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ENDANGERED SPECIES**

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THE ILLEGAL TRADE IN RHINO HORN AS AN EXAMPLE OF AN ENDANGERED SPECIES

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Bearing in mind that the illegal trade in wildlife (trafficking) constitutes the second largest illegal market² in the world, only surpassed by illegal trade in narcotics, it is astonishing that little if any criminological research has been conducted on the illegal wildlife trade. This paper reveals the criminological research on the illegal trade in South Africa in rhinoceros horn as an example of trade involving an endangered species.

This type of criminological study joins forces with the conservationist and environmentalist in order to combat the illegal trade in wildlife and other crimes against the environment. In order to conserve endangered wildlife (which is the focus of this study), it is not sufficient to focus exclusively on the behaviour of wildlife in their natural environment, it is also essential to understand the behaviour, and in this case the deviant behaviour, of man (specie HOMO SAPIENS), the violator, which poses the greatest threat to endangered wildlife and its environment.

Introduction

In the *Connepp*³ Discussion Document Towards a New Environmental Policy for South Africa, it is stated that nearly one tenth of all known species of plants in the world are found in South Africa. A great diversity of mammals, birds, reptiles, amphibians and insects is also found here.

This paper presents a review of the nature and extent of the illegal trade in endangered species, with rhino horn as a relevant South African example. As this study in the field of green and environmental criminology is the first of its type, an exploratory research method has been used with the immediate goal of describing the nature and extent of the illegal trade in rhino horn.

South Africa is at the forefront of the struggle to combat the illegal trade in endangered species. Criminological research, focusing on the criminal elements involved in the threat against endangered species has been conducted at the Endangered Species Protection Unit⁴ (ESPU) of the South African Police Service (SAPS) since 1991. Official dockets concerning the illegal trade in rhino horn in South Africa, obtained from the ESPU of the SAPS for the period 01 January 1992 till 31 December 1995, have been used for the purpose of the study, thus encompassing a period of four years. A docket, which is the equivalent of a crime file, is opened when a crime is believed to have been committed. All of the 45 dockets studied in the course of this research have

been opened as a result of either the poaching of but mostly the illegal trade in rhino horn. After a docket has been opened and the offenders involved in the specific case have been apprehended, the docket is entered into the judicial process for prosecution.

This study represents 35% of all the dockets on rhino horn which have been opened by the ESPU of the SAPS. It further represents 10% of all the dockets on endangered species at the ESPU of the SAPS. The data has been processed by computer and statistically analysed. The Dollar (\$) money unit has been converted to South African Rand (R) or to the Sterling Pound (£) to serve as applicable examples. The exchange rates were applied at the time (6th of June 1996) that they were valid, according to the South African Reserve Bank. No correction has been allowed for inflation later than June 1996.

Rhino horn has been selected as specific example of an endangered species, due to the following reasons:

- a. The rhinoceros is one of the species most affected by poaching and illegal trade and will certainly face extinction without effective regulation. South Africa has a history of successful nature conservation and due to this and strict policing measures is presently hosting more than sixty percent of the world's (white and black) rhino population.
- b. Crimes related to rhino horn comprise at least 45% of all the endangered species dockets studied.
- c. An indepth study of the illegal trade in rhino horn has been decided upon rather than ivory, which comprises at least 50% of all the dockets, because there is no consensus whether this species should be classified as endangered while culling is still operational. It can be compared to the condemnation of murder while ritual killings are allowed due to cultural beliefs.
- d. Rhinoceros is lastly selected above other species, such as cycads, abalone and exotic birds, because these latter comprise only 5% of all the dockets at the ESPU. The information available on these species is too limited to present comprehensive results.

Illegal trade in endangered species: definitions

When defining the illegal trade in endangered species various concepts must receive closer attention. The first two are the terms *illegal trade* and *smuggling* in endangered species. These two terms must be read in conjunction with each other in order to embrace the total concept of illegal trade in endangered species.

Illegal trade

*Illegal trade*⁵ includes the hunting, capture, possession of, import, export or transport of any endangered fauna and flora species, as well as the donation or the receipt of any such species as gifts.

Smuggling

*Smuggling*⁶ is the deceitful and unlawful import, export, trade or production of scarce goods, alcoholic beverages and precious stones which is contrary to the laws controlling the trade and production thereof. For the purpose of this paper the term "scarce goods" denotes rhino horn and related products.

In order to understand the above definitions clearly, it is also essential to clarify the concepts *endangered species* and *CITES*.

Endangered species

The term *endangered species* denotes those species which are on the brink of extinction or those in danger of becoming extinct if urgent measures are not taken to enforce strict regulation of the trade in such species. These species are listed in annexures I and II of the Convention on International Trade in Endangered Species (CITES).

CITES

CITES is the abbreviation for *The Convention on International Trade in Endangered Species of Wild Fauna and Flora*. This convention, of which the Republic of South Africa has been a member since 1975, is concerned with the regulation and/or prevention of trade, legal as well as illegal, in endangered species.

*Cites*⁷ is designed to promote conservation of endangered species while allowing commerce in species of wildlife that can withstand the pressures of the trade. It has three categories of protection, namely

- Appendix A : Commercial trade in species threatened with extinction, such as rhinos.
- Appendix B : Commercial trade in species that are not yet endangered but merit monitoring.
- Appendix C : This category is intended to help individual countries gain international co-operation in protecting native species, making the species conditionally tradable.

Apart from these subject relevant definitions, it is also essential to focus on criminologically relevant terminology. The terminology is relevant in order to define the place of this study in the field of criminology.

Wildlife and Green Environmental Criminology

There seem to be various terms in use when referring to crime against wildlife and its environment. One such term is the frequently used term **environmental crime**, which denotes crime as a result of ecological/social disorganization. According to criminological theorising^b each area is symbiotic for particular types of behaviour, environmental design thus explains and prevents crime especially in urban areas. Crime against wildlife and the environment outside urban areas has been neglected, even by environmental criminology.

Another term, more recently being debated is that of environmental crime⁹ and criminality. Only this time it implies environmental crimes per se, such as the illegal disposition of hazardous waste. This viewpoint goes beyond the classical ecological/social disorganization and geographical discussions on crime, which focus mainly on the prevention of crime in an urban environment. It tends to exclude habitats or environments other than those of *specie homo sapiens*.

Wildlife and green environmental criminology should include crime which encompasses poaching, illegal trade in endangered and vulnerable fauna and flora species and other crimes against wildlife and its habitat. This can include birds, cycads, succulents and other veld plants, marine life, indigenous insects and reptiles as well as wetlands and rainforests. Apart from the above, it should also include the study of crimes such as pollution, illegal disposal of toxic waste as well as the illegal trade in radio-active substances.

The welfare and survival of wildlife and the lives of humans on earth seem to be interrelated. Wildlife and green environmental crime seems to be destructive not only to humans but to all other forms of life on earth. If a car is stolen, a bank is robbed or murder is committed, it does not have such a significant effect on the global environment than poaching, toxic waste, pollution and illegal trade in wildlife. While the human gene pool is overpopulated, crime against endangered species can result in the extinction of these species and the destruction of bio-diversity of the planet. The result proof to be fatal to all living creatures and their environment.

Rhino as the target of crime

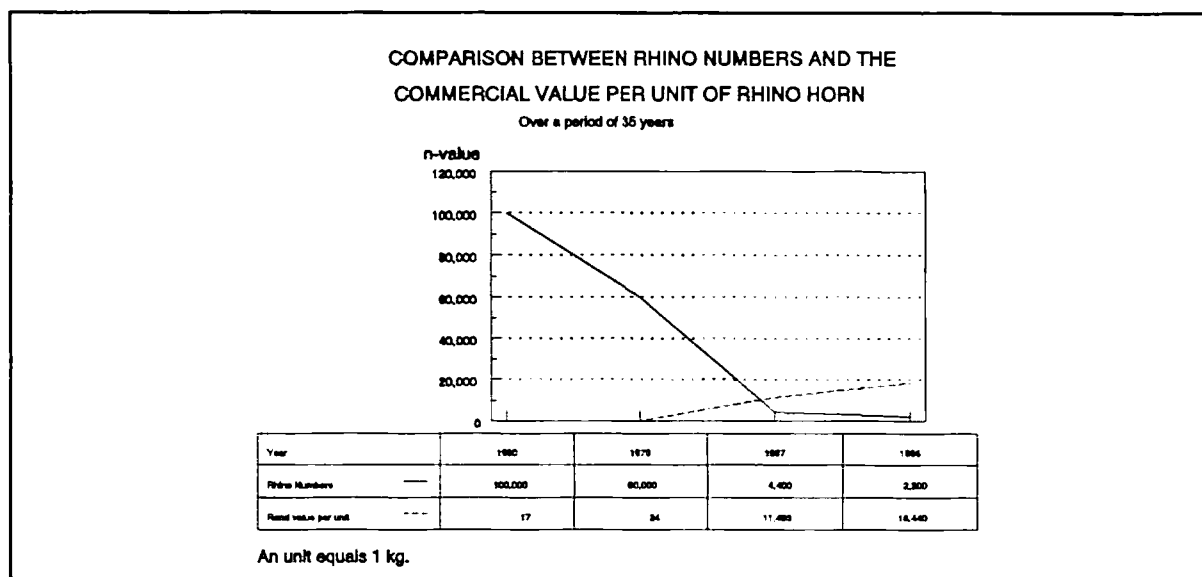
Rhino populations in Southern Africa

Since the dawn of the twentieth century and especially since 1970, close to 85% of the rhinos found on earth has been killed, leaving the rhino amongst the world's most endangered mammal species. No other species have been so rapidly depleted¹⁰ mainly because of the commercial value of rhino horn.

According to evidence presented by Dr John Hanks¹¹ at the Kumleben Commission¹² the number of black rhino in Africa has decreased from an estimated 100 000 animals in 1960 to 2200 at present. This is viewed as the most precipitous decline in numbers of any large mammal species recorded in recent times. The number of black rhino (*Diceros bicornis*) has declined more drastically than that of any other large land mammal in recent times. ~~In 1960, black rhinos on the African continent numbered around 100 000.~~ By 1970, figures were down to 65 000 and the most recent estimates of its total population suggest levels of 2200. This indicates a loss of about 95% of the population in only 35 years.

Figure 1 depicts a comparison between the decrease in black rhino numbers and the increase in commercial value (expressed in South African Rand) over the past 35 years.

Figure 1



Of the estimated 2200 black rhinos still alive in Africa, 890 (40%) are found in the Republic of South Africa, as are 6300 (92%) of the estimated 6800 white rhinos. This leaves South Africa, due to effective regulations and strict law enforcement, with 66% of all living (black and white) rhino in the world today and makes the country a prime target for the illegal trade in rhino horn. The demise of the rhino population in the rest of Africa as well as the rise in the value of rhino horn, leaves South Africa's rhino population in an extremely vulnerable position.

Uses of rhino horn

The largest markets for rhino horn and other rhino products are situated in the Far East, North Yemen and India. The horn of a black rhino is more popular than that of the white rhino due to its smaller size. This is a result of the belief that the smaller horn contains more power. Rhino horn is mainly used for the following purposes:

- a. The making of daggers : Daggers, also called jambia, are given to Yemeni boys as initiation gifts. More than 50 000 boys are initiated in Yemen (in the Middle-East) yearly¹³. This makes it evident that the demand for rhino horn far exceeds the supply. This fact promotes the illegal trade in this commodity and can have horrifying results if the species is not protected.
- b. Medicinal uses : An ancient Greek reference dating from the fifth century BC, mentioned that rhino horn was used to make drinking cups to detect poison. Rhino horn is an ingredient in many medicinal recipes¹⁴. The medicinal recipes of China's Pen Ts'ao Kang Mu, a pharmacopoeia written in the sixteenth century, contains over 12 000 recipes. Not only the horn but also other rhino products are used. The hide is used as a remedy for skin ailments and dried rhino blood is used as a tonic to improve general health in states like Burma, Nepal and India¹⁵.
- c. Sexual stimulant : It seems that the male rhino's sexual stamina¹⁶ (it can have intercourse for long periods of time and can ejaculate on various occasions during this time) rather than the horn itself, contributes to the belief that rhino horn is an aphrodisiac.

Victims of the illegal trade in rhino horn

Illegal trade in rhino horn not only affects the species itself but also interest groups involved in it. Victims can be divided into various categories, of which the following are the most important:

- a. Government-controlled national parks: This boils down to the fact that every taxpayer is a co-owner of the endangered species in the parks and therefore has the right to insist upon the

protection of these species. This ensures an income from eco-tourism which in turn can contribute to economic upliftment in the country. By failing to effectively control the illegal trade in endangered species, an offence is being committed not only against every taxpaying citizen by way of loss of eco-tourist income, but also by way of destruction of natural heritage in the form of the natural environment where bio-diversity is disturbed.

- b. Private owners of endangered species: This group also contributes to the conservation of endangered species and experiences heavy individual financial losses when animals are poached and illegally traded by smugglers.
- c. Non-governmental organisations (NGO's): Although not owners of endangered species, these organisations contribute financially as well as logistically to the protection of endangered species by donating money, transport, personnel etc. and also suffer severe losses because of illegal trade.
- d. The species per se: The species itself is the specific¹⁷ victim. A loss of bio-diversity and subsequent changes to a certain ecosystem is experienced when a species becomes extinct. The cruelty involved in this crime, such as hacking off the horn from a wounded but nonetheless living animal, makes these animals victims per se.

Criminal justice of the illegal trade in rhino horn

The globally diminishing numbers of wild fauna and flora led to the Convention on International Trade in Endangered Species (CITES) which was signed in Washington in March 1973. South Africa is one of the signatories of this international convention which regulates the illegal trade in endangered species globally.

The protection of South Africa's wild fauna and flora is not only regulated by CITES and other international institutions, but also through the application of various national laws and provincial ordinances. Three acts and four ordinances were applicable before the first general democratic election in 1994. After this milestone in South Africa's history nine provinces were established instead of the previous four. This led to a further diversification of legislation.

In order to bring about uniform and therefore more effective legislation, South Africa is in a process of reviewing existing laws. Laws and regulations are not applied consistently throughout the country. Bearing in mind that the maximum fine for the illegal trade can be R 250 000 with a maximum prison sentence of ten years, it is noteworthy that imposed fines vary from only R 300 to R 30 000 per case.

Taking into account the high prices that especially rhino horn, but also other products of endangered species fetch on illegal and legal markets, it is clear that an economic motive provokes this type of crime. The table below indicates rhino horn prices per weight, fetched on the illegal market in South Africa. This information is derived from police docketts.

Table 1 : MONETARY VALUE OF RHINO HORN PER WEIGHT

Weight	Average Rand Value	Average Dollar Value (According to the April 1996 average exchange rates)	Average Pound Value (According to the April 1996 average exchange rates)
0,1kg	R 753	\$ 3 539	£ 4 799
0,5kg	R 3 765	\$ 17 695	£ 23 997
1,0kg	R 7 530	\$ 35 391	£ 47 994
1,5kg	R 11 295	\$ 53 086	£ 71 992
2,0kg	R 15 060	\$ 70 782	£ 95 989
2,5kg	R 18 825	\$ 88 477	£ 119 986
3,0kg	R 22 590	\$ 106 173	£ 146 278
3,5kg	R 26 355	\$ 124 868	£ 167 981
4,0kg	R 30 120	\$ 141 564	£ 191 978
4,5kg	R 33 885	\$ 159 259	£ 215 976
5,0kg	R 37 650	\$ 176 955	£ 239 973

This type of crime involves large financial losses as well as the loss of national heritage in the form of endangered wildlife. Those involved in the combat against the illegal trade in endangered wildlife, should take note of the fact that offenders take advantage of the public's ignorance concerning the nature and extent of the crime. The task therefore extends beyond the scope of wildlife conservation to legislators, law enforcers and the general public to deem the illegal trade in endangered species a heinous crime deserving of their attention.

The following table illustrates the diversity with regard to sentencing. An interesting fact is that more docketts are opened in urban areas than in rural areas. One would expect otherwise because poaching takes place in rural areas. But one should keep in mind that urban areas form the centre of smuggling with thoroughfares and established smuggling networks which enable the prompt dispersal of rhino horn.

Table 2 : SUMMARY OF FINDINGS IN RESPECT OF SENTENCING IMPOSED FOR THE ILLEGAL TRADE IN RHINO HORN

Year of arrest	Type of community where the court is situated	Number of dockets	Average weight of rhino horn	Average estimated value of the horn	Average value of the fine imposed
1992	Urban	2	1,7 kg	R 12 800	R 3 000
	Rural	None			
1993	Urban	4	2,4 kg	R 18 000	R 8 250
	Rural	2	1,4 kg	R 10 500	R 2 900
1994	Urban	7	3,9 kg	R 29 300	R 9 143
	Rural	1	2,2 kg	R 16 500	R100 000
1995	Urban	3	3,0 kg	R 22 500	R 2 667
	Rural	None			

Even taking into account the unique circumstances surrounding each court case, the fact remains that South African courts lack a standard guideline with regard to sentencing of illegal traders. It has been found that courts in rural areas impose heavier fines in relation to the value of the rhino horn, than those in urban areas.

If the total amount of fines, total weight and total value are aggregated, it can be calculated as follows: fine per value and fine per weight as illustrated in table 3 below. The urban - rural distinction has been ignored.

Table 3 : SUMMARY OF FINDINGS IN RESPECT OF VALUE AND WEIGHT PER FINE

Year	Fine/Value	Fine/Weight(gram)
1992	.234	1.765
1993	.417	3.129
1994	.740	5.559
1995	.119	2.667

There is no link between the average weight and value of the horn and the fine imposed. However, from table 3 it is evident that the fine in relation to the value of the horn was lower in 1995 than it has been before. This tendency

could be a result of the more effective sanction of the trade in rhino horn during 1992 until 1994. The lower value in 1995 can be attributed to small numbers recorded in the study.

During the course of this study it has been determined that the average weight of the rhino horns illegally traded is 4,45 kg per horn. The lightest horn weighed 0.506 kg while the heaviest weighed 7 kg. Most of the horns were not that heavy, which made it easier for smugglers to conceal, transport and trade. Illegal traders conceal the horns in plastic bags, rucksacks, sleeping bags and travel gear such as suitcases. The transport they make use of is mainly vehicles such as motorcars, landrovers and trucks. If a horn is smuggled across borders, air and road transport is used.

The best laws, however, are worthless without proper enforcement. Prior to 1988, South Africa was accused by CITES member countries, of impassively and impartially standing by while ivory and rhino horn were smuggled across our borders. It is common knowledge that endangered fauna and flora, worth millions of rand, are smuggled to international markets from Africa. To ensure the continued existence of these endangered species and others which are not listed as endangered yet and to redress South Africa's reputation as an accessory to the smuggling and brutal extermination of our endangered species the Endangered Species Protection Unit (ESPU) was formed by the South African Police.

Policing of the illegal trade in endangered species in South Africa

The goal of this specialist police unit, commanded by superintendent Piet Lategan, is to operate with the powers that are defined in law and strive to provide through law enforcement a stable platform for the conservation of the South African environment. This must be done in recognition of the notion of accountability to the concept of democracy. In this process only members who possess the relevant skills and qualifications and have been evaluated will be appointed to the Unit.

The unit's activities encompass the following :

- a. The investigation and prevention of all types of crime against endangered species which have been classified in terms of the Convention on International Trade in Endangered Species (CITES), Appendix I, II and III. This includes the illegal trade in rhino horn.
- b. Taking action against illegal traders in endangered
 - birds,
 - cycads'

- succulents and other veld plants,
 - marine life,
 - indigenous insects,
 - reptiles.
- c. The investigation and prevention of other crimes against the environment such as the illegal disposal of toxic and radio-active waste.
- d. Members of the ESPU represent the SAPS on various committees. These committees determine policy on a national as well as international level. The unit's activities are influenced by committees such as Interpol¹⁸ subgroups which are concerned with
- illegal disposal of toxic waste,
 - illegal trade in radio-active substances,
 - crimes against wildlife.
- e. As already stated the ESPU plays a part in various committees which determine policy. This includes non-governmental organisations. A significant development in this regard is the signing of the international Lusaka agreement.
- f. The storage and preservation of evidence and gathering of forensic detail are some of the most important tasks of the unit.

The ESPU of the SAPS is in a favourable position to combat crime such as the illegal trade in rhino horn because of its ability to function not only nationally, but also internationally as opposed to nature conservation efforts which are limited to borders of national parks, provinces etc. This is made possible by the unit's links with Interpol as well as the signing of international agreements.

In order to fulfil its duties to the best of its ability, the unit has been divided into various task groups. Besides those dealing with administrative matters the unit consists of the following investigative teams:

- a. Fauna-,
- b. Flora-,
- c. Special Overt-,
- d. Clandestine-,
- e. Environmental Crime-, and
- f. Anti-poaching teams.

Taking into account the relative short lifespan (7 years) of the unit, its success is outstanding. The hard work and dedication of its members have led to international acknowledgement. Members of the unit have contributed to the formation of an Interpol subgroup on Fauna and Flora.

The unit essentially focuses on community policing and is therefore a national asset to South Africa as well as being an international rolemodel. It has had

a lot of success in establishing consultation with interest groups in various communities, such as traditional leaders on national park borders. Such leaders are consulted and urged to become involved in the fight against environmental crime, such as the poaching of rhinos and the illegal trade in rhino horn.

The extent of the illegal trade in endangered species

According to official statistics, which differ from the statistics used in this research, compiled by the Endangered Species Protection Unit (ESPU) for daily record purposes, much success has been achieved in combatting the illegal trade in endangered species. For the period January 1991 to December 1995, thus a period of five years, the following have been recorded:

- a. 774 cases in the course of which the following had been confiscated:
- 415 Rhino horns (equivalent of 300 and more rhino bodies);
 - 1092 Elephant tusks;
 - 34095 Ivory cubes (this is the equivalent of 3410 elephant tusks)
- (Added together the above have an estimated value of R30 million)
- b. A further 46 cases in the course of which the following were confiscated:
- 492 Cycads
 - 17612 kg Abalone
 - 802 Exotic birds.

It is important to note that the period during which the above have been recorded differs from the time span of the study.

The Gauteng province, which is the most economically viable province in South Africa, is the main seat for this type of crime. Gauteng comprises 86,4% of all the dockets opened on the illegal trade in rhino horn. The many thoroughfares, airports (national and international) and established crime syndicates and networks in the area, contribute to this tendency.

When focusing on the distribution of dockets according to urban versus rural areas, it is interesting to note that urban areas comprise 88,6% of the dockets. One would expect that this type of crime would be focused in and around game reserves and parks. This is true for the actual poaching but the smuggling of the product seems to take place in urban areas where established smuggling networks already exist. Especially, Johannesburg and Pretoria seem to be meccas for smuggling. Both Johannesburg and Pretoria are in the Gauteng province.

When focusing on the illegal trade in rhino horn, three categories of trader can be distinguished namely poachers, runners and wholesalers. The poachers seem to be the first link in this illegal trade chain and they are normally

local people with a thorough knowledge of the environment which assists them in tracking the rhinos. The following motives¹⁹, in addition to a financial motive, can be pointed out to serve as motivation for poaching of endangered species such as rhinos:

- Trouble - adds to the individual's status in his or her community, especially rural societies;
- Excitement - generated by the challenge of not getting caught by game rangers or the police;
- Smartness - poachers enjoy outmanoeuvring law enforcers. They also enjoy exhibiting their knowledge of guns, hunting tactics and use of special equipment during hunting expeditions;
- Toughness - the attitude of not allowing law enforcers to arrest them and doing whatever it takes to get away, even paying with their lives if necessary;
- Autonomy - the value of independence which is at least partially satisfied by illegal hunting. By poaching these individuals are playing by their own rules.

According to Lategan²⁰ there seems to be another kind of active and even more lethal group of poachers. This type operates under the name of "cream poachers". Their profile and *modus operandi* are easily identifiable. They always belong to a non-governmental organisation or are sponsored by one. They have no formal training in either conservation or law enforcement and their weapons are cameras and hidden tape recorders. Their aim is to expose criminals in the media and then selling their projects to naive animal lovers on other continents. Their ultimate aim is to benefit financially and this they accomplish by exposing the illegal trade but not combatting it in any way.

The runners seem to be the middlemen who transport the rhino horn from the poacher to the wholesaler. In some cases the poacher supplies rhino horn directly to the wholesale illegal market. In most cases the poacher and the runner earn more than an average annual South African income by smuggling rhino horn. In most cases the money is used to support their families.

In 70,5% of the dockets studied, only one rhino horn is smuggled. This reveals runners or middlemen as opportunists who by rational choice decide to become involved in the process of smuggling. It is also clear that illegal traders seem to focus on a single type of species during smuggling operations. In most (86,4%) of the cases, only rhino horn has been illegally traded. Very few of the cases link with other products of endangered species such as ivory and cycads. Most of the recoveries of rhino horn took place at the site of the crime such as offices, houses, and in vehicles. Some have been confiscated at the site where the rhinoceros was poached. The evidence, thus

the rhino horn is handed over to the nature conservation departments for safe keeping purposes.

The wholesale dealers are not necessarily from South Africa. Although more information exists about the uses of rhino horn, it is not certain who these wholesalers are. What is certain is the fact that they earn a lot of money, especially in foreign currency by selling rhino horn to possible markets.

The criminal profile of the illegal trader in rhino horn

Ninety percent of all offenders are men and only 10% of the cases involve women. Most (76,5%) of these offenders are from the Republic of South Africa. Only 23,5% come from Botswana, Mozambique, Swaziland, Zimbabwe, Namibia, Ruanda and China. The daily occupations of the perpetrators include the following: General labour; student; business; panel beating; craftsmanship; hair dressing; sales; computer work; farming; pensioner; taxi driving; fireman; mining and clerk.

The age of the offenders varies from 20 to 65 years, with the average age being 35. The age group therefore includes young and old of which most (63%) of the offenders are married with a further 30% unmarried and the remaining 7% either divorced, widowed or marital status unknown. The fact that most of the illegal traders are married supports the above mentioned fact that most of the illegal trade in endangered species is done in order to support poor families.

The home language of the offenders is depicted in the following table:

Table 4 : The home language of the offenders

Language category	Official Language indicator	Frequency (n-value)	Percentage
Afrikaans	Yes	29	35,8%
Zulu	Yes	19	23,5%
English	Yes	13	16,0%
Other African	No	15	18,6%
Asian	No	2	2,4%
European	No	3	3,7%

(Note : The total n-value = 81)

Since the start of the new dispensation, after the 1994 elections, South Africa has had eleven official languages. This however, does not have a noteworthy influence on illegal transactions as illegal traders still seem to communicate in either Afrikaans or English. It is worthwhile to note that

although 53% of the offenders are from the black community and 46,9% either from the white, coloured, asian or indian communities, 51% have indicated Afrikaans or English as home language while a further 39,5% have indicated other African languages. One would rather suspect a larger percentage of African languages. A possible reason for the fact that 51% indicates Afrikaans or English, can be found in the fact that these two languages were the official languages before the 1994 elections. It was thus easier to negotiate for better prices in a generally known language.

Concerning the educational qualifications of the perpetrators, over 60% have some sort of education from grade 10 and higher, even though the illiteracy figure for South Africa as a whole stands at 30,6%. The section of the population with an educational level of grade 7 and lower, make up 45%. This leaves South Africa with a total of 75,6% of completely and partly- illiterate people. The fact that 60% of the offenders have a higher than average education level, relates to the fact that a certain skill is needed in the bargaining process to negotiate prices during illegal transactions. Offenders must have knowledge of currencies and certain business and persuasion skills.

It is interesting to note, that although over 60% of the offenders have some sort of education, the unemployment figure of the offenders equals nearly 30% as indicated in the table below. This reflects the present situation in the country that 29% of South Africans are unemployed. The figure²¹ reflected by the results in this study therefore correlates totally with the CSS figure for the country as a whole.

Table 5 : Occupational category of the offenders

Occupational category	Frequency (n-value)	Percentage
General labour	26	32,1%
Unemployed	24	29,6%
Business	23	28,4%
Technical	8	9,9%

(Note : The total n-value = 81)

It is interesting to note that most of the offenders fit into the general labour and unemployment category. This relates to the fact that general labourers earn a low income per annum and unemployed people none, which could lead to the rational choice motive to get involved in this type of crime. The offenders who fit into the business category may use money earned from illegal trade in rhino horn as supplementary to existing legal business deals.

Conclusions

In the course of this paper it has been established that the illegal trade takes place in and around thoroughfares, airports and cities where established crime syndicates operate. The profile drawn of the illegal trader, indicates that most of the offenders are males in their thirties. They can be either single or married. The majority of the offenders are black, followed by white and coloured offenders and speak mostly Afrikaans, Zulu or English. These three languages form part of the eleven official languages spoken in South Africa.

In one third of the cases the educational level of the illegal traders is below grade ten. Another third of the violators have obtained a senior certificate or grade twelve. In 30% of the cases the offenders are unemployed and the largest section of the remainder is divided between general labour and business.

This type of crime involves large financial losses as well as the loss of national heritage in the form of endangered wildlife. Those involved in the combat against the illegal trade in endangered wildlife, should take note of the fact that offenders take advantage of the public's ignorance concerning the nature and extent of the crime. The task therefore extends beyond the scope of wildlife conservation to legislators, law enforcers and the general public to deem the illegal trade in endangered species as a heinous crime deserving of their attention.

Up to now conservation agents such as TRAFFIC²² have been monitoring the illegal trade in endangered species and have to a certain extent indicated the decline in numbers of endangered species as well as mainly economical reasons for smugglers to get involved in this type of crime. Limited research has been done in the field of green environmental criminology in spite of the illegal trade in wildlife products being the second largest illegal market globally.

Contradictory viewpoints on this type of crime hamper the effective application of regulations. There are those interested only in the monetary value of endangered species. Then there are groups with a moral, sentimental approach attempting to put their views across by activism, eco-terrorism etc. Conservationists form a third group in the discussion surrounding the illegal trade in endangered species. This group focuses exclusively on the conservation and regulation of endangered species.

There also seem to be discrepancies concerning statistics compiled by conservationists such as the African Elephants and Rhinos Status Survey and Conservation Action plan²³. Figures, such as counts on certain species,

assembled by individual institutions concerned with conservation or governmental- and non-governmental organisations vary considerably.

Unfortunately, despite the 20 year ban in the trade of rhino horn, the illegal trade in rhino horn still continues and is a highly lucrative international trade²⁴. This explains why certain conservationists feel that the ban on trade in rhino horn, regulated by legislation and conventions such as CITES, is not successful. It is interesting to note that since the establishment of CITES and thus also the ban on trade in rhino horn and with the introduction of policing there seems to be a decline in the actual killings of black rhinos. This is illustrated by the following table where the remaining number of animals in a certain year's count are divided by the total of years go by:

Table 6 : Decline in numbers of the black rhinoceros during this century

Year of count	Estimated Animal Count	Projected total of animals killed per year
1900	100 000	
1960	70 000	500
1970	65 000	500
1981	10 000 - 15 000	2857 - 2619
1987	3800	1033 - 1867
1995	2200	200

It should also be borne in mind that permit control in Africa is not up to standard and in many cases non-existent. CITES permits are issued with little intervention from official organisations.

A fact that could have contributed to the perception that the ban on the trade in rhino horn is unsuccessful the fact that although the ban has been in place for the past 20 years, active policing in the field of endangered species in South Africa has only come into place seven years ago. This has already produced good results. Previously the task was hampered by problems such as park officials and national and private owners being restricted by national and international borders in the combat of crime and poaching. The police service has the ability to move between borders and can also conduct anti-poaching exercises in various national parks or private game parks. They do however, experience certain problems²⁵ that hamper their task. The source of illegal wildlife products cannot be forensically traced, as a database has not been developed and forensic tests are too expensive for most law enforcement agencies.

Although the police and game rangers do their utmost, one cannot deny the fact that law enforcers and game rangers are not properly equipped. In some cases ammunition and even such necessities such as shoes are luxury items due to a lack of funds. They risk their lives and can be killed by the wild animals they protect, or by poachers. They also fall prey to the criticism of the "Cream Poachers".

There is a notion²⁶ amongst certain concerned groups in South Africa to legalise and privatise the trade in rhino horn. This would allow regular harvesting of horns which can be sold to potential buyers. Profits can be beneficial as most parks and wildlife agencies have insufficient funds to protect their rhino populations adequately. Furthermore severe poverty exists amongst rural people in many African countries. These people would risk their lives to poach rhinos for a seemingly small reward.

The problem with the proposed legalisation of the trade in rhino horn, is the tendency that illegal trade continues in spite of legalisation. An example can be found in the diamond and gold industries. Trade in diamonds and gold in South Africa is legal, but in 1993\1994 665 prosecutions and 503 convictions for the trafficking in gold; and 377 prosecutions and 341 convictions for trafficking in diamonds, were documented. The conclusion that can be drawn is that in spite of legalisation, smuggling still continues. Legalisation without any proper counter measures such as legislation and strict control, will only create a parallel opportunity for the illegal trade to exist with the legal.

Recommendations

More extensive research has to be done in the field of green environmental criminology in order to understand the full extent of the illegal trade in wildlife products as the second largest illegal market globally.

Wildlife and green environmental criminology should be studied as a criminological field in its own right, encompassing the poaching, illegal trade in endangered and vulnerable fauna and flora species and other crimes against wildlife and its habitat. Apart from the above, crimes such as pollution, illegal disposal of toxic waste and the illegal trade in radioactive substances should also receive attention.

A multi-disciplinary approach towards the understanding of this type of crime could benefit the effective application of regulations. All approaches such as private property rights, increased autonomy in state conservation agencies, moral attempts and conservation per se, should be included in the discussion surrounding the illegal trade in endangered species. One angle that should be added is that of the criminal justice process. This includes

criminological research, policing and other criminal justice issues. It is now the time to realise that the illegal trade in endangered species is no longer a matter of private or moral interest, but a criminal issue that needs to be addressed in the same way as other serious crimes such as abuse, rape, murder and theft.

Active policing in the field of endangered species in South Africa, which has only come into place seven years ago, has already produced good results. In order to overcome problems such as park officials, national and private owners being restricted by national and international borders in the prosecution of illegal traders, policing agencies should be instituted to do so. A homogenised law regulating the illegal trade in endangered wildlife could contribute to better policing efforts. Law enforcement can benefit from addressing the problems facing conservation officials such as a lack of basic equipment. Money should be invested in this, rather than in the glossy reports and expensive show offs which accompany the thriving endangered species bandwagon.

In South Africa a new approach is being followed at the ESPU of the SAPS to accommodate a multi-disciplinary participation towards the understanding of the illegal trade in endangered species which could benefit the effective application of regulations. In co-ordination with the ESPU of the SAPS a Criminological Research Centre for Wildlife and Related Crimes (abbreviated as CROWA) has recently been established to provide a multi-disciplinary approach (criminological, juridical, social- and conservation science) to the issues of wildlife and environmental crime such as pollution and toxic waste. The mission of this centre is to research, understand and explain crime against endangered species in order to assist those agencies concerned with controlling, combatting and preventing wildlife and environmental crime.

Statistics compiled and suggestions made by conservationists, monitoring agents policing agents as well as juridical professionals should be integrated in order to accommodate the natural/conservation sciences as well as the human social sciences within an economical sphere to understand the criminal justice process underlying this type of crime. This integration of statistics can be accommodated by the CROWA Centre. This centre is also an excellent example of community policing in South Africa, as it is a registered project of the Endangered Species Protection Unit Trust which is a privately funded trust to assist the ESPU in obtaining their goals.

There is a notion amongst certain concerned groups in South Africa to legalise and privatise the trade in rhino horn. This would allow regular harvesting of horns which can be sold. The concept is highly problematic due to the fact that illegal trade tends to co-exist with legal trade. Poachers would risk their lives to poach rhinos for a seemingly small reward. They will also

go so far as to cut off one ear of de-horned rhinos to show that the rhino has been poached even though the horn has been harvested or just removed. Thus, the question that remains is whether an endangered species such as the rhino can survive pressures from both legal (privately-owned rhinos used for harvesting) and illegal markets.

Summary

This paper reveals the results in respect of the illegal trade in endangered species with specific focus on the illegal trade in rhino horn. It has been the purpose to explore the nature and extent of the illegal trade in endangered species within the field of criminology as human science in order to create an awareness of the immensity of this type of crime. Criminology is an instrument, used in a multi-disciplinary approach, to understand as well as prevent humans' misdeeds against nature. Only humans can rectify the imbalance in nature caused by their own species.

This paper concludes with the words of His Royal Highness Prince Philip of the United Kingdom:

"In the long term effective conservation of the multitude of species in the plant and animal world depends upon acceptance and conscientious application of specific obligations under national and international law ... Much more needs to be done in the fields of national legislation and international conventions but the existing conventions provide a solid base ... Regretfully progress in this direction is proving disastrously slow."

Notes

1. A paper on this topic was presented by Mr Swanepoel at the *Third International Criminological Congress* hosted by Idasa (Institute for a Democratic Alternative in South Africa) and Crimsa (The Criminological Society of South Africa) at Unisa, Pretoria, South Africa during July 1996. Mr Swanepoel is a Criminologist, Human Resource Practitioner as well as the founder member and Director of the *Criminological Research Centre for Wildlife and Related Crimes (CROWA)* in South Africa.
2. Fitzgerald, S. (1989) *International wildlife trade: Whose business is it?* Maryland: World Wildlife Fund, pp 13-15.
3. CONNEPP : The Consultative National Environmental Policy Process.
4. Before 1988 South Africa was internationally criticised for failing to act decisively to counter illegal trade in endangered wildlife. In an effort to improve the situation the ESPU was founded on the 30th June 1989.
5. Louw, D.A., Van Heerden, T.J., and Smith, P.R. (1978) *Criminological Dictionary*. Durban: Butterworth (South Africa).
6. Louw, D.A., Van Heerden, T.J., and Smith, P.R. (1978) *Criminological Dictionary*. Durban: Butterworth (South Africa), p 77.
7. Fitzgerald, op. cit., pp 13-15.

8. Morrison, W. (1995) *Theoretical Criminology: from modernity to post-modernism*. Great Britain London: Cavendish Publishing Limited, pp 244-247.
9. Edwards, S.M., Edwards, T.D. and Fields, C.B. (1996) *Environmental Crime and Criminality : Theoretical and practical issues*. New York and London : Garland Publishing, Inc.
10. Balfour, D., Balfour, S. (1991) The big five. In: *Rhino - The story of the rhinoceros and a plea for its conservation*. Cape Town: Struik Publishers, pp 36-61.
11. Chief executive officer of the World Wildlife Fund for Nature (WWF), South Africa.
12. The report of the Kumleben Commission of Enquiry, chaired by Mr Justice M.E. Kumleben, into the alleged smuggling of and illegal trade in ivory and rhinoceros horn in South Africa, was published in January 1996.
13. Balfour, D., Balfour, S. (1991) Poaching and the rhino horn trade. In: *RHINO - The story of the rhinoceros and a plea for its conservation*. Cape Town: Struik Publishers, pp 63,70.
14. Martin, E.B. (1979) *The international trade in rhinoceros products: a report for the World Wildlife Fund (WWF) and the International Union for Conservation of Nature and Natural Resources (IUCN)*. Switzerland: IUCN/WWF, p 12.
15. Ibid, p 52.
16. Ibid, p 52-53.
17. Fattah, E.A. (1995) *Understanding criminal victimization: An introduction to theoretical victimology*. Ontario: Prentice-Hall Canada, p 92.
18. The goal of Interpol is to ensure co-operation among all participating police services within the framework of existing legislation and in view of the Universal Manifest or Human Rights.
19. Walter B. Millers six lower-class focal concerns has been adapted and applied by Forsyth, J.A. & Marckese, A. (1993) *Thrills and skills: a sociological analysis of poaching*. *Deviant behaviour: An interdisciplinary journal* (No 14): 157-172.
20. Lategan, P. (1996) Interview with the superintendent in charge of the ESPU of the SAPS and also founder member of CROWA South Africa.
21. Official figures by the Central Statistical Service (CSS) of South Africa in its 1994 household survey.
22. The mission of Traffic is to enhance, in accordance with the principles of the World Conservation Strategy, the conservation of biological diversity by monitoring and reporting on trade or other forms of utilisation of animals and plants and their derivatives. Traffic also facilitate on issues such as the control of trade and curtailing possible threats to species created by trade or other forms of utilisation. Traffic is supported by the WWF and IUCN.
23. Compiled in 1990 for the International Union for Conservation of Nature and Natural Resources (IUCN).
24. 't Sas-Rolfes, M. (1995) *Rhinos: Conservation, Economics and Trade-Offs*. Great Britain : IEA Studies on the Environment No 4.

25. Lategan, op.cit.
26. Ibid.