

## Rhino Horn Trade Controls in East Asia

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At the sixth meeting of the Conference of the Parties to CITES in July 1987, the Parties passed Resolution Conf. 6.10 (Trade in Rhinoceros Products) in recognition of the crisis most rhino populations in Africa and Asia face from poaching for the illegal trade in their parts and derivatives, in particular their horn. The Resolution marked a departure from the purview of CITES, i.e., international trade, by urging Party states to enact and implement legal prohibitions on all forms of domestic trade in and use of rhinoceros parts and products.

Since then, Hong Kong and Macao have taken firm action to eliminate almost all domestic trade in rhino horn and hide, and Taiwan has taken concrete steps in the same direction. Unfortunately, authorities in another major trading centre - South Korea - are unwilling to instigate regulations to control that country's flourishing internal trade in rhino parts and products.

### HONG KONG

Hong Kong's rhino horn trade policy, the most comprehensive in Asia, evolved over a number of years subsequent to the entry into force of CITES with the UK's accession to the treaty in 1976. In that year, possession licences were introduced for parts and derivatives of certain rhino species listed under the *Animal & Plants (Protection of Endangered Species) Ordinance*, Cap. 187. By late 1978, all rhino species were covered by the law, and a subsequent registration of all rhino horn and hide in the Territory was completed by the Department of Agriculture and Fisheries, Hong Kong's CITES Management Authority, by February 1979. At that time, all further importation, including so-called pre-Convention stock, was prohibited, but registered stocks were allowed to be exported under licence until 1 April 1986, or domestically traded to local consumers. Legal domestic trade ceased when further regulations pursuant to Hong Kong's law resulted in a prohibition on all internal sales of rhino horn and hide on 1 August 1988. At the same time, the requirement for possession licences was extended to cover all rhino carvings, antiques, and trophies in the Territory; as a result, a total of 93 possession licences were issued in 1988, all for antique carvings.

On 1 December 1989, further amendments to the *Animal & Plants (Protection of Endangered Species) Ordinance* took effect which prohibited the import, export, and domestic sale of traditional medicinal products that contain or purport to contain rhinoceros ingredients. This development effectively closed all avenues of trade for rhino parts, derivatives and products in Hong Kong. Most

Year	No. pharmacies visited	No. (%) selling rhino horn	Average US\$/kg
1979	15	11 (73)	11 103
1982	50	23 (46)	15 700
1985	80	33 (41)	14 282
1987	60	19 (32)	20 751
1990	65	3 (5)	16 240

Table 1. Average retail prices of rhino horn in Hong Kong for various years (1979-1990)  
1979-1987 - mostly African rhino horn; 1990 - all African rhino horn  
Surveys carried out by E.B. Martin

of these medicines are manufactured in China. (For a detailed appraisal of Hong Kong's policy see *The Evolution of Legal Controls on Rhinoceros Products in Hong Kong*, Tom Milliken, July 1990, a special report by TRAFFIC Japan recently circulated to the Parties by the CITES Secretariat.)

In March 1990, in order to ascertain the effectiveness of these bans, E.B. Martin oversaw a market survey of 65 retail medicine shops and a few wholesale establishments on Hong Kong island and Kowloon. Using a Chinese interpreter, who went alone into each pharmacy to request rhino horn and hide, it was found that only 5% of the establishments offered rhino horn, a significant decrease from a previous survey in 1987 which determined that rhino horn was offered in 32% of the pharmacies visited (Table 1). Martin found rhino hide in only 5% of the shops surveyed, suggesting that sales had virtually collapsed in comparison with a survey three years earlier when rhino hide was found to be available in 43% of pharmacies visited (Table 2). Dealers were clearly aware of the illegality of their continuing trade in rhino parts and products and stated that they would only sell clandestinely to well-known customers in need of potent medicines for lowering fever or curing skin diseases.

Year	No. pharmacies visited	No. (%) selling rhino hide	Average US\$/kg
1985	80	31 (39)	403
1987	60	26 (43)	545
1990	65	3 (5)	570

Table 2. Average retail prices of rhino hide (South African) in Hong Kong for various years (1985-1990)  
Surveys carried out by E.B. Martin

Martin's survey also found that retail prices for rhino horn had dropped by 20% since 1987, suggesting that there has been a significant decline in demand for rhino horn in Hong Kong. Apparently, sales have increased for rhino horn substitutes such as Saiga Antelope *Saiga tatarica* horn.

Although Hong Kong prohibited the export of rhino horn and hide in 1986, Martin found evidence that some dealers illegally exported horn to China before or just after the 1988 ban on internal trade. For example, one prominent trader in the Western District of Hong Kong island claimed that, in 1988, he had exchanged about 35 kg of African rhino horn for the equivalent value of ginseng *Panax*, abalone *Haliotis*, and other goods, with private businessmen in Guangzhou. The trader implied that he had personally carried the horn into Guangzhou, a violation of both Hong Kong and Chinese laws. Other Hong Kong traders stated that Chinese businessmen visited Hong Kong in 1989 and 1990 to buy African rhino horn for use in medicines in China.

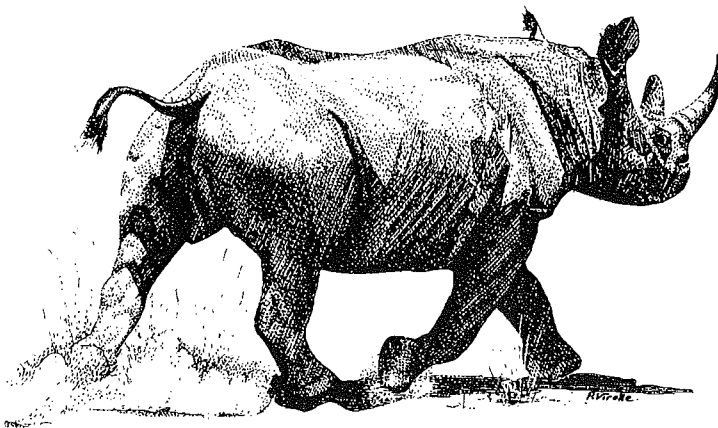
However, according to Martin's survey, stocks of Asian rhino horn have not been sold to China because Chinese dealers cannot afford the higher priced horn of the Sumatran Rhinoceros *Dicerorhinus sumatrensis* and the Indian Rhinoceros *Rhinoceros unicornis*. Instead, some of these horns have been exported to Taiwan, where traders apparently pay the highest prices in the world for Asian horn. Traders in Hong Kong, and Taipei and Kaohsiung, in Taiwan, have all confirmed to Martin that rhino horn has been exported from Hong Kong to Taiwan in 1989 and 1990.

Although Martin did not survey the availability of patented medicines identifying rhino horn as an ingredient, preliminary evidence, resulting from spot checks carried out by WWF-Hong Kong at ten retail outlets in May 1990, suggests that Hong Kong's ban is working and that some manufacturers have modified their products to exclude rhino horn as an ingredient. In the WWF survey, two medicinal products were targeted, Dian Shi Ming Mu Wan and Da Huo Luo Dan, which have in the past claimed on the packaging to contain 3% and 4% rhino horn, respectively. While the former medicine was not found for sale at all, half of the shops stocked Da

Huo Luo Dan, but rhino horn was no longer listed as an ingredient on the packaging.

Rhino horn has long been valued in Chinese medicines as an effective agent for the reduction of fever. Recent research, partially funded by WWF-Hong Kong, under the direction of Dr Paul Pui-hay But of the Chinese Medicinal Material Research Centre at The Chinese University of Hong Kong, has demonstrated the antipyretic effect of rhinoceros horn in experiments on fever-induced rats, but has also confirmed the efficacy of other animal horns, especially Saiga Antelope, as viable alternative substances. In the *Journal of Ethnopharmacology*, But *et al.* (1990) wrote: "...at 5 g/ml, rectal temperature was consistently lowered after both first and second injections in rats. Reduction of the dosage level to 2.5 and 1 g/ml continued to demonstrate significant antipyretic action...at 0.5 g/ml no antipyretic effect could be shown...Apparently, based on the results of this study, rhinoceros horn can reduce fever, but only at rather high dosage levels when prescribed as a single drug...Under the same experimental conditions, horn extracts of Saiga Antelope, Water Buffalo and cattle also demonstrated significant antipyretic action at the high dosage level of 5 g/ml. However, except for Saiga Antelope horn, actions of the other two animal horns at the lower dosage level of 1 g/ml were much weakened. This observation appears to support the claims of some herbalists that when using Water Buffalo horn as a substitute the dosage level must be increased by 10-fold". While But's important study validates Oriental medicinal claims that rhino horn has certain antipyretic properties, it nonetheless establishes that the substance is neither unique nor an indispensable ingredient in Chinese medicinal formulas. The fact that But's institution holds considerable credibility with local Oriental medicine practitioners should work well in establishing industry acceptance for the use of rhino horn alternatives. Earlier pronouncements by Western pharmaceutical corporations discrediting the efficacy of rhino horn have been viewed with suspicion by adherents of Oriental medicine throughout Asia.

Despite Hong Kong's prohibition, law enforcement efforts indicate that some illegal trade in rhino horn continues, presumably for lucrative export markets in China, Taiwan, and possibly South Korea. Between April 1986, when Hong Kong's legal exportation ended, and the end of 1988, a total of 111 kg of rhino horn was confiscated, including 59 pieces of African horn, weighing 57 kg, in transit from Dubai in February 1988. In February the following year, 18 horns of Black Rhino *Diceros bicornis* from South Africa, weighing 25 kg, were seized; subsequent prosecution of the Hong Kong importer led to conviction, including forfeiture of the horns and a fine of HK\$3000 (US\$385). In July 1989, three horns weighing five kg were confiscated upon entry to the Territory from the United Arab Emirates. And, in September 1989, 14 horns weighing 20 kg, in transit from Singapore to Macao, were seized, along with some 700 kg of elephant ivory; subsequent prosecution of two Chinese individuals ended in acquittal, but the seized goods were forfeited to the Government.



Black Rhinoceros *Diceros bicornis*

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## MACAO

Effectively a Party to the Convention since 1981, when Portugal joined CITES, Macao, a Portuguese territory situated on the coast of China, west of Hong Kong, has also taken measures to ban domestic trade of rhino parts and derivatives. In March 1988, the Director of Economic Services, Macao's CITES Management Authority, prohibited all internal sales of rhino parts and, according to Martin, there was no evidence of public display of rhino horn during a visit in April 1990. However, Martin did find rhino horn for sale in two shops (Table 3), after his Chinese interpreter insisted on obtaining the substance and successfully convinced the shopkeepers that Martin was not a Portuguese official, but rather a tourist. At most of the other establishments visited, shop personnel were rude when asked for rhino parts and indicated that it was well known that such trade was illegal in Macao. Although there have been no recent law enforcement actions in the Territory, it is worth noting that 14 rhino horns confiscated in Hong Kong in September 1989 were apparently destined for Macao.

Year	No. pharmacies visited	No. (%) selling rhino horn	Average US\$/kg
1979	9	7 (78)	4127
1982	14	9 (64)	7797
1986	20	16 (80)	8644
1987	34	22 (65)	8407
1990	28	2 (7)	15 385

Table 3. Average retail prices of rhino horn (mostly African) in Macao for various years (1979-1990)

Survey carried out by E.B. Martin

The change in the availability of rhino horn and hide in Macao between 1987 and 1990 has been remarkable. In 1987, 65% of the medicine shops featured rhino horn (see *TRAFFIC Bulletin*, 10(3/4):30), while three years later the percentage had dropped to 7% (Table 3). Martin learned that, apparently, large quantities of rhino horn were sold in 1988 to various customers from a number of East Asian countries. Similarly, the availability of rhino hide has dropped to 7% of the shops surveyed (Table 4); Martin has speculated that the specimens he examined were probably from the southern African White Rhinoceros *Ceratotherium simum*.

Year	No. pharmacies visited	No. (%) selling rhino hide	Average US\$/kg
1982	14	4 (29)	360
1986	20	6 (30)	304
1987	34	18 (56)	212
1990	28	2 (7)	684

Table 4. Average retail prices of rhino hide (mostly South African) in Macao for various years (1982-1990)

Surveys carried out by E.B. Martin

## TAIWAN

Although not recognised by the United Nations and therefore not eligible to accede to CITES, Government authorities in Taiwan have nonetheless introduced a number of measures to implement trade controls in compliance with the Convention. In particular, new legislation was introduced in June 1989 which established a comprehensive framework for trade in most CITES-listed species. Under the *Wildlife Conservation Law*, the Taiwan Government prohibited the import, export, trade, exchange or display with intent to sell, all protected species and their parts and products without express permission from the national authorities. Registration with local municipal or county authorities of all live protected species was required by law. In addition, registration of rhino horn and ivory was also mandated by the Council of Agriculture (COA), Taiwan's equivalent CITES Scientific Authority, in its announcement of the new requirements to the public. The registration period, initially set at three months following enactment of the *Wildlife Conservation Law*, was extended several times, finally to 30 November 1990.

While final returns are in the process of being compiled, almost complete data indicate that 386 companies and individuals registered a total of 1415 kg of horn and powder, clearly demonstrating that rhino horn usage is pervasive and widespread in Taiwan (Table 5). In the capital city of Taipei, 99 registrants claimed possession of a total of 439 kg of horn and powder, while in surrounding Taipei County another 126 kg were registered by 83 individuals or companies. In the southern port of Kaohsiung, Taiwan's second largest city, 195 kg of horn were registered by 16 registrants. These three administrative units accounted for over half of the registered quantity when compared to the stocks reported by 19 of the 20 other counties and municipalities in Taiwan. (As the registration of rhino hide was not specifically called for in the published order, no data are available at this time.)

It is unlikely that all rhino horn stocks on the island were registered; the *Wildlife Conservation Law* does not penalise failure to do so. It is also unlikely that the majority of the rhino horn found throughout Taiwan was lawfully acquired. Import of rhino horn was prohibited by the Board of Foreign Trade, the CITES equivalent Management Authority, in May 1985. From 1983 until the import ban, Taiwan Customs data indicate that a total of 280 kg were imported from South Africa, Hong Kong, and Singapore. Traders, however, have openly admitted (Martin and Martin, 1990; Nowell, unpubl.) that rhino horn was - and continues to be - smuggled in by air and sea, including on private fishing vessels.

Taiwan has also instigated early moves to regulate the use of rhino horn in manufactured medicinal products. In 1986, the National Health Administration (NHA) directed the manufacturers of traditional medicines to register their stocks of horn in order to continue to qualify for export. According to the NHA's Bureau of Drug Control, no companies have registered for a licence to manufacture such medicines.

District	No. of registrants	Vol. (kg)
Changhua County	40	86.30
Chiayi City	14	72.45
Chiayi County	47	110.51
Hsinchu City	1	12.30
Hsinchu County	3	120.11
Hualien County	1	2.20
Ilan County	17	31.34
Kaohsiung City	16	195.00
Kaohsiung County	13	27.72
Keelung City	10	12.20
Miaoli County	5	24.01
Nantou County	3	4.00
Penghu County	0	-
Pingtung County	2	3 horns
Taichung City*	*	*
Taichung County	15	63.20
Tainan City	2	5.40
Tainan County	6	56.80
Taipei City	99	439.00
Taipei County	83	125.65
Taitung County	0	-
Taoyuan County	4	6.75
Yunlin County	5	20.26
Total	386	1 415.20 +

Table 5. Registration of rhino horn in Taiwan, 30 November 1990  
\* data pending

Source: Bureau of Agriculture and Forestry, Taiwan  
Municipal Government Division of Natural Resources,  
Council of Agriculture

In fact, rhino parts are primarily marketed in unprocessed form through traditional medicine clinics. Domestic trade in rhino horn is technically illegal under the *Wildlife Conservation Law*, but no law enforcement action is currently being taken against traders, in anticipation of COA's imminent announcement of special measures to regulate the domestic market. However, at a meeting with Chinese pharmaceutical association representatives and conservationists in February 1990, COA suggested that all future domestic trade would be banned following a period of three years and that during this time sales of rhino parts would be limited to registered stocks.

Despite these positive developments, the smuggling of rhino parts has continued throughout 1990. In July, Taiwanese Customs confiscated nine rhino horns in a contraband shipment of ivory seals and tusks believed to have originated in Zambia but shipped via Hong Kong. In September, three Taiwanese nationals were arrested in South Africa with a total of 110 rhino horns in their possession; an additional 40 horns reportedly had already been sent to Taiwan (Anon., 1990). And, in December 1990, another 28 kg of rhino horn was discovered by Customs in a wooden crate shipped from Zambia. The COA staged a public burning of recently confiscated rhino horn and other wildlife products on 30 January 1991 (see page 1); similar burnings took place on 21 May and 27 November 1990.

At present, it is not clear whether Taiwanese traders are purchasing rhino horn primarily for domestic consumption or for smuggling to other Asian markets. Taiwanese consumers are certainly paying some of the highest prices in the world. In April 1990, Martin and Martin found African horn selling in Taipei for US\$4221 a kg and Asian horn for US\$54 040 a kg retail (Table 6). Spot checks of African rhino horn prices conducted by K. Nowell in September 1990 found that the wholesale price varied depending on the quantity purchased: US\$2519 a kg for a whole horn; US\$3704 a kg for half a horn; and US\$4938 a kg for the tip cut, widely regarded as "the best part". During further surveys in March 1991 (Nowell, *in litt.*) three Taipei wholesalers quoted a mean price for Asian rhino horn of US\$60 025 a kg.

Year	Place	No. pharmacies visited	No.(%) selling horn	Type of horn	Average US\$/kg
1979	Taipei	9	9(100)	AF	1596
				AS	17 090
1985	Taipei	34	26(76)	AF	1532
				AS	23 929
1988	Taipei	60	44(73)	AF	4660
				AS	40 558
1990	Taipei	79	40(51)	AF	4221
				AS	54 040
1985	Kaohsiung	20	18(90)	AF	2007
				AS	21 365
1988	Kaohsiung	15	13(87)	AF	3347
				AS	42 880
1990	Kaohsiung	14	7(50)	AF	3737
				AS	40 040

Table 6. Average retail prices for rhino horn in Taiwan for various years (1979-1990) AF=African; AS=Asian  
Source: Martin and Martin, 1991

## SOUTH KOREA

South Korea, another non-Party to CITES, also remains a major destination for rhino horn in East Asia. A late 1988 market survey of Oriental medicine clinics in Seoul, the nation's capital, by TRAFFIC Japan researchers produced dramatically different results from Martin's earlier study on the extent of rhino horn availability. In the TRAFFIC survey, 86% of the retail outlets visited offered rhino horn or rhino horn products as opposed to 51% in Martin's survey 18 months earlier (Table 7) (see *TRAFFIC Bulletin*, 8(2):28). In fact, TRAFFIC's survey revealed the highest-ever recorded level of rhino horn availability in Seoul.

At the same time, the price of rhino horn was found to have increased by almost three times, to US\$4410 a kg, since 1986 (Table 7). In addition to Chung Shim Won, South Korea's most popular rhino horn prescription,

Year	No. pharmacies visited	No. (%) selling rhino horn	Average US\$/kg
1980	30	19 (63)	1436
1982	76	47 (62)	1797
1986	108	55 (51)	1771
1988	59	51 (86)	4410

Table 7. Comparison of number of Oriental medicine clinics selling rhino horn including derivatives, in Seoul, South Korea, for various years (1980-1988)

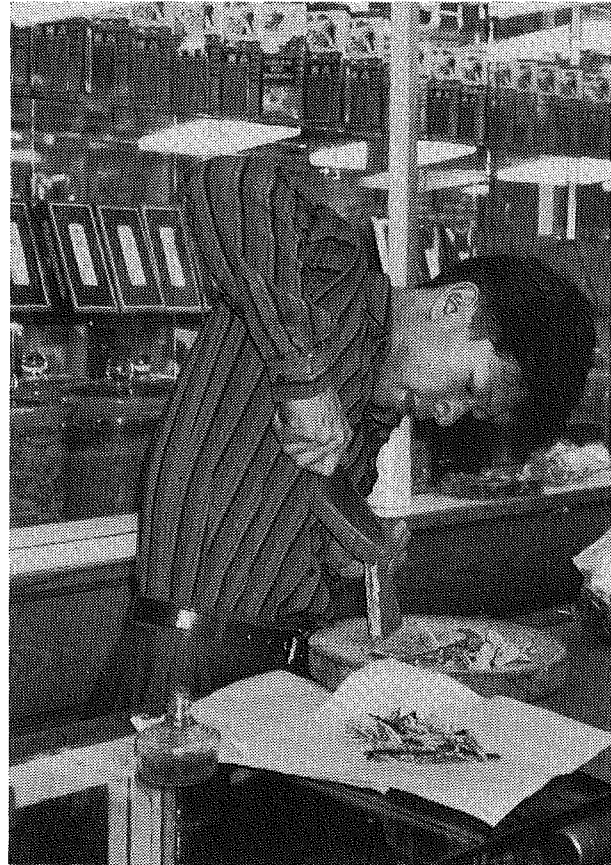
Sources: 1980-1986 - E.B. Martin; 1988 - TRAFFIC Japan

TRAFFIC's review of the country's traditional medicine literature identified 15 other medicinal compounds which include rhino horn as an ingredient.

A series of legal measures have restricted rhino horn trade in South Korea, including the prohibition of rhino horn as an ingredient in manufactured medicines in November 1983, and a total import ban since 28 June 1986. However, Korean authorities have never conducted a registration of existing stocks and have not legally prohibited the internal sale of rhino horn in the hundreds of retail outlets throughout the country. While official trade statistics indicate that no rhino horn has been imported since the ban came into effect, under present circumstances the dispensation of smuggled horn would be virtually impossible to detect in the market place.

The results of TRAFFIC's survey (Song and Milliken, 1990) were presented at a press conference in Seoul in April 1990 following discussions with Government officials. Although the Ministry of Health and Social Affairs (MHSA) immediately sent an official letter to six national Oriental medicine associations calling attention to the fact that rhino horn "smuggling is still prevailing" and urging doctors to refrain from using the substance as an ingredient in prescribed medicines, the MHSA has no intention of instituting a general registration under the country's *Pharmaceutical Law* and monitoring future dispensation as authorities in Hong Kong and Taiwan have done.

The stance of the MHSA is regrettable in view of the favourable developments elsewhere in Asia, and it appears that TRAFFIC's recommendations for domestic control on rhino horn trade will be ignored for the time being. Although South Korean authorities have stated for at least the last five years that the country intends to join CITES, it remains to be seen when this development will actually occur. In the meantime, South Korea is bound to remain a major consumer of rhino horn and it is possible that as controls tighten in Taiwan and other countries in the region, there will be an upsurge in illegal trade to the lucrative Korean market.



A pharmacist cuts a piece of rhino skin in a traditional Chinese medicine shop © WWF/E.B. Martin

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