

reduce the trade in rhino products. At the present level of trade rhinos will be virtually eliminated within 10 years.

Curbing deeply held beliefs is a huge problem, but much of the increased demand in the Middle East is recent rather than traditional. In the Far East, approaches to the doctors, to the Chinese institutes examining the use of natural medicines, to the retailers and to the users will be made.

An average rhino has three kilos of horn. This means that with some 8000 kilos a year on the market we are annually losing over 2500 rhinos. There are signs, though, that the tide is now turning. Over one million dollars will soon have been raised by WWF and other organizations, and allocated to IUCN projects.

Public awareness is increasing and many governments have committed themselves to protective measures. Lets us hope that an all out approach on all aspects of the problem will save the rhino.

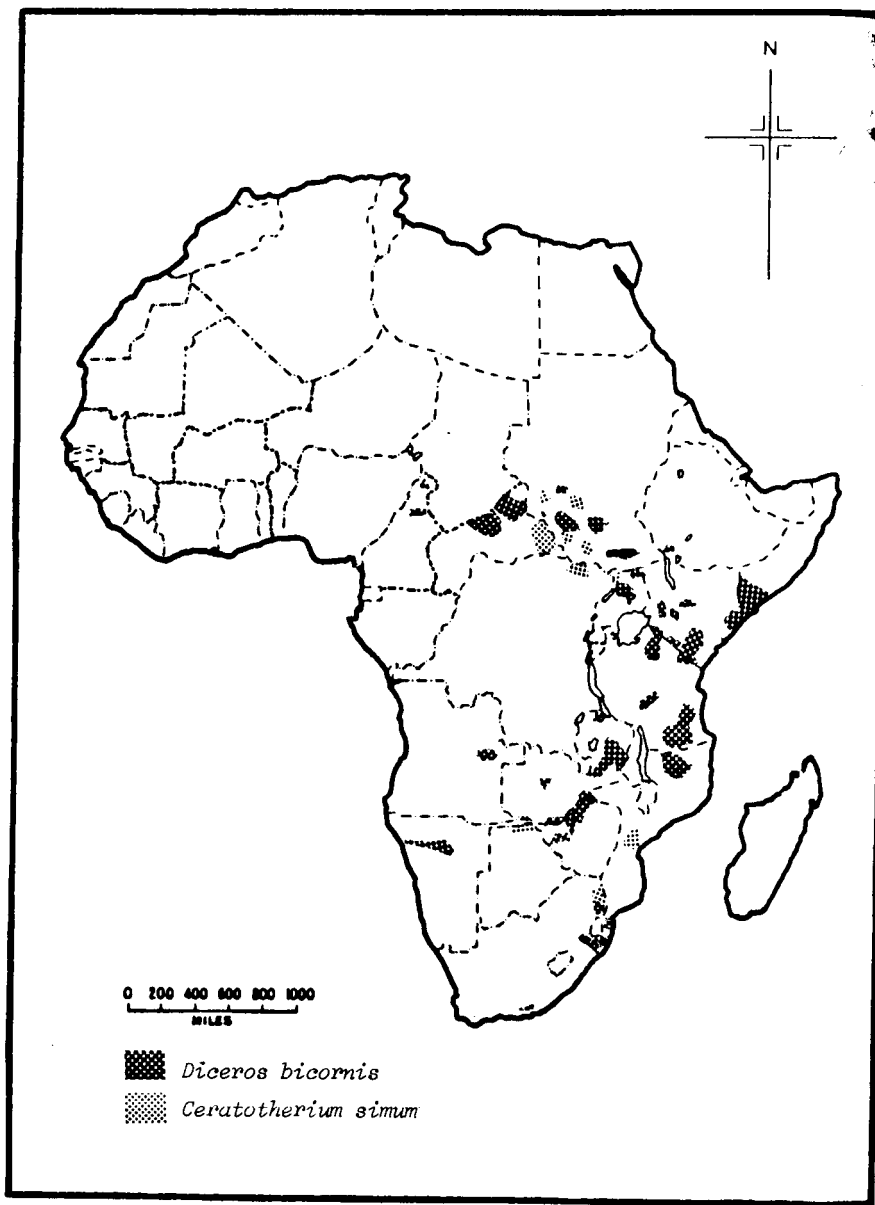
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The International Trade in Rhinoceros Products

From 1970 to the present approximately 90 per cent of the rhinoceros in Kenya, Uganda and northern Tanzania have been killed. Rhinos in these three East African countries constituted at the beginning of the decade the world's largest concentrations. Today prospects for their very survival are shrouded in pessimism. Official statistics, which exclude smuggling, show that a total of almost 24 tonnes of rhino horn was sent overseas from East Africa between 1970 and 1976. This represents approximately 8,280 rhinos; the entire rhino population of Africa is now estimated between 14,000 and 24,000 animals. In Asia, there are only about 2,000 Indian, Sumatran and Javan rhinos left.

The main reason for the accelerated killing of rhinos is due to the strong demand for rhino products, especially the skin and horn, in the Yemens, India, Singapore, China, Hong Kong, Malaysia, Taiwan, South Korea and Japan. Moreover, despite the fact that the quantity of rhino horn available on the market has increased in the 1970s decade, prices have risen to an all-time high.

The total number of rhinos killed annually in the wild from 1972 to 1978 produced 7,970 kilos of horn, or about eight tonnes for the world trade. This is roughly the same amount



RHINO DISTRIBUTION IN AFRICA as known January 1980
IUCN/SSC African Rhino Group.

as the total of imports from consumer countries. Thus from two very different and independent sources, we can conclude that a minimum of 7.75 tonnes of rhino horn has entered the world market annually from 1972 to 1978.

If at least 7.75 tonnes of rhino horn have gone onto the world market annually in this this period, as I believe, then the wholesale value of this trade in Asia in 1972 was worth \$255,750, at \$33 a kilo. By 1978 the wholesale value had increased to about \$2,400,000. If the same amount of horn came onto the world market in 1979 as in the previous year, the wholesale value was \$4,650,000. If one were to calculate the retail value of that portion of it which ended up in the pharmacies of Asia (4,778 kilos), the price would be \$41,602,046, a gigantic sum of money for one single animal product.

Can the world-wide populations of rhinos continue to support a trade of close to eight tonnes of horn a year, which is the result of the death of about 2,580 animals on an annual basis? The answer is a resounding NO. Continual killing at this rate (even if one were to subtract a theoretical maximum average of six per cent natural increase per year), will mean that in ten years' time there will be none left in the wild. The brunt of the pressure from trade is on the black rhino in Africa and the Sumatran rhino in Asia. The bleakness of their future is compounded by agriculturists and ranchers who are encroaching on their habitats. This will lead to further splitting of rhino populations outside parks and reserves, into small and unstable units, not conducive to breeding. Urgent help for these two species is required.

It is the horn of the rhinoceros which for many centuries has been the most prized part of the animal. The Chinese carved it into magnificent works of art, including ceremonial cups and decorative dishes for washing paint brushes, none of which were actually used, but were instead treasured gifts commissioned by Chinese aristocrats to present to emperors on their birthdays during the Ming and Ching dynasties. Today, there are not a great many of these vessels remaining to be seen; the best known ones are in the National Palace Museum in Taipei and in the King of Sweden's art collection.

Less elaborate cups carved out of rhino horn, for the purpose of detecting poison, were widely made and used in the Muslim, Hindu and Buddhist worlds, from central Africa in the west to China in the East. The practice of submitting drinks to this test spread to Renaissance Europe, where Popes and monarchs also used rhino horn cups. Lee Talbot thinks that these cups may have been partly successful in detecting poison. Since many of the old poisons were strong alkaloids, they would have reacted when put into contact with rhino horn which is made up of keratin and gelatine.

One of the main centres for making rhino horn cups outside of China was in the Sudan.

In China for hundreds of years the horn was also used for making sword handles, buttons, buckles for belts and cross-pieces on straps. But the major use in China in the old days was for medicinal purposes. The main diseases and disabilities which rhino horn would cure, according to Li Shih Chen, a 16th century pharmacist, were snakebites, "devil-possession", hallucinations, typhoid, headache, carbuncles, boils and fever; if the horn were burnt and mixed with water, then vomiting and food poisoning could be cured.

In India there are references dating back to the twelfth century of rhino horns being used for making knife handles, and there is a long tradition of the horn being ground up into a powder and mixed with liquids to be used as an aphrodisiac.

Aside from cups, the horn was used in the Sudan in the nineteenth century for making walking sticks and handles for swords. Farther south, in East Africa, the Dorobo made snuff boxes and clubs from the black rhino horn. Richard Burton reported that medicinal properties of the horn were also recognized by Africans: "The inner barbarians (of Tanganyika) apply plates of the horn to helcomas and ulcerations, and they cut it into bits, which are bound by twine around the limb."

Since 1972 a vast quantity of rhino horn has been used for making the handles of traditional Yemeni daggers, called jambias. We do not know for how many years or even centuries rhino horn has been in demand in the Yemen for dagger handles, but there is strong evidence that it has been only recently that there has been a large demand.

Official East African statistics show that Kenya, Uganda and Tanzania, the world's major suppliers of rhino horn, exported essentially no horn to either Yemen from 1949 to 1955. Later between 1956 and 1961, South Yemen imported a yearly average of 98 kilos, and from 1962 to 1969 the annual average increased over four and a half times to 474 kilos. According to official North Yemen statistics, from 1969 to 1977, 22,645 kilos of rhino horn were imported. In other words, an annual average of 2,831 kilos of rhino horn came into the country, representing for this eight-year period the death of approximately 8,000 rhino, which is almost the same figure as the one based on the total legal exports from East Africa at this time.

This huge amount of rhino horn imported into North Yemen in the 1970s was used to make handles for the daggers. Since the per capita income of the country has increased five-fold

in the past ten years, there is now enough money for many people to purchase the horn. The expensive daggers, which vary in price from \$300 to \$13,000, have a very special place in the life of Yemeni men. Almost all males over the age of fourteen possess one of these traditional weapons, and most Yemeni men wear them daily.

Most of the jambias which are offered for sale in North Yemen are made in the main market of the capital of Sanaa, within a short distance of the Bab al Yemen. One kilo of rhino horn will usually provide enough material for three handles, and thus between 1969 and 1977 approximately 8,500 jambias with rhino horn handles were made each year.

Curiously, the preference for rhino horn handles on daggers is not apparent in other Arab countries. Neither the Arabs of Oman nor of the United Arab Emirates, who also carry daggers, import rhino horn for them.

The making of rhino horn handles for daggers is secondary to the use of rhino horn in traditional Chinese medicine. However, it is not in demand in Southeast Asia as an aphrodisiac. Only in India, and in particular in Gujerat and Bengal, have I come across reports of rhino horn used as an aphrodisiac. Whether or not the use of rhino in either of these places as an aphrodisiac is widespread remains at present unknown. More research is required, especially since there have been recent reports of an increase in poaching of Indian rhinos for their horn.

In Singapore, Hong Kong, Macao, Taiwan and Thailand no one suggested any possibility of aphrodisiac qualities pertaining to rhino horn. Moreover, traditional medicine practitioners denied it is used on mainland China as an aphrodisiac. It is possible that rhino horn may be used as an aphrodisiac in one or two remote places in Asia (other than in India), but its use as such is definitely only of minor significance. I understand, also, that neither the South Koreans nor the Japanese, both of whom are major importers of rhino horn, use it as a sexual stimulant. The popular belief among westerners that the major use of rhino horn is by the Chinese as a "love potion" is unfounded.

Today most rhino horn in Southeast Asia and the Far East is used as a fever-depressing drug; it is also occasionally used to relieve headache, for heart trouble, to "cleanse" the liver and pancreas, and, when made into an ointment, to cure skin diseases. Rhino horn is available in all the large cities there and in many smaller ones as well.

As far as I know, nowhere now in Africa is the rhinoceros horn used as an aphrodisiac or for medicinal purposes of any sort. Unlike in the Yemen, Southeast Asia and the Far East,

Africans do not attach any special qualities to rhino horn per se; however, because of the tremendous demand for rhino horn outside Africa, it has become an item of great commercial value, not just for the middlemen who arrange its export but also for the poachers, who, in Kenya, can make as much as \$400 for supplying one rhino horn to the market.

Chinese traditional medicine is ubiquitous throughout Asia with only a few exceptions (the major one being Sri Lanka) and is the basis also for the Korean and Japanese practices. Despite the fact that westernization has penetrated all the different cultures of the Asian countries, age-old remedies such as rhino horn are still required and often they are sold over the counter in shops along with western aspirin tablets and antibiotics. Reliance on the efficacy of rhino horn as medicine is probably more of a long-term threat to the continued existence of rhinos than anything else.

In the world today, next to the horn, the most widely used part of the rhino is its skin. In demand in Singapore, Hong Kong, Macao, Taiwan and Thailand, people believe in its efficacy for curing skin diseases and occasionally for relieving rheumatic pains and blood disorders. The major supplier of rhino skin to the above named countries (except Thailand) is now South Africa which legally exports dried rhino skin to dealers (mainly in Hong Kong) who in turn sell it directly to Chinese traders in other countries or to local wholesalers who sometimes arrange for it to be "processed" into thin strips.

Traditionally the most common items made from rhino skin were shields. In addition to shields, people in East Africa made whips from rhino skin, which were reputedly of better quality than those of hippo hide. In Ethiopia, according to the sixth-century merchant, Cosmas Indicopleustes, ploughs were made out of rhino skin. Gujeratis made jewel boxes from it and the Chinese in the eighth century sometimes used rhino skin to cover the back of small boats in order to deflect arrows and spears.

The inhabitants of the island of Borneo may have had more uses for the rhino than any other people. Besides the more common ones, the Borneo people constructed boxes out of rhino feet and wore the toes of Sumatran rhino as amulets.

It was the demand for the meat of the rhino which probably led the rhino to the brink of extinction in Borneo. Less well known is the fact that the British and the Dutch in South Africa in the nineteenth century preferred white rhino meat (especially the hump) to any other game animal; in Mashonaland and Matebeleland the white rhino was almost exterminated on account of the demand by Europeans for its meat.

From the early years of this century up to 1975 there has been a dramatic twenty-one fold price rise for horn, one of the greatest increases in the world for any product over so short a period of time. And this leap is not due to an acute shortage of horn.

In fact, beginning in 1976 the wholesale price of the rhino horn began to "rocket". The wholesale price of African rhino horn went up more than three fold in that year to \$105 a kilo. The following year the price almost doubled to \$190 and in 1978 reached \$300. By September 1979 in Southeast Asia the minimum wholesale price was an astonishing \$675 a kilo, some 200 per cent increase in only four years.

What factors were responsible for the fantastic rise in prices? From 1969, many thousands of Yemenis migrated to Saudi Arabia and the Gulf States to earn high salaries as unskilled labour. On account of the remittances from abroad, the per capita income of North Yemen climbed from \$80 in 1970 to \$500 in 1979. With such wealth available, many Yemenis who had not been able to have rhino horn daggers suddenly began asking for them on the market. As it was, despite the increase of supply, there was not enough horn available to meet the demand. Consequently, the wholesale price of rhino horn in Sanaa rose to \$675 a kilo by 1978, higher than the price in Hong Kong. Dealers in Hong Kong soon found that they were being out-bid; for the first time Arabs were able to break the monopoly of the Chinese traders.

Unless immediate measures are taken against the import of rhino horn in North Yemen, the demand is going to continue, with an additional 50,000 young men coming of age each year. Should the supply continue as it has for the 1969-1977 period, it will satisfy only 17 per cent of the potential demand for rhino horn, if every teenage boy were to want a new jambia made with a rhino horn handle.

Another reason for the rise in the price in rhino horn resulted from political changes in Kenya and Tanzania. From the nineteenth century until a few years after independence, it was the Indians in these countries who bought from government auctions ivory and rhino horn for export to Hong Kong. Gradually, in the 1970s, new buyers, mostly Africans, entered the market, and the "bonhomie" among the dealers turned into real competition.

Once the prices began to soar in East Africa, it was up to the people in Singapore, Macao, Hong Kong, South Korea, Taiwan and Japan (then gradually North Yemen) to raise their own offers - and this they willingly did in the mid 1970s.

Dr Esmond Bradley Martin