/>. Viewed on 24 November 2011.

Anon. (2010e). GX News. <http://news.gxnews.com.cn/staticpages/20100826/newgx4c759a6c-3213787.shtml>. Viewed on 28 August 2010.

Anon. (2010f). GX News. <http://www.gxnews.com.cn/staticpages/20101009/newgx4cfa1e7-3313337.shtml>. Viewed on 15 October 2010.

Anon. (2010g). *Illegal Rhino Horn Trade: The Vietnamese Connection*. [http://www.savingrhinos.org/vietnamese\\_rhino\\_horn\\_trade.html](http://www.savingrhinos.org/vietnamese_rhino_horn_trade.html). Viewed on 05 May 2012.

Anon. (2010h). *Nguyên chủ tịch huyện Hóc Môn nhận án 26 năm tù*. VN Express, Tin Nhanh Vietnam. <http://vnexpress.net/gl/phap-luat/2010/08/3ba1f774/>. Viewed on 09 May 2012.

Anon. (2010i). *Man imprisoned for smuggling rhino horns into Vietnam*. International Rhino Foundation. <http://www.rhinos-irf.org/en/art/1108/>. Viewed on 12 May 2012.

Anon. (2010j). *Man imprisoned for smuggling rhino horns into Vietnam*. Thanh Nien News. <http://www.thanhniennews.com/2010/pages/20100731104257.aspx>. Viewed on 12 May 2012.

Anon (2010k). *Rhino horn theft: govt officials fingered*. <http://www.news24.com/SouthAfrica/News/Rhino-horn-theft-government-officials-fingered-20101027>. Viewed on 05 May 2012

Anon (2010l). *East or famine: Asia's economic weight in the world has risen, but by less than commonly assumed*. Economist. <http://www.economist.com/node/15579727> The balance of economic power. Viewed on 20 June 2012.

Anon. (2011a). *Another rhino horn suspect is out on bail*. Rhinoconservation.org. <http://www.rhinoconservation.org/2011/2/11/vietnamese-rhino-horn-smuggler-granted-bail-in-South-Africa>. Viewed on 20 February 2011.

Anon. (2011b). *Two Vietnamese in trouble with horn*. Zoutnet. <http://www.zoutnet.co.za/details.asp?StoNum=8850>. Viewed on 20 February 2011.

Anon. (2011c). *Hanoi Doctor*. Transcript of interview with Hanoi traditional medicine doctor conducted by Dan Rather Reports, February 2011.

Anon. (2011d). *Woman poisoned by rhino horn*. Education for Nature Vietnam, English translation. [http://www.envietnam.org/library/Articles%20for%20news%20media%20section/Woman\\_poisoned\\_by\\_rhino\\_horn.html](http://www.envietnam.org/library/Articles%20for%20news%20media%20section/Woman_poisoned_by_rhino_horn.html). Viewed on 28 December 2011.

Anon. (2011e). *Dat Lat wildlife kingpin untouchable*. Thanh Nien News, English translation. <http://www.thanhniennews.com/2010/Pages/20110507180905.aspx>. Viewed on 28 December 2011.

Anon. (2011f). *Vietnam – Gun Facts, Figures and the Law*. <http://www.gunpolicy.org/firearms/region/vietnam>. Viewed on 08 January 2012.

Anon. (2011g). *Endangered wildlife dealers arrested in southern Vietnam*. Thanh Nien News. <http://www.thanhniennews.com/2010/pages/20111227-endangered-wildlife-dealers-arrested.aspx>. Viewed on 05 January 2012.

Anon. (2012a). *Central Highland Vietnam: Sport hunting tour*. <http://www.innoviet.com/da-lat-vietnam/97-sport-hunting-tour.html>. Viewed on 08 January 2012.

Anon (2012b). *Media Release: Latest on rhino poaching in South Africa*. <http://www.sanparks.org/about/news/default.php?id=1829>. Viewed on 02 March 2012.

Anon (2012c). *5 held for rhino poaching in Polokwane*. <http://www.news24.com/SouthAfrica/News/5-held-for-rhino-poaching-in-Polokwane-20120514>. Viewed 21 May 2012.

Anon (2012d). *Snapshot of the Vietnam Country Profile*. <http://www.business-anti-corruption.com/country-profiles/east-asia-the-pacific/vietnam/>. Viewed on 7 July 2012.

Anon (2012e) *Mozambique: Rhino Horns and Abalone Seized At Maputo Airport*. <http://allafrica.com/stories/201206010183.html>. Viewed on 15 June 2012.

Barnett, R. and Patterson, C. (2005). *Sport hunting in the Southern African Development Community (SADC): An overview*. TRAFFIC East/Southern Africa, Johannesburg, South Africa.

Barton, C. (2012). *Vietnam's “cancer-cure” horn habit threatens rhino population*. AFP. <http://www.mnn.com/earth-matters/animals/stories/vietnams-cancer-cure-horn-habit-threatens-rhino-population>. Viewed on 09 May 2012.

Beech, H. and Perry, A. (2011). *Killing Fields: Africa's Rhinos Under Threat*. TIME, 13 June 2011, pp. 32–39.

Bell, G. (2011). *Rhino poachers convicted in South Africa*. *Travel Update for ecoAfrica Travel*. <http://www.eco-africa-travel.com/2011/03/22/rhino-poachers-convicted-in-south-africa/>. Viewed on 20 April 2011.

BCG (2007). *Winning the Hearts and Minds of China's Consumers*. The Boston Consulting Group, United States. <http://www.bcg.com/documents/file15090.pdf>. Viewed on 20 June 2012.

Bodasing, A. and Mulliken, T. (1996). *South Africa's Wildlife Trade at the Crossroads*. TRAFFIC East/Southern Africa: South Africa.

- Borrell, B. (2010). *Saving the rhino through sacrifice*. Business Week. [http://www.businessweek.com/magazine/content/10\\_51/b4208068688480.htm](http://www.businessweek.com/magazine/content/10_51/b4208068688480.htm). Viewed on 30 April 2011.
- Borchert, P. (2012) Trading Places: Permits and Pretend Hunts. *Africa Geographic*, Vol. 20, No. 3, p. 60.
- Bothma, J. Du P., Van Rooyen, N. and Van Rooyen, M.W. (2004). Using diet and plant resources to set wildlife stocking densities in African savannas. *Wildlife Society Bulletin* 32: 840–851.
- Brook, S.M., Van Coeverden de Groot, P., Scott, C., Boag, P., Long, B., Ley, R.E., Reischer, G.H., Williams, A.C., Mahood, S.P., Tran Minh Hien, Polet, G., Cox, N., Bach Thanh Hai (2012). Integrated and novel survey methods for rhinoceros populations confirm the extinction of *Rhinoceros sondaicus annamiticus* from Vietnam. *Biological Conservation* 155: 59–67.
- Brooks, P.M. (compiler) (1992). *Confidential Proceedings of the meeting of the IUCN/SSC African Rhino Specialist Group Meeting*. Victoria Falls, Zimbabwe 17–22 November 1992.
- Brunt, G (2011). *Price manipulation or shrewd investments?* WRSA Newsletter. November 2011.
- Buijs, D. (1998). *White rhinos on private land in South Africa 1997*. Unpublished report, African Rhino Owners Association, Johannesburg, South Africa.
- Buijs, D. (2000). *The status of the southern white rhino Ceratotherium simum simum on private land in South Africa in 1999*. *Pachyderm* 28: 60–64.
- Buijs, D. and Papenfus, T. (1996). *White rhinos on private land in South Africa*. Report to Rhino and Elephant Foundation. Johannesburg, South Africa, pp. 1–14.
- Buys, D. (1987). *A summary of the introduction of white rhino onto private land in the Republic of South Africa*. Report to Rhino and Elephant Foundation. Johannesburg, South Africa.
- Buys, D. and Anderson, J. (1989). *White rhinos on private land in South Africa*. Rhino and Elephant Foundation Journal 2: 26–31.
- Bürgener, M., Snyman, N. and Hauck, M (2001). *Towards a Sustainable Wildlife Trade: An Analysis of Nature Conservation in South Africa with Particular Reference to the Wildlife Trade* pp. 61. Published by: Institute of Criminology, University of Cape Town in association with TRAFFIC East/Southern Africa.
- Butland, P. d. V. (2009). PHASA President's Opinion. *African Indaba* 7: 1.
- Carnie, T. (2010). *Tracking down the "Boere rhino mafia"*. The Mercury, Durban. [http://www.rhinoresourcecenter.com/pdf\\_files/128/1287010047.pdf](http://www.rhinoresourcecenter.com/pdf_files/128/1287010047.pdf). Viewed on 05 May 2011.
- Carruthers, J. (2008). Wilding the farm or farming the wild? The evolution of scientific game ranching in South Africa from the 1960s to the present. *Transactions of the Royal Society of South Africa* 63: 160–181.
- Carroll, T. (2010). *Presentation of the Department of Environmental Affairs. PHASA Annual General Meeting*. <http://www.phasa.co.za/images/stories/downloads/HuntingInformation/Presentation%20PHASA%20AGM%2016%20November%202010.pdf>. Viewed on 12 May 2012.
- Carroll, T. and Boshoff, M. (2007). *Guidelines for the implementation of threatened or protected species (TOPS) regulations and the issuance of TOPS permits in terms of the National Environmental Management: Biodiversity Act (Act 10 of 2004) (NEMBA)*. Republic of South Africa, Cape Town, South Africa.
- Cassin, R.L. (2012). *Survey Highlights Vietnam risks*. <http://www.fcpablog.com/blog/2012/5/29/survey-highlights-vietnam-risks.html>. Viewed on 07 July 2012.
- Castley, J. G. and Hall-Martin, A. J. (2002). The status of the southern white rhinoceros *Ceratotherium simum simum* on private land in South Africa in 2001. *Pachyderm* 34: 33–44.
- Castley, J. G. and Hall-Martin, A. J. (2003). *The status of the southern white rhinoceros Ceratotherium simum simum on private land in South Africa in 2002*. Unpublished report, WWF-ARP, pp. 19.
- Castley, J. G. and Hall-Martin, A. J. (2005). *The status of white rhinoceros Ceratotherium simum simum on private land in South Africa: A summary of findings from a survey conducted in 2004*. Unpublished report.
- CSVR (2007). *The Violent Nature Of Crime In South Africa: A concept paper for the Justice, Crime Prevention and Security Cluster*. [http://www.info.gov.za/issues/crime/violent\\_crime.pdf](http://www.info.gov.za/issues/crime/violent_crime.pdf). Viewed on 19 January 2012.
- Child, K. (2012a). *Anti-poaching op kills Spencer the rhino*. Times LIVE. <http://www.timeslive.co.za/local/2012/02/10/anti-poaching-op-kills-spencer-the-rhino>. Viewed on 11 February 2012.
- Child, K. (2012b). *R55m frozen in poaching case*. Port Elizabeth Herald. <http://www.peherald.com/news/article/6036>. Viewed on 12 May 2012.
- CIA (2011). *The CIA World Factbook*. U.S. Central Intelligence Agency. <https://www.cia.gov/library/publications/the-world-factbook/geos/vm.html>. Viewed on 28 December 2011.
- Cimigo (2010). *The Changing Vietnamese Consumer Landscape*. <http://www.cimigo.vn/en-US/ReportDetail.aspx?ProductId=153>. Viewed on 08 April 2012.
- CITES (2010a). *Species trade and conservation – Rhinoceroses: Report of the Secretariat*. Doc. CoP15 45.1, CITES Secretariat, Geneva, Switzerland, pp. 5.
- CITES. (2010b). *Rhino horn trade management in Viet Nam, including legally acquired horns from trophy hunting*. Document prepared by the Viet Nam. CoP15 Inf. 62, CITES Secretariat, Geneva, Switzerland, pp. 5.
- Coetzee, R. (2011). *Legal Eagles - Our Green Heroes Vision EWT #19*. Johannesburg, South Africa.
- Cousins, J. A., Sadler, J. P. and Evans, J. (2010). The challenge of regulating private wildlife ranches for conservation in South Africa. *Ecology and Society* 15: 28–49.
- Cull, P. and Stander, Y. (2012). *Vietnam's role in rhino poaching*. Weekend Post. <http://theweekendpost.com/2012/05/16/vietnams-role-in-rhino-poaching/>. Viewed on 30 May 2012.
- DEA. (2012). *Minister Edna Molewa addresses rhino poaching media engagement at Kruger National Park*. Speech at Kruger National Park on 4 April 2012. Skukuza, South Africa.
- De Meulenaer, T. and Raymakers, C. (1996). *Sturgeons of the Caspian Sea and the International Trade in Caviar*. TRAFFIC Europe, Brussels, Belgium.
- Do, H. B., Dang, Q. C., Bui X. D., Do, T. D., Pham, V. H., Vu, N. L., Pham, D. M., Phan, K. M., Doan, T. N., Nguyen, T. and Tran, T. (2006). *Medicinal plants and animals in Vietnam*, Volume II (first edition). National Institute of Medicinal Materials, House for Science and Technology of Hanoi, Viet Nam.
- Dorrington, S. (2009). *Hunting in South Africa: The new regulations*. The International Council for Game and Wildlife Conservation. <http://www.cic-wildlife.org/index.php?id=263>. Viewed on 20 December 2010.
- Du Preez, Y (2012). *Fury as poaching charges dropped*. Pretoria News. <http://www.iol.co.za/news/crime-courts/fury-as-poaching-charges-dropped-1.1270893>. Viewed on 5 April 2012.
- Du Toit, I. (2012). *The Rhino Farmer's Statutory Burden*. [http://www.rhinodotcom.com/rhino/index.php?option=com\\_content&view=article&id=2329&Itemid=325](http://www.rhinodotcom.com/rhino/index.php?option=com_content&view=article&id=2329&Itemid=325). Viewed on 1 June 2012.
- Du Toit, J.G. (2007). *Report: Role of the Private Sector in the Wildlife Industry*. Tshwane, Wildlife Ranching SA / Du Toit Wilddienste, pp. 87.
- Du Toit, J. and Craigie, F. (2008). *Enforcement of CITES at O.R. Tambo International Airport, South Africa*. In *Proceedings of the International Network for Environmental Compliance and Enforcement's (INECE) Eighth International Conference, Linking Concepts to Actions: Successful Strategies for Environmental Compliance and Enforcement, held 5-11 April 2008, in Cape Town, South Africa*.

- Eloff, C. (2012). Rhino poaching in South Africa - is it a losing battle? *PositionIT* 57–62.
- Emslie, R. (2001). Rhino and elephant security group resuscitated. *Pachyderm* No. 31 July–December 2001. Journal of the IUCN/SSC African Elephant, African Rhino and Asian Rhino Specialist Groups, Nairobi, Kenya, p. 82.
- Emslie, R. H. (1994). *Results of a survey of white rhino on private land in South Africa*. Unpublished results presented to WWF/WCS Cost benefit study of different approaches to rhino conservation in Africa and Asia.
- Emslie, R. (2011a). *Diceros bicornis*. In IUCN 2012. IUCN Red List of Threatened Species. Version 2012.1. www.iucnredlist.org.
- Emslie, R. (2011b). Summary of Continental Rhino Numbers as at 31st December 2010. In *Proceedings of the tenth meeting of the IUCN African Rhino Specialist Group held at Mokala National Park, South Africa from 5-10 March 2011* (Ed. C. Dean), pp. 329.
- Emslie, R. (2011c). *Diceros bicornis ssp. longipes*. In IUCN 2012. IUCN Red List of Threatened Species. Version 2012.1. www.iucnredlist.org.
- Emslie, R. and Brooks, M. (1999). *African rhino: Status, survey and conservation action plan*. IUCN/SSC African Rhino Specialist Group, Gland, Switzerland.
- Emslie, R. H., Milledge, S., Brooks, M., Van Strien, N. and Dublin, H. (2007). *African and Asian Rhinoceroses – Status, Conservation and Trade*. Annex 1 to CoP14 Document 54, pp. 26.
- EWT. (2010). *Vietnamese citizen gets 10 years imprisonment for illegal possession of rhino horn*. Press release, Endangered Wildlife Trust, Johannesburg, South Africa.
- ENV. (2007a). *Wildlife Crime Vietnam*, June 2007. Education for Nature-Vietnam. Hanoi, Viet Nam.
- ENV. (2007b). *Wildlife Crime Vietnam*, December 2007. Education for Nature-Vietnam. Hanoi, Viet Nam.
- ENV. (2007c). *Wildlife Crime Vietnam*, February 2007. Education for Nature-Vietnam. Hanoi, Viet Nam.
- ENV. (2008a). *Wildlife Crime Vietnam*, March 2008. Education for Nature-Vietnam. Hanoi, Viet Nam.
- ENV. (2008b). *Wildlife Crime Vietnam*, July 2008. Education for Nature-Vietnam. Hanoi, Viet Nam.
- ENV. (2012). *Conspicuous consumption of rhino horn*. News from the frontline, Issue 2, May 2012. Education for Nature Vietnam. Hanoi, Viet Nam.
- Eustace, M. (2012). *Rhino poaching: what is the solution?* Business Day. <http://www.businessday.co.za/articles/Content.aspx?id=162979>. Viewed on 30 January 2012.
- Friedmann, Y., Muir, A., Jones, P. and Malherbe, B. (2011). *A moratorium on rhino hunting – some thoughts and recommendations*. Compiled by the Endangered Wildlife Trust with input from the SADC Rhino Management Group. <https://www.ewt.org.za/portals/0/ewt/documents/Rhino%20hunting%20moratorium.pdf>. Viewed on 19 January 2012.
- Ferreria, A. (2009). The National Environmental Management: Biodiversity Act No. 10 of 2004 and the TOPS regulations. *Report for the WRSA Private Rhino Owners Association*.
- Ferreira, S.M., Greaver, C.C. and Knight, M.H. (2011). Assessing the population performance of the black rhinos in Kruger National Park. *South African Journal of Wildlife Research* 41: 192–204.
- FOCAC (2010). Tenth Anniversary of China-Africa Forum. <http://www.focac.org/eng/zxxx/t768526>. Viewed on 20 June 2012.
- Foose, T.J. and Van Strien, N. (1997). Asian Rhinos – Status Survey and Conservation Action Plan. IUCN, Gland Switzerland and Cambridge, U.K, pp. 112.
- Gill, K. (2012). *Alleged rhino poacher kills himself*. Jacaranda News. <http://m.jacarandafm.com/kagiso/content/en/jacaranda-mobile/jacaranda-rmfm-news?oid=1570124&sn=Detail&pid=250287&Alleged-rhino-poacher-kills-himself->. Viewed 31 March 2012.
- Groenewald, Y. (2008). *Vietnam embassy in rhino row*. Mail and Guardian Online. <http://www.mg.co.za/article/2008-11-14-vietnam-embassy-in-rhino-row>. Viewed on 14 November 2011.
- Gwin, P. (2012). Rhino Wars. *National Geographic*, March 2012. National Geographic Society, Washington, DC., pp. 106–125.
- Hall-Martin, A. J., Du Toit, J. G., Hitchins, P. M. and Knight, M. D. (2009). *The 2008 Survey of White Rhinoceros Ceratotherium simum simum on Private Land in South Africa*. Report to WWF.
- Harper, C. (2011). RhODIS – DNA profiling and a DNA database as a tool to protect the rhino. In *Proceedings of the tenth meeting of the IUCN African Rhino Specialist Group held at Mokala National Park, South Africa from 5-10 March 2011* (Ed. C. Dean). pp. 169–170.
- Hommel, C., Sonnemans, J., Tuinstra, J., and Van De Velden, H. (2005). Coordination of Expectations in Asset Pricing Experiments. *Review of Financial Studies* 18 (3): 955–980.
- Hosken, G. (2012). *Successful million rand Rhino horn raid*. Times Live. <http://www.timeslive.co.za/local/2012/05/16/successful-million-rand-rhino-horn-raid>. Viewed 17 May 2012.
- Hübschle, A. (2010). *Organised crime in Southern Africa: First annual review*. Institute for Security Studies. Pretoria, pp. 101.
- Hustler, R. (2009). *Rhino situation*. Presentation to the Rhino Security Workshop, Skukuza, Kruger National Park June 2009. Unpublished Report.
- Ives, M. (2012). *Vietnam craves rhino horn; costs more than cocaine*. Associated Press. <http://news.yahoo.com/vietnam-craves-rhino-horn-costs-more-cocaine-062134928.html>. Viewed on 13 April 2012.
- IUCN (2011). *Dicerorhinus sumatrensis*. IUCN Red List of Threatened Species. Version 2011.2. www.iucnredlist.org.
- Jooste, J. (2012). Presentation on “Rhino Poaching in South Africa”. 1st National Rhino Conservation Dialogue Workshop. Midrand, South Africa.
- Khuong, H. and Quang, M. (2008). *Buồn lậu sừng tê giác về Việt Nam*. Tuoi Tre Online. <http://www.tuoiitre.com.vn/Tianyon/Index.aspx?ArticleID=289200&ChannelID=89>. Viewed on 20 November 2009.
- Kitshoff, A. (2012). Presentation of Professional Hunters’ Association of South Africa. 1st National Rhino Conservation Dialogue Workshop. Midrand, South Africa.
- Knight, M. (2009). *Rhino conservation status in South Africa: Updated AfRSG Country Report*. Presentation to the Rhino Security Workshop, Skukuza, Kruger National Park June 2009. Unpublished report.
- Knight, M. (2011). Rhino Range State Report: South Africa. In *Proceedings of the tenth meeting of the IUCN African Rhino Specialist Group held at Mokala National Park, South Africa from 5-10 March 2011* (Ed. C. Dean), pp. 32–14.
- Lahart, J. (2008). *Bernanke’s Bubble Laboratory, Princeton Protégés of Fed Chief Study the Economics of Manias*. *The Wall Street Journal*. <http://online.wsj.com/article/SB121089412378097011.html>. Viewed on 20 June 2012
- Lao Dong (2006). *UBND tỉnh Quảng trị lộ ý kiến của Thủ tướng*. Publication unknown. <http://www.vnexpress.net/GL/Phap-luat/2006/07/3B9EBFD2/>. Viewed on 15 July 2009.
- Levine, S. and Zajac, E. (2007). *The Institutional Nature of Price Bubbles*. <http://www.usc.edu/schools/>



- business/FBE/seminars/papers/MOR\_9-14-07\_Levine.pdf. Viewed on 20 June 2012.
- Lindsey, P. A. and Taylor, A. (2011) *A study on the dehorning of African rhinoceroses as a tool to reduce the risk of poaching*. Report prepared by the Endangered Wildlife Trust (EWT) for the South African Department of Environmental Affairs (DEA), pp. 62.
- Loi, D.T. (1991). Native drugs of Vietnam: which traditional and scientific approaches? *Japan Ethnopharmacology* 2: 51–6.
- Louw-Carstens, M. (2012). *Game farmer jailed for rhino horns*. Beeld. <http://www.news24.com/SouthAfrica/News/Game-farmer-jailed-for-rhino-horns-20120314>. Viewed on 31 March 2012.
- Mabunda, D. (2009). *Media Release: Response from SANParks to misleading reports and claims about rhino sales and hunting in national parks*. <http://www.sanparks.org/parks/namaqua/news.php?id=1278>. Viewed on 12 May 2012
- MacGregor, M. (2012). *Buyers stay away from Rhino for sale*. The Sowetan. <http://www.sowetanlive.co.za/news/2012/05/07/buyers-stay-away-from-rhino-for-sale>. Viewed on 15 May 2012.
- Maggs, K. (2011). South Africa's National Strategy for the safety and security of rhino populations and other relevant government and private sector initiatives. In *Proceedings of the tenth meeting of the IUCN African Rhino Specialist Group held at Mokala National Park, South Africa from 5-10 March 2011* (Ed. C. Dean), pp. 130–146.
- Maggs, K. and Knight, M. (2010). *National Policy/Strategy Ensuring the Safety and Security of Rhinoceros Populations and Horn Stocks in South Africa*. Presentation at the Ministry of Environment and Tourism Rhino Security Workshop, 26-27 April 2010, Windhoek, Namibia.
- Martin, E. B. (1983). Rhino horn weights. *TRAFFIC Bulletin* 5: 23.
- Martin, E. B. (1992). Observations on Wildlife Trade in Viet Nam. *TRAFFIC Bulletin* 13: 61–67.
- Martin, E. B. and Martin, C. B. (1982). *Run Rhino Run*. Chatto and Windus, London, United Kingdom.
- Martin, E. and Vigne, L. (2011). *The Ivory Dynasty: A report on the soaring demand for elephant and mammoth ivory in southern China*. Elephant Family, The Aspinall Foundation, and Columbus Zoo and Aquarium. London, United Kingdom.
- Mayanagi M. (2010). *Tracing the Development of Medicine in Vietnam*. The 2nd Joint Symposium of Japan, China and Korea Societies for the History of Medicine, Ibaraki University, Japan.
- Meintjes, S. (2011). *South African Law and Policy: Rhinoceros sport hunting and horn export briefing document*. Document for the Viet Nam/South Africa bilateral exchange, September 2011. Pretoria, South Africa.
- Merten, M. (2011). *Move afoot to stomp out poaching*. Iol SciTech. <http://www.iol.co.za/scitech/science/environment/move-afoot-to-stomp-out-poaching-1.1127598>. Viewed on 30 January 2012.
- Milledge, S. (2004). *Rhino Horn Stockpile management: Minimum standards and best practices from east and southern Africa*. TRAFFIC publication, pp. 28.
- Milledge, S. (2007). Challenges and recommended actions to address rhinoceros horn trade involving the Republic of South Africa. *Confidential TRAFFIC memo to DEAT, South Africa*.
- Milliken, T., Nowell, K., and Thomson, J.B. (1993). *The Decline of the Black Rhino in Zimbabwe: Implications for Future Rhino Conservation*. TRAFFIC International, Cambridge, United Kingdom.
- Milliken, T., Burn, R.W., and Sangalakula, L. (2009a). *The Elephant Trade Information System (ETIS) and the Illicit Trade in Ivory: a report to the 15th meeting of the Conference of the Parties*. Doc. CoP15 44.1 Annex, CITES Secretariat, Geneva, Switzerland, pp. 40.
- Milliken, T., Emslie, R.H., and Talukdar, B. (2009b). *African and Asian Rhinoceroses – Status, Conservation and Trade: A report from the IUCN Species Survival Commission (IUCN/SSC) African and Asian Rhino Specialist Groups and TRAFFIC to the CITES Secretariat pursuant to Resolution Conf. 9.14 (Rev. CoP14) and Decision 14.89*. Doc. CoP15 45.1 Annex, CITES Secretariat, Geneva, Switzerland, pp. 19.
- Modise, A. (2012). *Statement by the Department of Environmental Affairs on the ongoing rhino poaching and update on interventions aimed at addressing the problem*. Media statement, Department of Environmental Affairs, 29 March 2012, Johannesburg, South Africa.
- Mpondo, N. (2011). Rhino poaching under the spotlight – an interview with Adv Johan Kruger, Coordinator: Organised Crime Unit. *Khasho (Newsletter of the South African National Prosecution Agency)* Jan-Feb 2011: 10.
- Mulliken, T.A. (1995). *South Africa's Trade in African Grey Parrots*. TRAFFIC East/Southern Africa, Johannesburg, South Africa.
- Naidoo, V. (2012) *R55 million assets seized from poachers* Media Statement issued by the National Joint Operational Centre. [http://www.saps.gov.za/\\_dynamicModules/internetSite/newsBuild.sp?myURL=1498](http://www.saps.gov.za/_dynamicModules/internetSite/newsBuild.sp?myURL=1498). Viewed on 11 May 2012.
- Nair, Y. (2012). *Rhino horn bust*. Daily News. <http://www.iol.co.za/dailynews/news/rhino-horn-bust-1.1318975>. Viewed on 15 June 2012.
- Needham, J. (1956). *Science & Civilisation in China*, Volume 1. Cambridge University Press, United Kingdom.
- Nguyen D. N. V. and Nguyen T. (2008). *An Overview of the Use of Plants and Animals in Traditional Medicine Systems in Viet Nam*. TRAFFIC Southeast Asia – Greater Mekong Programme, Hanoi.
- Nguyen M.H., Vu V.D., Nguyen V.S., Hoang V.T., Nguyen H.D., Pham N.T., Than T.H. and Doan C. (2007). Report on the review of Vietnam's wildlife trade policy. CRES/FPD/UNEP/ CITES/IUED, Hanoi, Vietnam.
- Nguyen, T. (2011). *Vietnamese Struggle to Fight Corruption*. <http://www.voanews.com/english/news/asia/Vietnamese-Struggle-to-Fight-Corruption-123489219.html>. Viewed on 6 May 2012.
- Nguyen, V.C. (2007). *Draft Report of the Survey on "the Actual State of Awareness of Police, Procuracy and Court of their Role in Prevention and Handling Crimes in Forest Protection and Governance"*. Ministry of Justice and the World Bank; Hanoi.
- Nijman, V. and Shepherd, C.R. (2009). *Wildlife trade from ASEAN to the EU: Issues with the trade in captive-bred reptiles from Indonesia*. TRAFFIC Europe, Brussels, Belgium.
- Nowell, K., Chyi, W.L. and Pei, C.J. (1992) *The Horns of a Dilemma: Market for rhino horn in Taiwan*. TRAFFIC, Cambridge, United Kingdom.
- Nowell, K. (2012). *Assessment of Rhino Horn as a Traditional Medicine*. TRAFFIC report to CITES Secretariat pursuant to contract CITES Project No. S-389, Geneva, Switzerland.
- O'Keeffe, C. and Sheridan, K. (2012). *Traveller gang targeted over stolen rhino horns*. Irish Examiner. <http://www.irishexaminer.com/ireland/traveller-gang-targeted-over-stolen-rhino-horns-193541.html>. Viewed on 15 May 2012.
- Owen-Smith, N. (1988). Megaherbivores. *The Influence of Very Large Body Size on Ecology*. Cambridge University Press, Cambridge.
- Petcu, O. (2011). *Vietnam, among the fastest growing luxury markets worldwide*. [http://www.cpp-luxury.com/en/vietnam-among-the-fastest-growing-luxury-markets-worldwide\\_1059.html](http://www.cpp-luxury.com/en/vietnam-among-the-fastest-growing-luxury-markets-worldwide_1059.html). Viewed on 04 April 2012.
- Penzhorn, B.L. and Kriek, N.P.J. (1994). *Proceedings of a symposium on rhinos as game ranch animals*. Wildlife Group of South African Veterinary Association Onderstepoort, Republic of South Africa. 9-10 September 1994, pp. 1–242.

- PHASA (2009). *General hunting information, South Africa the hunting destination in Africa*. Professional Hunter's Association of South Africa. <http://www.phasa.co.za/hunting-information/general.html>. Viewed on 18 November 2009.
- PHASA (2010). *Media release*. Professional Hunter's Association of South Africa. Beeld. <http://www.phasa.co.za/component/content/article/27-press-release/228-media-release-beeld-6-july-2010.html>. Viewed on 28 December 2010.
- Pienaar, D. J., Hall-Martin, A. J. and Hitchins, P. M. (1991). Horn growth rates of free-ranging white and black rhinoceros. *Koedoe* 34: 97–105.
- Plagányi, E., Butterworth, D. and Bürgener, M. (2011). Illegal and unreported fishing on abalone – Quantifying the extent using a fully integrated assessment model. *Fisheries Research* 107: 221–232.
- PricewaterhouseCoopers (2011). *The World in 2050: The accelerating shift of global economic power: challenges and opportunities*. PricewaterhouseCoopers LLP, London, United Kingdom, pp. 25.
- Rademeyer, J. (2011a). *The Vietnamese connection*. Media24.com. [http://www.witness.co.za/portal/witness\\_db1/UserFiles/SysDocs/bb\\_content/60000/54277/rhino.html](http://www.witness.co.za/portal/witness_db1/UserFiles/SysDocs/bb_content/60000/54277/rhino.html). Viewed on 22 January 2011.
- Rademeyer, J. (2011b). *Hunter fined over rhino poaching*. Media24.com. <http://www.news24.com/SciTech/News/Hunter-fined-over-rhino-poaching-20110119>. Viewed on 30 April 2011.
- Rademeyer, J. (2011c). *Sex workers used to "hunt" rhino*. Media24.com. <http://www.news24.com/SouthAfrica/News/Sex-workers-used-to-hunt-rhino-20110721>. Viewed on 05 May 2012.
- Rademeyer, J. (2011d). *Wildlife trafficking trail leads to SA safari man*. Media24.com. <http://www.news24.com/SouthAfrica/News/Bloody-rhino-poaching-trail-leads-to-SA-safari-operator-20110721>. Viewed on 05 May 2012.
- Rademeyer, J. (2011e). *Thai woman "cried" next to shot rhino*. Beeld. Media24.com. <http://www.news24.com/SouthAfrica/News/Thai-woman-cried-next-to-shot-rhino-20110725>. Viewed on 05 May 2012.
- Raemaekers, S., Hauck, M., Bürgener, M., Mackenzie, A., Maharaj, G., Plagányi, E. E. and Britz, P. J. (2011). Review of the causes of the rise of the illegal South African abalone fishery and consequent closure of the rights-based fishery. *Ocean and Coastal Management* 54: 433–445.
- Ray, N., Dragicevich, P., and St. Louis, R. (2007). *Vietnam*. Lonely Planet Publications Pty. Ltd., 9th edition, Singapore.
- Smith, M. (2012a). *The Saigon Horn: Part 1*. <http://www.groundreport.com/World/The-Saigon-Horn-Part-1/2944266>. Viewed on 16 February 2012.
- Smith, M. (2012b). *The Saigon Horn: Part 2*. <http://www.groundreport.com/Business/The-Saigon-Horn-Part-2/2944288>. Viewed on 16 February 2012.
- Stone, C. (2006). *Crime, justice, and growth in South Africa: Toward a plausible contribution from criminal justice to economic growth*. CID Working Paper No. 131, Centre for International Development at Harvard University. <http://www.cid.harvard.edu/cidwp/pdf/131.pdf>. Viewed on 19 January 2012.
- Swart, C. (2012). *Rhino poaching in South Africa. Presentation at the Institute for Security Studies*. April 2012, Pretoria, South Africa.
- 't Sas-Rolfes, M. (2012). *The Rhino Poaching Crisis: A Market Analysis*. <http://www.rhino-economics.com/the-rhino-poaching-crisis-a-market-analysis/>. pp. 17. Viewed on 29 February 2012.
- TRAFFIC (2007). *Alarming upsurge in rhino poaching in parts of Africa*. TRAFFIC. [http://www.panda.org/who\\_we\\_are/wwf\\_offices/south\\_africa/news/?105400](http://www.panda.org/who_we_are/wwf_offices/south_africa/news/?105400). Viewed on 10 May 2009.
- TRAFFIC (2011). *Major ivory seizures in Thailand, China and Viet Nam*. TRAFFIC. <http://www.traffic.org/home/2011/4/20/major-ivory-seizures-in-thailand-china-and-viet-nam.html>. Viewed on 20 December 2011.
- Tien, P. (2006). *Student faces probation for rhino horn trading*. Intellasia.net. <http://www.intellasia.net/student-faces-probation-for-rhino-horn-trading-19514>. Viewed on 08 May 2012.
- Tung, Q. D. (2011). *Rhino and Rhino Horn Management in Viet Nam*. PowerPoint presentation given at CAWT Rhino Trafficking Workshop, Johannesburg, South Africa, 26-27 September 2011.
- Tung, T. (2010). *Cancer kills 82 000 in Vietnam every year*. Thanh Nien News. <http://www.thanhniennews.com/2010/Pages/20110920152314.aspx>. Viewed on 24 November 2011.
- Vaisman, A. and Fomenko, P. (2006). *Siberia's black gold: Harvest and trade in Amur River sturgeons in the Russian Federation*. TRAFFIC Europe, Brussels, Belgium.
- Van der Berg, S. (2010). *Current poverty and income distribution in the context of South African history*. Stellenbosch Economic Working Papers: 22/10. University of Stellenbosch, South Africa, pp. 23.
- Viljoen, B. (2012). *Police nab suspected rhino horn kingpin*. [http://www.witness.co.za/index.php?show\\_content&global\[\\_id\]=77616](http://www.witness.co.za/index.php?show_content&global[_id]=77616). Viewed 10 March 2012/
- Vo, H. (2008). *Mạng lưới ngấm "chợ sừng tê"*. Tuoi Tre Online. <http://www.tuoi-tre.com.vn/Tianyong/Index.aspx?ArticleID=289347&ChannelID=89>. Viewed on 24 November 2009.
- WWF (2011). *Inadequate protection causes Javan rhino extinction in Vietnam*. WWF press release. [http://wwf.panda.org/wwf\\_news/?202074](http://wwf.panda.org/wwf_news/?202074). Viewed on 19 January 2012.
- WRSA (2009). *About WRSA*. Wildlife Ranching South Africa. [http://www.wrsa.co.za/index.php?option=com\\_content&view=article&id=137&Itemid=123&lang=en](http://www.wrsa.co.za/index.php?option=com_content&view=article&id=137&Itemid=123&lang=en). Viewed on 18 November 2009.

**Appendix 1** Data on annual numbers of White Rhino hunted and average trophy price in and number of live sales of White Rhino on auction with average auction price in USD and ZAR

Year	Average White Rhino Trophy Hunting Price (USD)	Average White Rhino Trophy Hunting Price (ZAR)	Number of White Rhino Hunted	Average Live White Rhino Auction Price (USD)	Average Live White Rhino Auction Price (ZAR)	Number of White Rhino Auctioned
1972	11 268*	8 000*	40	-	-	-
-	-	-	-	-	-	-
1982	5 504*	6 000*	-	1 009*	1 100#	-
1983	6 303*	7 060*	-	2 054*	2 300#	-
1984	5 405*	8 000*	-	2 365*	3 500#	-
1985	8 264*	18 511*	-	1 920*	4 300#	-
1986	9 461*	21 665*	-	4 440*	10 167*	6
1987	10 577*	21 577*	42	7 245*	14 780*	10
1988	15 351*	35 000*	42	15 225*	34 714*	14
1989	34 990*	91 673*	39	18 600*	48 732*	41
1990	31 108+	80 570+	40	18 735*	48 524*	42
1991	27 225**	75 141**	34	16 010*	44 188*	32
1992	27 225**	77 591**	42	10 256*	29 230*	64
1993	27 225**	89 026**	39	8 670*	28 350*	56
1994	27 225**	96 649**	69	9 231*	32 770*	30
1995	26 113+	94 790+	-	11 203*	40 667*	70
1996	26 113+	112 286+	-	10 347*	44 491*	161
1997	26 113+	120 381+	-	15 040*	69 333*	88
1998	25 000*	138 250*	-	17 869*	98 813*	110
1999	25 000*	153 000*	43	20 773*	127 130*	104
2000	30 254+	210 265+	-	25 439*	176 801*	178
2001	31 000*	267 530*	-	19 618*	169 300*	255
2002	30 015+	315 757+	25	18 287*	192 383*	123
2003	29 030+	219 470+	-	19 594*	148 133*	235
2004	26 575*	171 409*	60	19 865*	128 130*	120
2005	29 305+	186 378+	78§	14 981*	95 281*	137
2006	29 785*	201 347*	92§	20 710*	140 000*	228
2007	32 000*	225 600)	124§	31 380*	221 230*	221
2008	54 479*	450 000*	103§	33 258*	274 712*	235
2009	43 705^	368 000^	107§	26 128^	220 000^	237"
2010	59 699^	437 000^	131§	30 464^	223 000^	185"

\* Calculation based on Hall-Martin *et al.*, 2009 data in **bold**

# Price from direct sales Natal Parks

\*\* Calculation based on Adcock and Emslie, 1994 data in **bold**

^ Calculation based on P. Jones, *in litt.*, 2011 data in **bold**

" Data from M. Knight, *in litt.*, 2011 in **bold**

§ Data from DEA

+ Imputed values

- Data not available

**Appendix 2** Details of seizures of illegal rhino horn in South Africa, including subsequent sentences (data from EWT Law and Policy Programme)

Date	CAS nr	Location	Authority Responsible	No. of Horns	Sentence
Unknown	Unknown	Limpopo	SAPS SAPS	5	ZAR 40 000
Unknown	Unknown	Pretoria, Gauteng	SAPS	?	Unknown
Unknown	CAS ?/?/2002	Kruger National Park	SAPS	1	5 years imprisonment or ZAR50 000
Unknown	Unknown	Unknown	SAPS	1	Imprisonment 2 years or ZAR15 000 fine
Unknown	Unknown	Unknown	SAPS	1	Imprisonment 10 years
Aug 89	CAS ?/08/1998	Cape Town, Western Cape	SAPS	1	Unknown
Sep 91	CAS ?/09/1991	Johannesburg, Gauteng	SAPS	1	5 years imprisonment or ZAR20 000 each
? 03	Unknown	Unknown	SAPS	?	Imprisonment 6 years and an additional ZAR350 000 for fraud
Sep 04	CAS 9/9/2004 Skukuza	En route to Durban, Limpopo	EMIs and SAPS	2	10 years imprisonment or ZAR100 000 and 4 years imprisonment or ZAR10 000
Dec 06	CAS ?/12/2006 Roedtan	Roedtan, Limpopo	SAPS	2	1000 days imprisonment or ZAR30 000
Jul 07	CAS ?/07/2007 O.R. Tambo	O.R. Tambo Airport, Gauteng	SAPS	4	2.5 years imprisonment or ZAR50 000
Nov 07	CAS ?/11/2007	Kruger National Park	SANParks Rangers	2	Unknown
Sep 08	CAS ?/09/2008 Daveyton	Daveyton, Gauteng	SAPS	2	Unknown
Oct 08	Unknown	Unknown	SAPS	2	Imprisonment 10 years for theft of rhino horns, 5 years for illegal hunting, 4 years for illegal possession of a rifle
May 09	Unknown	Unknown	SAPS	6	Imprisonment 2 years or ZAR40 000
Aug 09	Unknown	Rooiberg, Limpopo	SAPS	2	Imprisonment 10 years
Aug 09	CAS ?/08/2009 East London	East London, Eastern Cape	SAPS	2	Unknown
Aug 09	CAS ?/08/2009	Hluhluwe-Imfolozi Park, KwaZulu-Natal	SAPS and KZN Wildlife Rangers	2	Unknown
Nov 09	Unknown	Mahamba, Mpumalanga	SAPS	1	Unknown
Nov 09	Unknown	O.R. Tambo Airport, Gauteng	SAPS	3	Unknown
Dec 09	CAS 194/12/09 Ulundi	Ulindini district, Limpopo	SAPS	2	20 years imprisonment
Jan 10	Unknown	Villa Nora, Limpopo	SAPS	2	S 174 dismissal
Jan 10	Unknown	Kimberley district, Northern Cape	SAPS	1	Imprisonment 18 months suspended for 3 years
Feb 10	Unknown	Modimolle district, Limpopo	SAPS	4	S 174 dismissal

**Appendix 2** Details of seizures of illegal rhino horn in South Africa, including subsequent sentences (data from EWT Law and Policy Programme)

Date	CAS nr	Location	Authority Responsible	No. of Horns	Sentence
Mar 10	CAS 307/3/2010 O.R. Tambo	O.R. Tambo Airport, Gauteng	SAPS	7	10 years imprisonment
May 10	CAS 245/05/2010 Bedfordview	Bedfordview, Gauteng	SAPS	4	Case pending
May 10	CAS 246/05/201 Bedfordview	Bedfordview, Gauteng	SAPS	2	6 years imprisonment
Jun 10	CAS 127/06/2010 O.R. Tambo	O.R. Tambo Airport, Gauteng	SAPS HAWKS Kempton Park	12	12 years imprisonment
Jun 10	CAS 128/06/2010 O.R. Tambo	O.R. Tambo Airport, Gauteng	SAPS HAWKS Kempton Park	6	8 years imprisonment
Jun 10	CAS ?/10/2010	Kruger National Park	SANParks Rangers	2	Unknown
Jun 10	CAS 101/06/2010 O.R. Tambo	O.R. Tambo Airport, Gauteng	SAPS HAWKS Kempton Park	7	4 years imprisonment or ZAR1 million
Jul 10	Unknown	Modimolle district, Limpopo	SAPS	2	Imprisonment 5 years or ZAR130 000 fine
Jul 10	CAS 09/07/2010 O.R. Tambo	O.R. Tambo Airport, Gauteng	SAPS HAWKS Kempton Park	2	10 years imprisonment
Aug 10	CAS ?/08/2010 Carolina	Badplaas, Mpumalanga	SAPS	1	Unknown
Sep 10	CAS ?/09/2010	Kruger National Park	SANParks Rangers	2	11 years imprisonment
Sep 10	CAS ?/09/2010	Kruger National Park	SANParks Rangers	1	Unknown
Oct 10	Unknown	Thabazimbi, Limpopo	SAPS	?	Imprisonment 8 years and must pay EMIs ZAR1 million
Oct 10	CAS 261/10/2010 O.R. Tambo	O.R. Tambo Airport, Gauteng	SAPS HAWKS Kempton Park	2	5 years imprisonment or ZAR100 000
Oct 10	CAS ?/10/2010	Kruger National Park	SANParks Rangers	2	Unknown
Oct 10	CAS 71/10/2010 Hlabisa	Ulundi, KwaZulu-Natal	EMIs and SAPS	1	2 years imprisonment or ZAR15 000 and 1 year imprisonment or ZAR5000
Oct 10	CAS 101/06/2010 O.R. Tambo	O.R. Tambo Airport, Gauteng	SARS and SAPS	7	Unknown
Oct 10	CAS ?/11/2010	Kruger National Park	SANParks Rangers	1	Unknown
Nov 10	CAS ?/11/2010 Heidelberg	Heidelberg, Gauteng	SAPS	1	Unknown
Nov 10	CAS ?/11/2010 Vryheid	On R35 (a road) in Vryheid, KwaZulu-Natal	SAPS	2	Unknown
Nov 10	CAS 528/11/2010	Beaufort West, Western Cape	SAPS	15	Unknown
Nov 10	CAS ?/10/2010	Kruger National Park	SAPS and SANParks Rangers	2	11 years imprisonment

**Appendix 2** Details of seizures of illegal rhino horn in South Africa, including subsequent sentences (data from EWT Law and Policy Programme)

Date	CAS nr	Location	Authority Responsible	No. of Horns	Sentence
Dec 10	RC 445/2010	Cullinan district, Gauteng	SAPS	8	6 years imprisonment
Dec 10	CAS 35/12/2010 O.R. Tambo	O.R. Tambo Airport, Gauteng	SAPS HAWKS Kempton Park	1	5 years imprisonment or ZAR30 000
Dec 10	Unknown	Wonderboom Airport, Gauteng	SAPS	4	4 years imprisonment or ZAR100 000
Jan 11	CAS ?/01/2011 Mafikeng	Mafikeng, North West	SAPS	3	Unknown
Jan 11	Unknown	Kruger National Park	SANParks Rangers	2	Unknown
Jan 11	CAS 500/01/2011 Parkview	Emmerentia, Gauteng	SAPS	1	Unknown
Jan 11	CAS ?/01/2011 Wonderboom	Wonderboom Airport, Gauteng	SAPS	4	Unknown
Mar 11	CAS ?/03/2011	Bloemfontein, Free State	SAPS	2	5 years imprisonment or ZAR130 000
Jun 11	CAS ?/06/2011	Kruger National Park	SANDF	3	Unknown
Jun 11	CAS ?/06/2011	Kruger National Park	SANParks Rangers and SANDF	3	Unknown
Sep 11	Unknown	Rooiberg, Limpopo	SAPS	2	Imprisonment 10 years
Oct 11	CAS ?/10/2011	Undisclosed private farm, Limpopo	SAPS and rangers	1	Unknown
Dec 11	Unknown	O.R. Tambo Airport, Gauteng	SAPS and SARS	2	3 years imprisonment or ZAR200 000 and additional 4 years suspended for 5 years
Jan 12	Unknown	Kameeldrift, Gauteng	SAPS	3	Case pending
Jan 12	Unknown	Naboomspruit, Limpopo	SAPS	?	Case pending
Mar 12	Unknown	Middelburg, Mpumalanga	SAPS	4	Unknown
Apr 12	Unknown	O.R. Tambo Airport, Gauteng	SAPS and SARS	3	Case pending
May 12	Unknown	Bedfordview, Gauteng	SAPS	10	Case pending
<b>Total</b>				<b>186</b>	

## Appendix 3 Arrests, Verdicts and Penalties for African Nationals charged with rhino crimes

(Data from EWT Law and Policy Programme)

Date of Arrest	Place of Arrest	Offence	Nationalist of Suspect(s)		Arraignment Results	Verdict	Sentence/Penalty	Comments
Not known	KwaZulu-Natal	Illegal hunting of a White Rhino.	South African		Not known	Guilty	Imprisonment 2 years or ZAR50 000, 2 years and ZAR30 000 suspended for 5 years.	
Not known	KwaZulu-Natal	Illegal hunting of a White Rhino and the illegal possession of a firearm.	Not known		Not known	Guilty	Imprisonment 10 years, 3 years suspended for 5 years.	
Not known	Kruger National Park	Trespassing in a protected area, illegal hunting of a rhino, illegal possession of firearms and ammunition.	Mozambican		Not known	Guilty	Imprisonment 11 years.	One year or ZAR1000 for trespass, 5 years for illegal hunting and 5 years for firearms and ammunition.
Not known	Not known	Illegal collecting and attempting to sell one Black Rhino horn.	South African		Not known	Guilty	Imprisonment 2 years or ZAR15 000 fine for Ncube and one other, imprisonment one year or ZAR5000 for third accused	Ex KZN-Wildlife staff.
Not known	Makhado, Limpopo	Illegal possession of a rhino horn and ammunition.	Zimbabwean		Not known	Guilty	Imprisonment 10 years.	8 years for rhino horn and 2 years for ammunition.
Aug 02	Phalaborwa, Limpopo	Illegal hunting and illegal possession of firearms and ammunition.	Mozambican		Not known	Guilty	Imprisonment 20 years.	5 years for illegal hunting, 5 years for firearm and 10 years for ammunition (one bullet).
? 03	Not known	Illegal possession and trade of rhino horns.	Not known		Not known	Guilty	Imprisonment 6 years and an additional ZAR350 000 for fraud.	
? 04	Kruger National Park	Illegal hunting of a rhino and illegal possession of firearms.	Not known		Not known	Guilty	Imprisonment 10 years or ZAR100 000 for illegal hunting and imprisonment 4 years or ZAR10 000 for firearms and ammunition.	
May 06	Not known	Various charges in terms of the Prevention of Organized Crime Act 121 of 1998 and the National Environmental Management Biodiversity Act 10 of 2004.	South African		None	None	None	Case removed from Court role as key witness refused to testify citing fear of his life.
May 06	Not known	Illegal hunting of rhinos.	South African		Not known	Not known	10 years imprisonment of which 2 years were suspended for 5 years. Currently out on parole.	Turned State witness. 2 vehicles forfeited to the State.
May 06	Not known	Illegal hunting of rhinos.	South African		Not known	Not known	5 years imprisonment of which 3 years were suspended for 5 years.	Turned State witness.
May 06	Not known	Illegal trading in 4 rhino horns.	South African		Not known	Guilty	Imprisonment 3 years or ZAR50 000, with a further 3 years suspended.	Turned State witness. An additional R280 000 was forfeited and paid to the rhino owner who lost 7 rhinos.
Apr 07	Kwa-Zulu Natal	Illegal hunting of rhino and illegal possession of firearms.	South African		Not known	Guilty	Imprisonment 20 years for one and 5 years for other accused.	
Oct 08	Not known	Theft of 2 rhino horns, hunting of a White Rhino, trespassing and illegal possession of a rifle.	South African		Not known	Guilty	Imprisonment 10 years for theft of rhino horns, 5 years for illegal hunting and 4 years for illegal possession of a rifle.	
Oct 08	Not known	Prohibited activities with rhino horn and fraud.	South African		Not known	Guilty	Imprisonment 6 years and ZAR350 000 for fraud.	This case was tried in terms of the Free State Conservation Ordinance 8 of 1969 as the ToPS Regulations had not been published yet.
Dec 08	Hartebeespoort, North West	Illegal rhino hunting and illegal trading in rhino horn.	Not known		Released on bail of ZAR 75 000, the others on bail of ZAR 5000 – ZAR 20 000.	Not known	Not known	Case withdrawn.
May 09	Not known	Illegal trading in 6 rhino horns.	South African		Not known	Guilty	Imprisonment 2 years or ZAR40 000.	
Aug 09	Rooiberg, Limpopo	Illegal hunting of 1 White Rhino and theft of 2 horns.	Mozambican		Bail	Guilty	Imprisonment 10 years.	
Nov 09	Mahamba	Illegal possession of 1 rhino horn.	South African		Bail	None		The accused died before the case was completed.
Nov 09	O.R. Tambo Airport, Gauteng	Illegal possession of 3 Black Rhino horns.	South African		Bail			Date has been postponed several times. Next court date not known.
Dec 09	Not known	Illegal hunting of White Rhino, illegal possession of firearms and ammunition.	South African		Not known	Guilty	Imprisonment 5 years each for illegal hunting.	

## Appendix 3 Arrests, Verdicts and Penalties for African Nationals charged with rhino crimes

(Data from EWT Law and Policy Programme)

Date of Arrest	Place of Arrest	Offence	Nationalist of Suspect(s)	Arrest Results	Verdict	Sentence/Penalty	Comments
Jan 10	Villa Nora, Limpopo	Illegal trading in 2 rhino horns.	South African	Yes	Dismissed		Insufficient evidence and confusing nature of permit system.
Jan 10	Kimberley district, Northern Cape	Illegal possession of 1 rhino horn.	South African	Bail	Guilty	Imprisonment 18 months suspended for 3 years.	
Feb 10	Modimolle district	Illegal trading in rhino horns 2 white and 2 black.	South African	Yes	Discharged		Witnesses and evidence not strong enough.
May 10	Bedfordview, Gauteng	Illegal possession of 4 rhino horns.	Congolese	None	Not known	Not known	Next trial date 09 July 2012.
Jun 10	Lephalale	Illegal hunting of 2 White Rhinos, illegal possession of firearms and ammunition, and illegal possession of private property.	South African	None	Guilty	Imprisonment 3 years for hunting, 3 years for firearms and ammunition and 4 months for possession of private property and 3 years for illegal possession of firearms.	Only one was charged with illegal hunting of a rhino and received a sentence of 6 years imprisonment, which included the charge of illegal possession of a firearm. The other 2 accused received a 3 year imprisonment sentence each for the illegal possession of firearms. The vehicle, firearms and ammunition were all forfeited to the State.
Jul 10	Modimolle district	Illegal possession, trading in and conveying of 2 rhino horns.	South African	Yes	Guilty	Imprisonment 5 years or ZAR130 000 fine.	
Sep 10	Musina, Limpopo	1872 various charges in terms of the Prevention of Organized Crime Act 121 of 1998 and the National Environmental Management Biodiversity Act 10 of 2004.	South African	Released on bail of ZAR1 million, others ranging between ZAR5000 and ZAR100 000.	Not known	To be determined once trial is completed.	Musina Magistrates Court date 19 October 2012 to determine High Court date. ZAR55 million in assets seized by the Asset Forfeiture Unit in preparation of the hearing – 09 May 2012.
Oct 10	Nelspruit district, Mpumalanga	Illegal hunting of a White Rhino and the illegal possession of firearms and ammunition.	Mozambican	Not known	Guilty	Imprisonment 9 years, 5 years and 9 years respectively.	
Oct 10	Thabazimbi, Limpopo	Illegal possession and trade of rhino horns.	South African	Bail	Guilty	Imprisonment 8 years and must pay EMIs ZAR1 million.	
Oct 10	Modimolle district, Limpopo	Illegal hunting of a rhino and illegal possession of firearms.	Zimbabwean and Mozambican	None	Guilty	Imprisonment 6 years and the other two 3 years each.	Firearms and vehicle forfeited to the State.
Dec 10	Cullinan district, Gauteng	Illegal dehorning of rhinos and illegal possession of 8 rhino horns.	South African	Not known	Guilty	Imprisonment 6 years suspended for 5 years.	Asset Forfeiture Unit seized ZAR660 000.
Jan 11	O.R. Tambo Airport, Gauteng	Illegal possession of 1 rhino horn.	South African	Bail	Guilty	Fine ZAR40 000.	
Jan 11	Lichtenburg district, North West	Illegal possession of 3 rhino horns.	Zimbabwean	Bail	None		Case struck from court roll as it could not be verified that the rhino horn was not a false horn.
Jan 11	Limpopo	Illegal dehorning of rhinos.	South African	Bail	None	None	The case against him was withdrawn as he turned State.
Mar 11	Uitenhage, KwaZulu-Natal	Illegal trading of rhino horn.	South African	Not known	Guilty	Imprisonment one year or ZAR12 000 fine.	
Jun 11	Skukuza, Mpumalanga	Trespassing in a protected area and attempted hunting of a rhino.	Mozambican	Not known	Guilty	Imprisonment on year or ZAR1000 for trespassing and imprisonment 4 years for attempted hunting.	
Aug 11	Turned himself in to SAPS	Export and irregular dealing in rhino horns.	South African	Bail ZAR100 000	Not known	Not known	Co-accused in "pseudo-hunting" syndicate.
Aug 11 Nov 11	Pretoria North Regional Court	Illegal possession and illegal trading in Schedule 6 drugs contravening the Medicines and Related Substances Control Act.	South African	All out on bail between ZAR1000 and ZAR5000.	Not known	Not known	Charges against some accused were withdrawn in April 2012 because of insufficient evidence.
Sep 11	Rooiberg, Limpopo	Illegal hunting of a rhino and theft of 2 horns.	Mozambican	Not known	Guilty	Imprisonment 10 years.	
Jan 12	Kameeldrift, Gauteng	Illegal possession of 3 rhino horns.	Zimbabwean	In custody	Not known	Not known	Case has been postponed for further investigation.
Jan 12	Naboomspruit, Limpopo	Illegal possession of rhino horns, elephant ivory and firearms.	South African	Bail ZAR 3000	Not known	Not known	Case has been postponed for further investigation.
Mar 12	Middelburg, Mpumalanga	Illegal possession of 4 rhino horns and various firearms.	South African	Not known	Not known	Not known	No additional information available.
May 12	Not known	Export and irregular dealing in rhino horn.	South African	Bail ZAR 100 000	Not known	Not known	

## Appendix 4 Arrests, Verdicts and Penalties for Asian Nationals charged with rhino crimes

(Data from EWT Law and Policy Programme)

Date of Arrest	Place of Arrest	Offence	Nationalist of Suspect(s)		Arraignment Results	Verdict	Sentence/Penalty	Comments
Not known	Eastern Cape	Allegedly hunted White Rhino but did not shoot the animal.	Vietnamese		None	None	None	Fined ZAR30 000.
Not known	Limpopo	Illegal possession of 5 rhino horns.	Vietnamese		In custody	Guilty	ZAR40 000 and deported.	5 horns forfeited to the State.
Not known	Kimberley, Northern Cape	Illegal trading in rhino horns.	Vietnamese		Not known	Guilty	ZAR200 000 of which ZAR100 000 was suspended for 4 years.	ZAR1.3 million used to purchase 14 rhino horns in the sting operation was seized by the Asset Forfeiture Unit.
Not known	Gauteng	Accused of connections with rhino horn smuggling and possession of 2 horns.	Vietnamese		None	None	None	
Not known	Gauteng	Receiving and possessing rhino horns.	Vietnamese		None	None	None	Recalled to Vietnam.
Apr 98	Milnerton, Western Cape	Illegal possession of 1 rhino horn.	Chinese		Out on bail	Not guilty	None	The court ruled that as suspect was unaware of the rhino horn he could not be held accountable.
Jul 07	O.R. Tambo Airport, Gauteng	Illegal possession of 4 rhino horns and attempting to commit fraud as regards CITES permits.	Vietnamese		In custody	Guilty	2.5 years imprisonment or ZAR50 000.	Horns forfeited to the government
Sep 08	Delmas, Mpumalanga	Attempted purchasing of rhino horn in a sting operation.	Thai		Not known	Case withdrawn	Not convicted due to a lack of evidence.	Arrested with 3 other individuals. Two men were convicted; two were released due to a lack of evidence.
Dec 08	Hartebeespoort, North West	Illegal rhino hunting and illegal trading in rhino horn.	Not known		Released on bail of ZAR75 000, ZAR50 000 - ZAR20 000.	Not known	Not known	Case withdrawn.
Apr 09	Waterkloof residence, Gauteng	In possession of specimens/derivatives of lions and rhinos (bones).	Chinese		Not known	Not known	Not known	
May 09	Free State	Attempted to buy 6 rhino horns in an undercover SAPS operation.	Chinese		Not known	Guilty	ZAR50 000 or 1 year imprisonment with a further 2 years suspended for 5 years.	This was a sting operation. In terms of the Criminal Procedure Act 51 of 1977 Section 252A Authority to make use of traps and undercover operations and admissibility of evidence so obtained.
Jul 09	Opathe Game Reserve, near Ulundi, KwaZulu-Natal	Driving illegally in Ulundi Game Reserve where 11 White Rhinos had been poached since March 2009.	Chinese		Not known	Not known	Not known	Forensic tests were to be done on their vehicle to determine any signs of rhino.
Sep 09	Bruma Lake, Gauteng	Attempted to buy 4 rhino horns in an undercover SAPS operation. (252A operation).	Chinese		In custody	Guilty	ZAR20 000 or 3 years imprisonment An additional 5 years imprisonment suspended for 4 years. Deported.	Although he was linked to a syndicate of 14 people including South Africans, Chinese and Mozambique he could only be charged for the attempt at buying rhino horns.
Sep 09	Bruma Lake, Gauteng	Attempted to buy 4 rhino horns in an undercover SAPS operation.	Chinese		Released on bail of ZAR100 000 and ZAR200 000 respectively.	Not known	Not known	They were still being investigated as part of a syndicate of 14 people including South Africans, Chinese and Mozambicans.
Mar 10	Kimberley, Northern Cape	Attempted to buy rhino horn in an undercover SAPS operation.	Vietnamese		Not known	Guilty	ZAR200 000 of which ZAR100 000 was suspended for 5 years.	Asset forfeiture attached R1.3 million which he attempted to use to buy 14 rhino horns.
Mar 10	O.R. Tambo Airport, Gauteng	Illegal possession of 7 rhino horns.	Vietnamese		In custody	Guilty	10 years imprisonment.	5 years in terms of NEMBA and 5 years for fraud.
May 10	Bedfordview, Gauteng	Illegal possession of 2 rhino horns.	Chinese		ZAR50 000 bail	Guilty	6 years imprisonment.	Arrested during a Section 252A operation. Currently appealing sentence.
Jun 10	O.R. Tambo Airport, Gauteng	Illegal possession of 12 rhino horns. Attempted to commit fraud by not being in possession of CITES permits to possess and export the horns.	Vietnamese		In custody	Guilty	10 years imprisonment in terms of the NEMBA and an additional 2 years for fraud.	
Jun 10	O.R. Tambo Airport, Gauteng	Illegal possession of 6 rhino horns. Attempted to commit fraud by not being in possession of CITES permits to possess and export the horns.	Vietnamese		In custody	Guilty	6 years imprisonment in terms of NEMBA and 2 years imprisonment in terms of the Customs Act.	
Jun 10	O.R. Tambo Airport, Gauteng	Illegal possession of 2 rhino horns and 184 elephant bracelets. Attempted to commit fraud.	Vietnamese		In custody	Guilty	ZAR1 million or 4 years imprisonment. He also received an additional 4 years imprisonment suspended for 5 years.	The USD29 000 seized was forfeited to the Klaserie Game Reserve. The horn was traced back to a rhino on this reserve with the assistance of DNA fingerprinting.

## Appendix 4 Arrests, Verdicts and Penalties for Asian Nationals charged with rhino crimes

(Data from EWT Law and Policy Programme)

Date of Arrest	Place of Arrest	Offence	Nationalist of Suspect(s)		Arraignment Results	Verdict	Sentence/Penalty	Comments
Jun 10	O.R. Tambo Airport, Gauteng	Illegal possession of 7 rhino horns. Attempted to commit fraud by not being in possession of CITES permits to possess and export the horns.	Vietnamese		In custody	Guilty	5 years imprisonment in terms of NEMBA and 5 years for fraud in terms of the Customs Act.	
Sep 10	Limpopo	Attempting to buy a rhino horn in an undercover SAPS operation, linked to 2 Mozambicans found in possession of 2 horns.	Chinese		Released on ZAR80 000 bail.	Not known	Not known	
Oct 10	O.R. Tambo Airport, Gauteng	Illegal possession of 2 rhino horns. Attempted to commit fraud by not being in possession of CITES permits to possess and export the horns.	Malaysian		In custody	Guilty	Imprisonment 5 years or ZAR100 000 fine.	
Oct 10	O.R. Tambo Airport, Gauteng	Illegal possession of 7 rhino horns.	Vietnamese		ZAR50 000 bail	Case pending	Not known	Student at University of Cape Town.
Nov 10	Beaufort West, Western Cape	Illegal possession of rhino horn (12 horns and 2 pieces).	Vietnamese		In custody	Case pending 23 January 2012.	Not known	Not known
Nov 10	Beaufort West, Western Cape	Illegal possession of rhino horn (12 horns and 2 pieces).	Vietnamese		In custody	Case pending 23 January 2012.	Not known	Not known
Dec 10	O.R. Tambo Airport, Gauteng	Illegal possession and import of 1 rhino horn. Attempted to commit fraud.	Vietnamese		ZAR200 000 bail	Guilty	ZAR300 000 or 5 years imprisonment with a further 5 years suspended for 5 years.	Suspect used the fact they thought they had cancer as mitigating defence at the penalty hearing.
Dec 10	Wonderboom Airport, Gauteng	Illegal possession of 4 rhino horns.	Vietnamese		ZAR20 000 bail	Case pending	Not known	Plea of not guilty entered
Jan 11	Wonderboom Airport, Gauteng	Illegal possession of 4 rhino horns.	Thai		ZAR50 000 bail	Plea of guilty entered.	ZAR100 000 fine or 4 years imprisonment an additional 4 years suspended for 5 years.	
Jun 11	Edenvale, Gauteng	Illegal possession of lion bones.	Thai		Not known	Guilty	ZAR10 000 and expelled from RSA. An additional ZAR100 000 fine or 5 years imprisonment were suspended on condition they leave the country immediately.	
Jul 11	House in Edenvale, Gauteng	Export and irregular dealing in rhino horns.	Thai		In custody	Case pending	Not known	
Nov 11	O.R. Tambo Airport, Gauteng	Export and irregular dealing in rhino horns.	Thai		In custody	Case pending	Not known	Already has a criminal record for attempting to smuggle lion bones.
Dec 11	O.R. Tambo Airport, Gauteng	Illegal possession of 2 rhino horns, 5 elephant tusks and an undisclosed number of ivory pieces.	Vietnamese		In custody	Originally entered a guilty plea.	ZAR200 000 or 3 years imprisonment and an additional 4 years suspended for 5 years.	
Mar 12	Caesar's Palace, Gauteng	Suspected activities linked "pseudo-hunting".	Thai		In custody	Not known	Not known	Hearing pending
Apr 12	O.R. Tambo Airport, Gauteng	Illegal possession of 3 rhino horns.	Vietnamese		In custody	Not known	Not known	Hearing pending
May 12	Bedfordview, Gauteng	Illegal possession of 10 rhino horns. Also found in his possession ZAR4 million and 6 passports.	Vietnamese		In custody	Not known	Not known	Hearing pending





White Rhino with oxpeckers.

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**Rhino Horn Stockpile management: Minimum Standards and Best Practices from East and Southern Africa** by *Simon Milledge*. (2004). 28pp. ISBN 0 95840 258 2 (ISBN 978 0 95840 258 3). This document presents recommended practices for rhino horn stockpile management and is based upon best examples of management currently employed throughout East and Southern Africa.

**Available from:** [http://www.traffic.org/species-reports/traffic\\_species\\_mammals31.pdf](http://www.traffic.org/species-reports/traffic_species_mammals31.pdf)

**Rhino Progress? The Response to CITES Resolution Conf. 9.14** (summary) by *Susan A. Mainka*. (June 1997). 27pp. ISBN 1 85850 130 X (ISBN 978 1 85850 130 7). This report examines the response by 14 rhinoceros states and 18 consumer countries and territories to this resolution, adopted in 1994 by the Parties to CITES.

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**On A Knife's Edge: The Rhinoceros Horn Trade in Yemen** by *Esmond Bradley Martin, Lucy Vigne, Crawford Allan*. (May 1997). 48pp. ISBN 1 85850 127 X (ISBN 978 1 85850 127 7). This report examines the use of rhinoceros horn in the production of jambiya in Yemen. The report documents the results of TRAFFIC and WWF fieldwork data collected on the trade in rhinoceros horn in Yemen from 1978-1996. It focuses on the centuries-old trade in horn of Black Rhinoceros *Diceros bicornis* and White Rhinoceros *Ceratotherium simum* from Africa to Sanaa, Yemen's capital.

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**Rhinoceros Horn and Tiger Bone in China: An Investigation of Trade since the 1993 Ban** by *J. A. Mills*. (April 1997). 49pp. ISBN 1 85850 128 8 (ISBN 978 1 85850 128 4). In China, domestic trade in both tiger and rhinoceros products has been banned since 1993 and the maximum penalty for illicit trade is death. However, in this report TRAFFIC documents that tiger and rhinoceros-based and traditional Chinese medicines (TCM) continue to be available. Species in Danger series.

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**Under Siege: Poaching and Protection of Greater One-horned Rhinoceroses in India** by *Vivek Menon* (August 1996). 114pp. ISBN 1 85850 102 4. The report presents information on rhinoceros population, poaching and trade in and use of rhinoceros horn in the early-mid 1990s.

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