

CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

Other proposals

A. PROPOSAL

It is proposed that the conditions attached to the Appendix II listing of the South African population of the southern white rhinoceros *Ceratotherium simum simum* adopted at the ninth Conference of Parties in 1994 be altered to allow the possibility of establishing a legal trade in rhinoceros products.

The Parties are requested to confirm the downlisting to Appendix II and to lift the restrictions preventing trade in rhino horn and other products. A zero quota for the international trade in such products is recommended, and support is requested to investigate the possibility of establishing bilateral trade in these products with appropriate controls that will prevent the laundering of illegal products.

B. PROPONENT

The Republic of South Africa

C. SUPPORTING STATEMENT1. Taxonomy

1.1 Class : Mammalia

1.2 Order : Perissodactyla

1.3 Family : Rhinocerotidae

1.4 Species/subspecies : *Ceratotherium simum simum*

1.5 Scientific synonyms : Nil

1.6 Common names : Southern white or southern square-lipped rhinoceros

1.7 Code number : *****

2. Biological Parameters

2.1 Distribution

The southern white rhinoceros was formerly widespread throughout southern Africa occurring in Namibia, Botswana, Zimbabwe, Mozambique and South Africa (du Plessis 1969). By 1900 only the small population in Umfolozi Game Reserve and its surrounds in KwaZulu-Natal remained.

Numbers increased rapidly, so that by 1961 there were sufficient rhinoceros to translocate to new areas (Vincent 1970). In this way the southern white rhinoceros has been re-established in 36 state-controlled protected areas and more than 100 privately-owned properties in South Africa. In addition, more than 30 populations are established elsewhere on the continent in Botswana, Ivory Coast, Kenya, Namibia, Swaziland, Zambia and Zimbabwe (AfRSG 1996) and in captive and semi-captive situations in at least 24 countries outside Africa.

2.2 Habitat availability

The availability of suitable habitat is not a limiting factor as very substantial tracts of land in South Africa, and indeed elsewhere in Africa, are under game management within the public and private sectors.

2.3 Population status

The southern white rhinoceros is currently rated as "Conservation Dependent" under the IUCN's new Red List criteria, but is not listed in the South African Red Data Book.

The numbers of southern white rhinoceros in Africa in 1995 :

South Africa : 7 095 (153 + populations)
 Other African countries : 437 (28 + populations)

The above shows that 94% of the rhinoceros occur in South Africa, of which about 1 200 are privately owned. The largest populations are in the Kruger National Park (2 890) and the Hluhluwe-Umfolozi Park (1988). These estimates were collated in February 1996 by the IUCN's African Rhino Specialist Group (AfRSG 1996) based on information provided by the official representatives of the rhino range States and other rhino experts. The numbers of rhinos in each individual population were derived from censuses or the analysis of relevant data undertaken since mid 1994 (76%) or earlier censuses or analysis based on substantial evidence (24%). Speculative guesstimates were not included.

In addition, there are estimated to be 664 southern white rhinoceros in captivity in safari parks and zoos worldwide, of which 57 rhinoceroses are in Africa (Foose 1996).

2.4 Population trends

The only southern white rhinoceroses left in Africa in 1900 were small relict populations in Zululand, Natal and on the Southern Rhodesian-Mozambique border. The latter died out, leaving 10-20 survivors that were afforded protection in the Umfolozi Game reserve in South Africa.

Under protection numbers increased within the Hluhluwe-Umfolozi Park in KwaZulu-Natal until 1961 when translocations to re-establish populations elsewhere began. The population trends of the southern white rhinoceros in South Africa and elsewhere in Africa since 1900 are shown in the table below. Estimates are from Owen-Smith (1973) and AfRSG records.

| Year | Southern white rhinoceros numbers in Africa | | |
|------|---|--------------------|-------|
| | South Africa | Other range States | Total |
| 1900 | 20 | 0 | 20 |
| 1933 | 200 | 0 | 200 |
| 1960 | 1 000 | 0 | 1 000 |
| 1984 | 3 234 | 578 | 3 812 |
| 1987 | 4 060 | 551 | 4 611 |
| 1991 | 5 057 | 533 | 5 590 |
| 1992 | 5 297 | 523 | 5 820 |
| 1993 | 6 376 | 408 | 6 784 |
| 1995 | 7 095 | 468 | 7 563 |

While the numbers of southern white rhinoceros in South Africa have more than doubled since 1984, numbers in the other African range States have declined. This indicates the sustainability of the South African model of conservation (see Utilisation and trade).

2.5 Geographic trends

The geographic range of the southern white rhinoceros has steadily expanded since 1961 with the redistribution of animals from the Hluhluwe-Umfolozi park. From a range of about less than 500 km² in 1900, rhinoceroses now occupy State protected areas and private land exceeding 100 000 km² in extent in eight African States.

2.6 Role of the species in the ecosystem

The major process for which the southern white rhinoceros is responsible is the opening up and maintenance of short grass grazing lawns in long grass habitats, thus providing grazing habitat for a number of short grass grazers such as warthog and blue wildebeest.

2.7 Threats

The only significant limiting factor is poaching for rhinoceros horn which targets both black and white rhinoceros in Africa equally. As a result, the black rhinoceros has declined from 65 000 to 2 400 since 1970 (AfRSG 1996). Also, the white rhino numbers outside South Africa have not increased. In fact populations re-established in Angola, Mozambique and Zambia since 1961 have not survived (Zambia re-introduced more white rhinos in the early 1990's); and only those in Namibia and Kenya have increased since 1984. The numbers of both species of rhinoceros poached is not accurately known, but will certainly exceed the difference in the number of rhinos living outside South Africa between 1970 and 1996, ie: more than 60 000.

3. Utilisation and Trade

3.1 National utilisation

Commercialisation of game has made a very important contribution to nature conservation in South Africa, and the sustainable use of the southern white rhinoceros through live sales and sport hunting has contributed significantly to its conservation. This has been achieved by re-investing revenues in rhino security programmes and biological management, and also by providing economic incentives to the private sector to maintain and expand the wildlife estate, which otherwise would be lost to other non-sustainable agricultural practices.

(a) Game sales

Since "Operation Rhino" began in 1961, more than 3 700 rhinoceroses have been moved out of the Hluhluwe-Umfolozi Park and other reserves in KwaZulu-Natal. Many have been donated to other conservation authorities within South Africa and elsewhere in Africa at considerable cost to the Natal Parks Board, while those sold to the private sector up to the late 1980's were at a low, non market-related price to encourage wildlife land-use amongst the private sector.

The auction of 328 southern white rhinoceros by the Natal Parks Board has generated R12,92 million and fixed-price sales a further R7,76 million over the past six years alone (Natal Parks Board records). This excludes sales by other conservation authorities and the private sector. The 63 rhinos sold on the Natal Game Auction in 1995 realised R3,02 million with an average price of R48 100 (range R36 000 - R72 000), equating to US \$11 186¹. This represented a 47% increase in unit price since 1994.

The 1996 wildlife auction was even more successful with 133 white rhinoceroses sold. Prices varied from R23 000 - R86 000 (average R43 812 = US \$10 189).

¹ : based on exchange rate of R4.30 : US \$1

The numbers of rhinoceroses sold by auction and fixed-price sales, and the revenue generated, are shown below.

| Year | Auction | | | Fixed Sale | | |
|------|----------|------------|--------|------------|--------|-------|
| | No | Mean Price | | No | Price | |
| | | R | \$ | | R | \$ |
| 1986 | 6 | 10 167 | 2 364 | 19 | 3 700 | 860 |
| 1987 | 10 | 14 190 | 3 300 | 26 | 4 500 | 1 047 |
| 1988 | 14 | 34 714 | 8 073 | 3 | 10 000 | 2 326 |
| 1989 | 41 | 48 732 | 11 333 | 24 | 25 000 | 5 814 |
| 1990 | 42 | 48 524 | 11 284 | 30 | 40 000 | 9 302 |
| 1991 | 32 | 44 188 | 10 276 | 48 | 40 000 | 9 302 |
| 1992 | 64 | 29 230 | 6 798 | 61 | 40 000 | 9 302 |
| 1993 | 56 | 28 348 | 6 593 | 50 | 20 000 | 4 651 |
| 1994 | 30 | 32 767 | 7 620 | 60 | 20 000 | 4 651 |
| 1995 | 63 | 48 063 | 11 177 | 0 | N/A | N/A |
| 1996 | + 133 | 43 812 | 10 364 | # 30 | 36 000 | 8 516 |

+ - White rhinoceros only
- Projected figure

(b) Hunting

The sustainability of the trophy hunting in southern white rhinoceros in South Africa, and the benefits of this practice have been reported by Adcock and Emslie (1994). The key points are :

- The average number hunted as a percentage of the South African rhino population has averaged less than 1% since 1968, and over this period rhino numbers have increased from almost four fold, from 1 800 to 7 095.
- Using current prices, rhino hunting has generated a gross turnover of over US \$22 million (excluding trophy fees, taxidermy costs, additional hotel charges etc). A turnover of close to US \$2 million was expected for 1995 based on hunting fees and daily rates alone.
- Trophy hunting is strictly controlled through permits issued by the conservation authorities.

(c) Ecotourism

Ecotourism generates very substantial revenue through very substantial domestic demand and an increasing international component. During 1995 domestic and international tourism revenues reached some R26 billion² (5% of S. African GDP). Some R13 billion³ was earned in foreign exchange and the two main attractions bringing tourists to South africa were beautiful

or US \$6 billion
US \$3 billion

scenery and wildlife (SATOUR). Rhinoceros, along with other big game, represent a significant drawcard, especially as the likelihood of sighting them in South Africa parks is very high.

3.2 Legal international trade

The downlisting of the South African population of the southern white rhinoceros to Appendix II at the ninth Conference of Parties (Fort Lauderdale, 1994) allowed for commercial international trade in live rhinoceroses. In 1995, 18 rhinoceros were sold to safari parks and zoos in the United Kingdom, Thailand and Israel. CITES controls were strictly applied to ensure the *bona fides* of the purchasers and the security of the rhinoceroses.

Prior to 1996, 668 southern white rhinoceroses were exported to 25 countries outside Africa by the Natal Parks Board. Almost all the southern white rhinoceros in zoos and safari parks throughout the world are derived from these animals. The purposes were primarily education and captive breeding.

The proposed amendment will not, if accepted, affect the international trade in live rhinoceros or directly the extent of trophy hunting; however it will allow the trade in rhinoceros products, principally horn, which has not been possible since the trade ban resulting from the listing in Appendix I of all extant African and Asian rhino species in 1977.

3.3 Illegal trade

Existing trade data worldwide give an inaccurate measure of the past and present demand in the consumer markets, because as controls are tightened the trade becomes increasingly covert. In Africa, poaching of rhinos continues although its impact at the continental level has lessened during the 1990's, with the numbers of black rhinoceros stabilising at between 2 400 and 2 500 between 1992 and 1995. However rhino poaching still threatens the survival of rhinoceroses in a number of countries (Botswana, Cameroon and Zambia recorded declines in black rhinoceros between 1993 and 1995, and another five countries failed to record increases). Poaching has been recorded in 1996 in Garamba National Park, Zaire, for the first time in ten years which is particularly serious as this places the last remaining 30 or so northern white rhinoceroses *Ceratotherium s. cottoni* in jeopardy. The apparent reduction in poaching may result from the general paucity of soft targets left, and it may well be that it is being concentrated in areas where the lack of management programmes precludes detection.

The number of rhinoceroses poached is only a good indication of trade or demand for horn if the areas lack an adequate security programme. Most South African populations are protected by intensive and sophisticated security which effectively reduces poaching, so it is difficult to draw conclusions with any confidence from poaching figures. The numbers of black and southern white rhinoceroses poached annually between 1990 and 1995 in South Africa are shown below.

| | |
|------------------|------------------|
| 1990 - 8 rhinos | 1993 - 13 rhinos |
| 1991 - 5 rhinos | 1994 - 26 rhinos |
| 1992 - 15 rhinos | 1995 - 10 rhinos |

Whilst the numbers of rhinoceros poached is likely to exceed to some extent the numbers recorded, the volume of horn entering the market from South African populations is well below the potential yield were horn to be legally harvested from white rhinoceros populations in the country.

3.4 Actual or potential trade impacts

An adequately controlled and regulated legal trade in rhino horn would ensure that horn or other rhinoceros products from unapproved sources would not be laundered through the legal system. It is expected that a legalised trade in rhino horn will depress black market prices and activity. It is well established that the legalisation of trade results in improved intelligence information, as the legal entrepreneur informs on black market activities, and that a dependable supply of legal products depresses black market prices.

3.5 Captive breeding or artificial propagation for commercial purposes

There are relatively low numbers of southern white rhinoceros (N= 64) under intensive captive management (mainly outside Africa) and their population performance is low. As there is no programme for their re-establishment in the wild in Africa, their consideration is not of direct relevance to the issue at hand.

4 Conservation and Management

4.1 Legal status

4.1.1 National

The southern white rhinoceros is afforded the highest degree of protection in terms of the various provincial legal instruments applicable. Mpumalanga, Northern province, Gauteng and KwaZulu-Natal list white rhinoceros as Specially Protected game. The Free State classifies the species as Protected game which is the highest degree of protection in the province, and the Western Cape refers to the IUCN Red List and classifies the species as endangered.

4.1.2 International

The conditions attached to the Appendix II listing of the South African population of the southern white rhinoceros precludes international trade in any rhinoceros products. South Africa has abided by these conditions; and in addition, as a CITES authority has regulated the international trade in live rhinoceroses as well as their trophies.

4.2 Species management

4.2.1 Population monitoring

The larger populations are subject to sophisticated, intensive monitoring. Techniques vary according to the size and distribution of the population, the topography and vegetation. Aerial sampling or total count techniques may be employed in open areas, whilst line-transect sampling (Buckland *et al* 1993) is well suited to woodlands. Smaller populations are usually monitored using total foot counts or individual recognition. Population modelling based on sex and age structure, reproductive performance, mortalities, reintroductions and removals is also employed. The more elaborate programmes in protected areas are conducted by qualified ecologists and experienced conservation managers, while the recently formed African Rhino Owners Association co-ordinates the collection of information from private land.

The population estimates are subject to period review by the IUCN's African Rhino Specialist Group.

4.2.2 Habitat conservation

The southern white rhinoceros in South Africa is restricted to State unlisted protected areas (82% of rhinos) and private land (18%) where habitat conservation is a major consideration. Fire is a natural ecological process in the maintenance of habitat diversity. Where natural fire regimes have been interrupted, fire is used as a management tool to maintain a balance between areas dominated by woody plants and more open grasslands, as well as to condition grass swards to favour grazing species.

4.2.3 Management measures

(a) Biological management

Stocking rates are in most cases maintained below ecological carrying capacity to prevent severe habitat degradation that would jeopardise the biodiversity of the area as well as the rhino population itself. This is achieved by either following a fixed stocking rate approach or, in the case of the Hluhluwe-Umfolozi Park, the use of low density dispersal areas to determine offtakes. Surplus animals

are translocated to re-stock State controlled protected areas or sold to the private sector. In this way, the number of populations has increased from 1 to more than 150 in South Africa over the past 35 years.

(b) Harvest rates

Harvest rates are determined by the reproductive performance of individual populations and mortalities, and so tend to vary according to wet and dry climatic cycles. Rhinoceroses are generally not removed from populations until stocking rates reach at least 75% of ecological carrying capacity.

As far as rhino products are concerned, annual quotas based on the sizes of the populations being exploited would be submitted to CITES for approval. Quotas would be conservative such that they could be easily met through a gradual utilisation of stockpiles, the recovery of a proportion of the products from natural mortalities (estimated as at least 230 rhinos per year based on an ecological longevity of 30 years on a population of 7 100) and the periodic de-horning of animals mainly by the private sector. As the South African rhinoceros population continues to expand, so the availability of products would increase.

(c) Mechanisms for reinvesting revenues in nature conservation

The agencies managing 76% of the southern white rhinoceroses in South Africa (namely the Natal and National Parks Boards, North West Environmental Conservation and the private sector) are able to retain control of revenues and to reinvest them in nature conservation. The Natal Parks Board has already undertaken to use the funds obtained from selling rhinoceros products for three purposes only; namely for investment in a Conservation Trust to finance priority conservation projects, a rhino security trust and for neighbourhood programmes. The latter involves identifying the development needs of the underprivileged communities surrounding game reserves; and providing material support following discussion and agreement with local leaders. Such benefits will encourage the local people to support wildlife conservation and the protection of rhinoceros populations in particular, and this support is considered critical to the long-term survival of the species in the region.

The private landowners (represented by the Natal Game Ranchers Association, the National Game Organisation and the African Rhino Owners Association) having invested significant sums of money in establishing their rhinoceros populations are fully supportive of a legal trade in rhinoceros products and are willing to market through the process proposed by the Board.

4.3 Control measures

4.3.1 International trade

Close liaison is being maintained between provincial nature conservation authorities, the National Parks Board and the South African Police Services' specialist branches, especially the Endangered Species Protection Unit. There is no empirical evidence to suggest that there is significant illegal international trade in any rhino products emanating from South Africa. Strict adherence to international export and import restrictions are complied with in the finest detail and no adverse commentary in this respect has been noted. The recently proposed Endangered Species Protection Act is in an advanced state of preparation, and it is envisaged that this Act will greatly enhance the efficiency of law enforcement efforts aimed at curbing any future potential unlawful trade in rhino products.

4.3.2 Domestic measures

In providing details of controls that would ensure a sustainable harvest from the wild, it is important to stress that all southern white rhinoceros in South Africa are confined by fencing to specific areas (State controlled protected areas and communal / private land). The ownership and management of rhinos from one area to another is controlled by the various conservation authorities, which also issue trophy hunting permits. Harvesting is thus strictly controlled to ensure the sustainability of the resource.

The effectiveness of measures to control both the legal and illegal utilisation of southern white rhinoceros in South Africa is clearly indicated by the continued rapid increase in population

size, (see Biological parameters) particularly during 1970 - 1990 when poaching intensity in Africa was at its greatest. Trophy hunting has averaged less than 1% of the population a year since 1968, and would have to reach about 7% (the average annual population growth rate since 1987) to effectively halt further population expansion. The legal harvesting of rhino horn would, of course, be effected through temporary immobilisation, and would not require the killing of the animal.

5. Information on Similar Species

The northern white rhinoceros is not easily distinguished from the southern subspecies, but the former is currently restricted to three locations (Garamba National Park in Zaire, San Diego and Dvur Kralove zoos) and trade in the live animal is not at question here. Rhinoceros horn is the key resource, as it is the one that is targeted by poachers and the one which would dominate any legalised trade due to its high socio-economic value. It is therefore the horn of the southern and northern white rhinoceroses and black rhinoceroses (and ultimately the three Asian species) that would need to be differentiated to prevent the laundering of illegal horn. For the purposes of this proposal for the South African population of the southern white rhinoceros, the source of horn (by area / region) would also need to be verifiable to prevent ingress into the trade of horn from outside South Africa.

While complete horns of black and white rhinoceros are normally distinguishable by experts based on the shape of the horn base, segments of horn are not easily differentiated. However an analysis now makes it possible reliably to distinguish between these species based on radio carbon isotopes (Lee-Thorp et al 1992).

The source area of rhino horn can also be identified using Neutron Activation Analysis (Hart et al 1994) and Radio Isotope Analysis (Lee-Thorp et al 1992). This preliminary work based on horn samples collected from protected areas in South Africa, Zimbabwe and Namibia has demonstrated that each has a unique "fingerprint" based on trace elements absorbed through the dietary process. The use of one, or a combination, of these techniques will allow the source area of the horn to be identified, and hence will largely eliminate the possibility of laundering horns from other areas.

6. Motivation for Change

(a) Rhino recovery

The southern white rhinoceros (*Ceratotherium simum simum*) is one of the very few large mammals which has recovered from the brink of extinction to increase greatly in both number and distribution.

By 1895, only one population of an estimated 10 - 20 animals remained in the southern part of the current Hluhluwe-Umfolozi Park in KwaZulu-Natal, South Africa. Today there are almost 7 100 in South Africa (up from 6 376 estimated in 1993 prior to downlisting to Appendix II), and 8 200 world wide.

(b) Key to success in rhino conservation

One key reason behind South Africa's success (and indeed the success in other parks in Africa) is that the majority of remaining rhinoceroses are conserved in smaller fenced, well protected and intensively managed sanctuaries.

Sadly, rhinos have all been poached out from the vast unfenced areas of bush where it was not possible to deploy sufficient manpower to control poaching (eg. Luangwa Valley in Zambia, the Selous Game reserve in Tanzania, the Zambezi valley in Zimbabwe/Zambia, Chobe/Moremi in Botswana, and Tsavo N.P. in Kenya).

Successful rhino conservation is very expensive. It has been estimated that to successfully conserve and manage rhinoceroses in South African sanctuaries can cost \$1,200 per square kilometre per year (AfrSG).

The financial cost of the intensive management and protection responsible for South Africa's conservation success has clearly been great; and has been almost entirely provided from internal sources

within South Africa without support from external donors. In 1994 the total budget from the State to South African public conservation departments managing rhinoceroses was approximately R340 million (US \$79 million). Private sector rhinoceros conservation has been self funded.

A major problem currently facing not only South Africa, but also many other rhino range States, is that conservation departments have for a number of years experienced budgetary cuts in real terms as government grants have failed to keep pace with inflation. In some cases grants have even been cut. Funding levels for State conservation departments in South Africa are now reaching critical levels. Thus it is becoming increasingly difficult to maintain the levels of spending necessary for success.

To date, adequate levels of alternative support from external donors has not materialised to cover shortfalls in rhino conservation spending. Even if such support were to become available, it would be unlikely to be available on a sustainable basis.

Seen against this background, CITES COP 9 recognised that it is critical for rhino range States like South Africa to develop innovative means for self-generation of additional income to cover any current and future shortfalls in conservation funding. The CITES COP 9 resolution on the Conservation of Rhinoceros in Asia and Africa recommends that all range States develop recovery plans for the rhinoceros populations which inter-alia; (a) are appropriate for the situation in their country; (b) will not adversely affect rhino conservation in other range States; (c) include provision for the reinvestment of revenues derived from the use of rhinoceros that is consistent with the (CITES) convention, in order to off-set the high costs of their conservation; and (d) aim towards a long-term goal of sustaining, and a basis of self-sufficiency, their rhinoceros conservation efforts.

(c) Rhino conservation and human development

For conservation in South Africa to succeed in the long term, it has to have the support of the majority of the people and the politicians.

The fact is that there are many very poor people in Africa. The more conservation can contribute to human upliftment and empowerment the better. It is very important that rhino conservation is not seen as an activity that only "rich, white people" engage in. Conservationists cannot afford to ignore neighbouring communities or give the impression that they "care more about animals than people".

It is essential that conservation wins friends and builds good relations with neighbouring communities. The more wildlife can create jobs and facilitate community upliftment (for example by facilitating the provision of clean water, schools or health clinics) the better. Also the more revenue, foreign exchange and jobs conservation can generate, the stronger its case will be for more funds from central government.

The early history of African game reserves and parks is one of colonialism. Parks were set up and people were moved out. Strict protectionist policies were enforced with little thought for the welfare of the poor. Neighbouring communities saw few benefits from parks, yet the parks' wild animals caused damage to their crops, livestock and property. Over the decades antagonism was created between parks and their neighbours.

However, over recent years a major paradigm shift has occurred in many African countries including South Africa. Protectionism is now discredited; while sustainable use of wildlife has been adopted as the cornerstone of the philosophy underpinning conservation in the region. This offers the best approach to helping generate the necessary funds for conservation and for socio-economic upliftment. In the poorer countries of the world there is a growing pressure for land and there is pressure to "use land or lose it". Sustainable use enables conservationists to justify conservation as a productive form of land use.

Conservation developments are expanding in many areas of the region simply because they make good economic sense, and have the best potential to bring in wealth and jobs, and so help to empower poor rural communities. Relationships between parks and neighbours is improving in many areas, and the antagonism of the past is being broken down. In some cases rural communities are now setting up their own game and resource reserves. Without the commercialisation and sustainable use of wildlife this would never have occurred.

Good neighbour relations also contribute to successful conservation, as neighbouring communities are more inclined to provide intelligence information on potential poachers that may have moved into their area.

(d) The international trade ban

The strategy of banning all international trade in rhinoceros products has failed to provide any significant protection to rhinoceros populations in the wild and should be discarded as a viable conservation measure. According to t'Sas Rolfes (pers. comm.) such a ban may even be counter-productive in that it prevents benefits from the sale of rhinoceros products accruing to rhinoceros owners, while rewarding the illegal operators and possibly stimulating poaching as the availability of the resource decreases. This view is strongly supported.

It is emphasised, however, that South Africa fully supports efforts at the international level to eradicate the illegal trade in rhinoceros products, and has pledged its full co-operation with all involved in such actions. At the national level, South Africa has made strenuous efforts to stop illegal trade and has been successful in reducing the flow of illegal wildlife products through South Africa.

The penalty for poaching of, or illegal trade in, the white rhinoceros was raised within South Africa to R100 000 or 10 years imprisonment in early 1991, which confers the same legal protection given the black rhinoceros.

While poaching has been effectively controlled in South Africa through appropriate anti-poaching and other security programmes, and the rhinoceros populations (both black and white) have continued to flourish, this is not the case elsewhere. On the African and global scales, poaching activities and illegal trade have continued on a large scale. On the African continent, this has resulted in black rhino numbers falling from 65 000 in 1970 to about 2 400 today, and the small numbers of white rhinoceroses north of the Limpopo river have also suffered heavily from poaching.

The conclusion drawn is that the removal of CITES protection will not result in an increased level of undesirable or illegal exploitation of the southern white rhinoceros, in fact the reverse is expected. This statement also applies to the small population of the northern white rhinoceros in Garamba National Park, which has been expanding as a result of sound management, but which in early 1996 experienced renewed poaching after a lull of 10 years; and the black rhinoceros populations throughout Africa which would still be subject to Appendix I restrictions.

(e) Potential utilisation and trade

Any potential trade would have to be effectively regulated to ensure that horn or other rhinoceros products from unapproved sources could not be laundered through the legal trade. This could certainly be effected through a strictly controlled quota and marketing system as summarised below and described in detail in the attached document entitled "A possible framework for legal trade in rhinoceros products".

Annual quotas based on the sizes of the populations being exploited would be submitted for CITES approval.

Quotas would be extremely conservative and could easily be met through current stockpiles (horns) and the recovery of a proportion of the products from natural mortalities which would be estimated as at least 230 rhinos per year.

The rhinoceros products could be processed in South Africa to produce traditional medicines and/or dagger handles, sold to approved buyers and the consignments sealed and sent overseas in bondage. Production would be limited to the approved quota levels, while regular testing of samples would ensure that products from other species (eg. black rhinoceros), or white rhinoceroses from unapproved areas, were detected using neutron Activation or Radio Isotope Analysis, (see Information on similar species). The precise marketing technique would depend on between-State agreements.

The control and marketing aspects would be handled by the Natal Parks Board, an approved CITES management authority, at a control facility on behalf of all suppliers of the rhinoceros products. A large pharmaceutical company has already indicated a willingness to beneficiate the product for marketing overseas, should this prove agreeable to the market.

(f) Conservation benefits of trade

The very high protection costs for rhino, and the need to maintain high standards of security and biological management, require the economic benefits of rhino conservation to be maximised. The legalising of trade in products from South Africa's southern white rhinoceros will effect this, and will make a significant contribution to their survival on the continent.

The commercialisation and sustainable use of rhinoceroses in South Africa through live sales and limited trophy hunting (see Utilisation and trade) has already had extremely beneficial effects. It has generated additional revenue that has been re-invested in conservation, and provided incentives for the private sector to acquire and breed rhinoceroses, which in turn has helped maintain wildlife conservation and utilisation enterprises based on natural ecosystems. In addition, the high commercial value of rhinoceroses has contributed to the substantial increase in legal penalties, and sent a strong message to the judiciary to treat cases of poaching and illegal trade very seriously.

Revenue accrued from the sale of rhinoceros products will be available to maintain or improve the conservation management programmes on which the various rhinoceros species depend. Detailed research and monitoring programmes are required to ensure sustained population growth (Brooks 1989), but currently the most critical aspect is the security of populations. Law enforcement, including anti-poaching and intelligence activities, is extremely expensive; and is unlikely, on its own, to succeed in the long term without the wholehearted support of the local communities.

Funds from the sale of rhinoceros products are desperately needed to support South Africa's conservation efforts. For example, the cost of setting up the infrastructure to secure a rhino population in a medium-sized reserve of 600 km² is estimated (in 1993) at US \$2,2 million, while annual running costs approximate US \$720 000 per year.

The Natal Parks Board has already undertaken to use the funds obtained from selling the Board's rhinoceros products for three purposes only, namely for investment in a Conservation Trust to finance priority conservation projects, a Rhino Security Trust, and for neighbourhood programmes. The latter involves identifying the development needs of the underprivileged communities surrounding game reserves, and to provide material support following discussion and agreement with local leaders. Such benefits will encourage the local people to support wildlife conservation and the protection of rhinoceros populations in particular, and this support is considered critical for the long-term survival of the species in the region.

Legalised trade will have additional benefits for rhinoceros conservation. It is well established that the legalisation of trade results in improved intelligence, as the legal entrepreneur informs on black market activities, and that a dependable supply of products depresses black market prices. In addition, other land-owners will be encouraged to invest in rhinoceros populations and protect them as utilisable, economic assets.

South Africa is deeply concerned about the implications of leaving rhinoceros products to rot on the ground or in storage vaults, when legal utilisation could help prevent the continued slaughter of this magnificent animal and its close relatives in other parts of its range, and contribute to community upliftment.

7. Summary and Conclusion

It is proposed that the conditions attached to the Appendix II listing of the South African population of the southern white rhinoceros *Ceratotherium simum simum* be altered to allow the possibility of establishing a legal trade in its horn and other products.

The rationale for this proposal is based on the following :

- The southern white rhinoceros has recovered from a global population of 10 - 20 animals in 1900 to over 7 500 today; of which about 7 100 are conserved in South Africa. Approximately 1 200 are in private ownership on more than 100 properties.
- The sustainable use of the southern white rhinoceros in South Africa through ecotourism, live sales and sport hunting has contributed very significantly to its conservation. Revenues have been used to support rhinoceros security and biological management programmes, and the economic incentives to invest in the subspecies have encouraged the private sector to maintain and expand the wildlife estate in the face of other non-sustainable agricultural practices.
- The sustainability of South Africa's approach to rhinoceros conservation is indicated by the fact that the numbers of southern white rhinoceros in South Africa have more than doubled since 1984, while numbers in the other African states have declined.
- The ban on all international trade in rhinoceros products introduced in 1977 has failed to provide significant protection to rhinoceros populations in the wild. In fact, such a ban may even be counter-productive in that it prevents the full benefits of wise use of the resource accruing to rhinoceros owners, while rewarding the illegal operators and possibly stimulating poaching as the availability of the resource decreases.
- Conservation departments in Africa have for a number of years experienced budgetary cuts, and funding levels for State conservation agencies in South Africa are now reaching critical levels.
- It costs in the region of US \$1 200 per km² per year to successfully conserve and manage rhinoceroses in South African sanctuaries.
- In 1994, CITES COP 9 recognised that it is critical for rhinoceros range States like South Africa to develop innovative means for the self-generation of income to cover current and future shortfalls in conservation funding, and to achieve self-sufficiency in their rhinoceros conservation programmes.
- While fully supporting the efforts at the international level to eradicate the illegal trade in rhinoceros products, **SOUTH AFRICA BELIEVES THAT THE INTRODUCTION OF A STRICTLY CONTROLLED AND WELL-REGULATED LEGAL TRADE IN THESE PRODUCTS WILL MAKE A SIGNIFICANT CONTRIBUTION TO THE SURVIVAL OF THE SOUTHERN WHITE RHINOCEROS ON THE CONTINENT.** The trading system would comprise :
 - i) Annual quotas based on the sizes of the populations being exploited and current stockpiles would be submitted to CITES for approval.
 - ii) The control and marketing aspects would be handled by the Natal Parks Board, an approved CITES management authority.
 - iii) The prevention of illegal horn being laundered through the system by the use of "horn fingerprinting" based on Neutron Activation Analysis and/or Isotope Analysis. These techniques allow the area of origin of the horn to be determined based on a number of trace elements absorbed through the diet.
- The Natal Parks Board has already undertaken to use funds derived from selling the Board's rhinoceros products to finance the socio-economic upliftment of neighbouring communities, to invest in rhinoceros security and to support other priority conservation projects. Other benefits of legalising the trade in rhinoceros products include improved intelligence on illegal activities, and the encouragement of other landowners to invest in, and protect, rhinoceros populations as utilisable, economic assets.
- Given the amendment of the wording of the Appendix II listing of South Africa's southern white rhinoceros population, South Africa would further investigate the possibility of establishing bilateral trade in rhinoceros products with appropriate controls and seek international support for the trading system so devised before entering into international trade.

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Ceratotherium simum simum

Information on the export of live animals and hunting trophies from South Africa since the transfer of the species from CITES Appendix I to II

1. Live animals and hunting trophies exported during 1995

1.1 Thirty six (36) live animals were exported as follows:

| Number | Destination | | Permit No |
|--------|-------------|--------------------------------------|------------------|
| | Country | Institution | |
| 2 | Argentina | Jardin Zoological De Buenos Aires | 12397 T |
| 6 | Botswana | Khana Serowe Rhino Sanctuary | 11927 T |
| 2 | Israel | Tisch Family Zoological Gardens | 5719 N |
| 10 | Namibia | Etosha National Park | 11790 T, 11791 T |
| 10 | Thailand | Safari World Public Co Ltd | 5680 N* |
| 6 | UK | West Midland Safari and Leisure Park | 5683 N |

* Permit number 5680 N was issued for 20 live animals to Thailand but only 10 animals were exported.

1.2 Ninety one (91) hunting trophies were exported as follows:

| Number | Country | Permit No |
|--------|----------|---|
| 1 | Austria | 11676 T |
| 1 | Belgium | 335/95 C |
| 3 | Canada | 5706 N, 11737 T, 11923 T |
| 1 | Dominica | 11565 T |
| 2 | France | 6095 N [#] , 5973 N [#] , 11836 T |

| | | |
|---------------|----------------|---|
| 5 | Germany | 11441 T, 11442 T, 11610 T, 12020T, 12255T |
| 3 | Indonesia | 5751 N, 12282 T, 12285 T |
| 1 | Italy | 12523 T |
| Number | Country | Permit No |
| 3 | Mexico | 5663 N, 12016 T, 12100 T |
| 1 | Saudi Arabia | 12641 T |
| 7 | Spain | 5814 N, 11660 T, 11929 T, 11970 T, 12014 T, 12215 T, 12607 T |
| 1 | Switzerland | 5751 N |
| 3 | Turkey | 11552 T, 12273 T, 12274 T |
| 1 | UK | 12537 T |
| 58 | USA | 5763 N, 5777 N, 5724 N, 5749 N, 5741 N, 5788 N, 5787 N, 5821 N, 11424 T, 11429 T, 11458 T, 11511 T, 11535 T, 11609 T, 11620 T, 11658 T, 11746 T, 11840 T, 11848 T, 11849 T, 11911 T, 11924 T, 11926 T, 11951 T, 11967 T, 11975 T, 12064 T, 12081 T, 12105 T, 12130 T, 12174 T, 12197 T, 12235 T, 12239 T, 12240 T, 12300 T, 12304 T, 12317 T, 12325 T, 12418 T, 12440 T, 12482 T, 12493 T, 12563 T, 12608 T, 12618 T, 12624 T, 12625 T, 12638 T, 12671 T, 12681 T, 11/95 C, 161/95 C, 206/95 C, 306/95 C, 323/95 C, 76/95 C, 77/95 C |

Parts of the same hunted animal were exported under two permits.

2. Live animals and hunting trophies exported during 1996

2.1 Ten (10) live animals were exported as follows:

| Number | Destination | | Permit No |
|--------|-------------|-----------------------------|-----------|
| | Country | Institution | |
| 2 | Malaysia | Pengarah Zoo, Negara | 6014 N |
| 3 | Malaysia | Taiping Zoo | 6013 N |
| 3 | Zimbabwe | Malangwe Conservation Trust | 13533 T |
| 2 | Zimbabwe | Orion Investment Pty Ltd | 14001 T |

2.2 Thirty nine (39) trophies were exported as follows:

| Number | Country | Permit No |
|--------|-------------|---|
| 1 | Austria | 6068 N [#] , 6101 N [#] |
| 1 | Canada | 14019 T |
| 1 | France | 13948 T |
| 3 | Germany | 13190 T, 13559 T, 6083 N |
| 1 | Italy | 13520 T |
| 1 | Japan | 12990 T |
| 1 | Namibia | 6124 N [#] , 6128 N [#] |
| 1 | Russia | 12829 T |
| 1 | Spain | 13873 T |
| 1 | Sweden | 12764 T |
| 1 | Switzerland | 13208 T |

| | | |
|----|----------|---|
| 25 | USA | 12743 T, 12773 T, 12790 T, 12816 T, 12983 T, 12987 T, 12997 T, 13082 T, 13176 T, 13219 T, 13280 T, 13309 T, 13430 T, 13501 T, 13567 T, 13662 T, 13784 T, 13820 T, 13821 T, 13960 T, 13986 T, 14054 T, 12858 T, 6084 N, 6082 N |
| 1 | Zimbabwe | 5971 N |

Parts of the same hunted animal were exported under two permits.

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**A POSSIBLE FRAMEWORK FOR
LEGAL TRADE IN
RHINOCEROS PRODUCTS**

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INTRODUCTION

During March 1992 in Kyoto, Japan, the Eighth Meeting of the Parties of CITES was presented with serious proposals to change the status of selected rhinoceros populations in order to create opportunities to trade rhino products legally.

South Africa with a population at the time of some 5 300 southern white rhinoceros *Ceratotherium simum simum*, sought agreement to place the South African population on Appendix II and Zimbabwe, facing a massive poaching problem, sought the same downgrading for both its white rhinoceros and black rhinoceros *Diceros bicornis* populations.

The reason behind the proposals were simple - after 15 years of total CITES protection the world status of rhino populations, with the exception of the southern race of the white rhinoceros, had steadily worsened.

In November 1994, the Ninth Conference of the Parties to CITES agreed to the downlisting of the South African population of the southern white rhinoceros from Appendix I to Appendix II, although trade in rhinoceros products was prohibited. A proposal to alter the conditions of this downlisting to allow the possibility of establishing a legal trade in rhinoceros products is being put to the Tenth Conference of the Parties in 1997.

The CITES ban on all international trade in rhinoceros products has failed to provide any significant protection to rhinoceros populations in the wild and should be discarded as a viable conservation measure.

RECENT DEVELOPMENTS

In Africa, the poaching of rhinos continues although its impact at the continental level has lessened since 1992, with population numbers of black rhinoceros stabilising at between 2 400 and 2 500. However rhino poaching continues to threaten the survival of rhinos, and many countries continue to suffer declines. The apparent reduction in poaching is likely to result from the general paucity of soft targets remaining, and it may well be that it continues undetected in countries where the conservation management programmes are still very poorly developed. Most South African populations of both black and white rhinoceros are protected by intensive sophisticated and expensive security programmes which effectively deter the escalation of poaching. Similar programmes are now in place in Kenya, Zimbabwe and Namibia to protect populations. That 94% of black rhinos and 99% of white rhinos in Africa are protected in these four countries, and that the populations in each are either stable or increasing adequately explains the stabilisation of the numbers on the continent : it is due to intensive *in situ* protection rather than the effects of the trade ban.

Since CITES came into being in the 1970's, a large number of species have been noted in its appendices, but a very few have been removed other than through extinction. This trend to prevent the legalised trade in species and their products is unfortunate, and particularly so for species that are almost entirely restricted to protected areas controlled by range States, as it will probably encourage the demise of many wild populations. This is because people will replace wild species from which they are not legally entitled to fully benefit, with domestic species that they own and use for their benefit at any time.

Progress was made at the Ninth Conference of the Parties to CITES with the adoption of Res. Conf.9. on the "Conservation of Rhinoceros in Asia and Africa". This resolution repealed Res.Conf.3.11 and 6.11 as these interventions had failed to arrest the decline in rhinoceros populations, and effectively allowed for more innovative conservation measures in addition to the rigorous enforcement of controls on illegal trade. The resolution recommended the reinvestment of revenues derived from the wise use of rhinoceros to offset

the high cost of their conservation, and the adoption of self-sufficient and sustainable conservation programmes.

The cost of maintaining safe rhinoceros populations is now reaching unsustainable levels without the financial return for their protection being maximised. As the harvesting of rhino horn for legal purposes would not harm the animals concerned, and de-horning acts as a deterrent to poaching, the species would only benefit from the introduction of a legalised trade.

TECHNIQUES TO ENSURE ADEQUATE IDENTIFICATION OF RHINO HORN

Apart from simple measurement and weight there are several new techniques that have been recently developed to ensure accurate identification of individual rhino horns :-

1. **Trace element analysis**

Neutron Activation Analysis (NAA) is a highly sensitive technique for the simultaneous determination of a number of trace elements in small samples. Up to 8 elements have been identified in horn samples. (Hart, Lee-Thorp and Tredoux. 1992)

2. **Isotope analysis**

The use of stable isotope ratios of carbon, nitrogen and strontium have great potential for species identification and source area tracing of rhino horn. (Lee-Thorp et al. 1992)

3. **Passive Internal Transponder**

Available from two commercial sources these small tags (11 mm total length) can be injected or glued into drilled holes and checked with the appropriate reader at any time. Extremely difficult to remove without substantial damage to horn.

Recommended as additional I.D. method by CITES, 1992.

4. **Bar Codes**

Already proposed for use on tusks. If surface horn is prepared, could also be used on horn.

5. **Holograms**

As for 4.

RATIONALE FOR LEGAL TRADE

The sale of rhino products is necessary for the following reasons :-

- (i) There is a legitimate market as a result of powdered rhino horn being a traditional medicine used today primarily for headache and feverish colds, to calm the liver and clear vision, a tonic and antipyretic. Dr Teng Fan-Nan (pers.comm.) and see also Read (1982).
- (ii) This market is large and although expected to decline is unlikely to disappear before all

rhinoceros are extinct if the current expensive conservation measures cannot be maintained.

- (iii) Illegal activities currently dominate the rhino horn trade and this must be replaced by a legal trade which will enable reasonably reliable monitoring.

(The Taiwanese trade has been driven underground by rash and over-enthusiastic attempts to force Taiwan to stop trading).

- (iv) The overall white rhinoceros population in South Africa could provide much, if not all, of the 1 200 - 2 000 kgs of rhino horn currently being consumed in medicines each year in China, Taiwan and South Korea.

- (v) Countries such as South Africa have thriving and increasing populations of rhinoceros and should legitimately be able to benefit from the sale of products.

(It has been agreed in Natal that all export earnings from rhino products will go into a series of trusts designed specifically to support conservation in general - the Natal Parks Board Conservation Trust, the Rhino Security Trust and the Neighbourhood Trust).

- (vi) In South Africa private entrepreneurs have invested millions of dollars in rhinoceros herds. Legitimate export of rhinoceros products will further the cause for rhino conservation and will encourage further investment in the rhino industry.

In South Africa there are an estimated 1 200 white rhinoceros in private hands.

PROPOSED INTER-STATE TRADE CONTROLS

In order to encourage all parties to give consideration to the opening of a legal trade, it is necessary to review the control systems that exist in South Africa and the methods whereby secure inter-country trade could take place.

1. Legal controls

In South Africa all trade is forbidden and the killing of rhino, trade in products, etc., is punishable by 10 years imprisonment and/or a R100 000 (\$US 35,000) fine.

At this time, all horn is required to be registered and each horn is measured, weighed and numbered. many tons of horn, both legal and confiscated from poachers, are securely stockpiled.

2. Secure sale and transport controls

Rhino horn could be ground into powder in South Africa prior to sale, but this would certainly not find favour with the traditional doctors (and even patients) in the Republic of China. The desired form of purchase is the whole horn.

Assuming this to be the case, the disposal of horns could take any one or more of the following routes :-

- (i) Sale by auction to accredited buyers (accredited by the appropriate authorities in consumer countries). (Advantage - eliminates costly middle-man thus reducing prices and ensures that products do not go via non-consumer nations).
- (ii) Sale by agreement to accredited buyers.
- (iii) Sale by agreement to appropriate controlling authority in the consumer nation.

In order to guarantee the integrity of each batch of horn and prevent the laundering of illegal material, the following controls are necessary :-

- (i) Horns could be sold only in batches originating in single protected areas or local regions. (Advantage - chemical structure will be more or less identical).
- (ii) Every horn would be individually measured, weighed, externally marked (possibly with computer code and/or hologram) and internally marked using a Passive Internal Transponder (PIT tag).

- (Advantage -
- (a) no chance of laundering illegal products;
 - (b) traditional doctors in Taiwan have no objection to use PIT tags; and
 - (c) bar code could include chemical or isotopic analysis appropriate to the region. (See Techniques above).

3. Transport

All export would be by air, in bond and in sealed boxes with appropriate security controls.

4. Documentation

- (i) Copies of all sales documents would go to the appropriate controlling authority in the consumer nation;
- OR
- (ii) the consignment would be despatched, together with all documentation, direct to the appropriate conservation authority in the consumer country.

PROPOSALS FOR INTERNAL TRADE CONTROLS

As the legal horns would be individually identifiable it is recommended that :-

- (i) a full record of all imports be maintained;
- (ii) it must be obligatory for the buyer/importer to provide details of the final buyer and retailer;
- (iii) retailer must record every sale plus quantity sold (price would be a useful additional piece of information);
- (iv) retailer must return PIT tag once it is exposed by scraping horn off in powder form; and
- (v) retailer will then be able to purchase another legal horn.

NB: Checks can be made of stocks in retailer shop and scrapings can be analysed for chemical structure. This will confirm the source of the horn.

CONCLUSION

South Africa believes that the advantages of permitting the legal sale of rhino horn and other rhinoceros products through a well-controlled and monitored inter-State agreement will be a major step towards eliminating the illegal trade in rhinoceros products. A source of legal horn would reduce the necessity for the illegal trade.

The techniques capable of establishing the geographic source of individual horns have been developed. Although at present it would be difficult to establish the source of all illegal horn, a project is in progress through the IUCN's African Rhino Specialist Group to obtain "fingerprints" for all Africa's key and important populations.

With these tools and sound inter-State co-operation, it will be possible to provide legal horn to legitimate and traditional consumers without the risk of illegally obtained horns being laundered through the system.

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