

The Decline and Fall of India's Ivory Industry

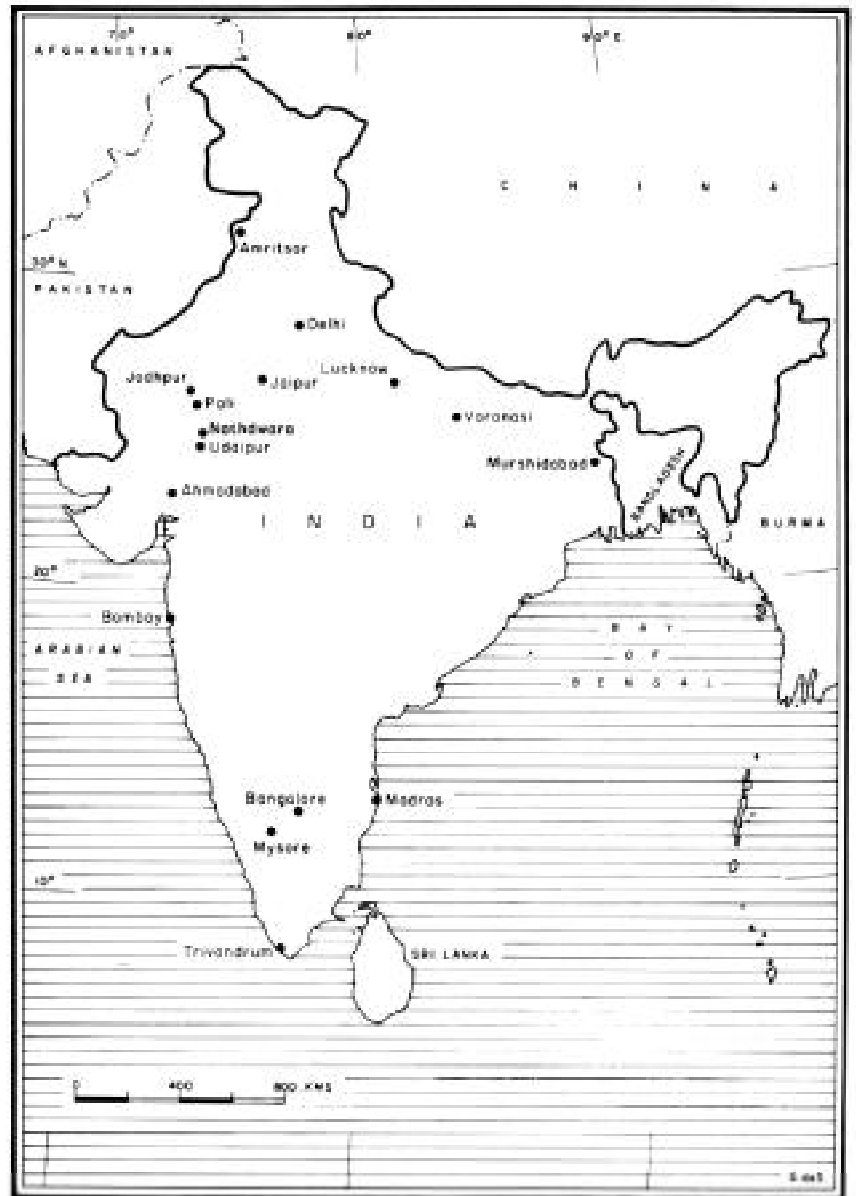
Esmond Bradley Martin with Lucy Vigne

Historical Background

Elephant ivory has been a highly esteemed natural resource in Indian culture for thousands of years. Although it is not known when Indians began to carve elephant tusks, by the time of the Harappan culture (2500-1750 BC), ivory was already being made into animal figurines, jewellery, dice, inscribed seals, hairpins, combs and containers.¹ By the year 1700 BC, the ivory industry had become so sophisticated that dealers and carvers had formed guilds². We know that Indian ivory was exported to the court of Darius I in Iran during the 6th century BC and that ivory was used by Indians in unique ways in the 2nd century BC, such as for snaffle rings on horses' bridles. At Nevasa, in the present state of Maharashtra, about the time of Christ, ivory bangles were already being made on lathes³. In eastern India, especially in Orissa, by the 13th century, some of the finest ivory objects in the world were being produced: chariots, palanquins, balconies, beds and the famous throne legs. Some people believe that erotic ivory carvings are new in India, being made to appeal to the taste of European and Japanese tourists, but this is not true: in Orissa in the 13th and 14th centuries master craftsmen were producing intricate ivory sculptures of couples in all sorts of acrobatic positions of love-making.⁴

With the advent of the Mogul rulers in India during the 16th century, the carving and painting of ivory plates in the Persian style flourished. Many of the ivory craftsmen worked for the Muslim emperors at their courts in Delhi and Agra, carving back-scratchers, dagger-hilts and gunpowder flasks made entirely from ivory. In his autobiography, Emperor Jahangir (1605-1628) mentions by name several ivory carvers and notes that he gave an elephant to one of them as a present.⁵ In the Mogul period, which embraced three centuries of Indian history (1526-1858), ivory carving was carried out in Hyderabad, Goa, Madras, Mysore, Maduri, Trivandrum, Orissa and Amritsar. The Mogul rulers maintained many elephant battalions which produced sufficient supply to allow for ivory pillars, doors, furniture and inlaid ceilings.

The European colonization of the Indian sub-continent led to the introduction of new technology and ideas which wrought extensive change to the ivory industry. With the elimination of the Mogul emperor in 1858, craftsmen lost their greatest patron



CENTRES OF IVORY MANUFACTURING AND PAINTING IN INDIA IN 1988

and could no longer afford to spend many months working on a single item. On the other hand Europeans in India and at home developed a taste for ivory carvings, and provided the incentive to produce more items and to produce them quickly. The foreigners particularly wanted chess sets with snarling tigers and kings mounted on elephants, fancy pieces, but they did not have to be delicately carved. Thanks to the introduction of sharper and stronger tools which facilitated their work, a form of mass production emerged, and less and less emphasis was placed on high quality workmanship. Dr. G.N. Pant, an art historian at the National Museum in Delhi, believes that ivory carving during the latter part of the 19th century declined from an art to a craft.⁶

India's Imports of African Ivory

Although statistics for the 19th century are incomplete, there was a gradual increase over the period in Indian raw ivory imports from Africa.⁷ The two main ports which handled this trade, Bombay and Surat, were receiving an annual average of 150 tonnes of ivory between 1803 and 1819, and the prices paid for it during that period were actually declining. However, from 1820 to 1857, the annual average increased to 234 tonnes, and the prices also went up, indicating a greater demand.

From 1830 to the late 1850s, 54% of all the ivory imported to Bombay, mainly via Mozambique, Zanzibar and Aden, was re-exported to Britain, 6% re-exported to China, and only 37% was retained in India. The value of these re-exports increased at an average rate of 2.8% per year.⁸ From 1874 to 1881, imports declined slightly to an average of 225 tonnes annually, but the amount used within India increased; for example, of the 210 tonnes imported during the financial year 1883/84, 54% was retained.⁹ From the 1870s to World War I, India continued to be one of the largest ivory markets, as an importer and re-exporter, rivalling Britain (343 tonnes imported a year from 1886 to 1913), Antwerp (265 tonnes on average per year from 1888 to 1913), USA (159 tonnes on average per year from 1884 to 1911) and Germany (152 tonnes on average per year from 1880 to 1896).¹⁰

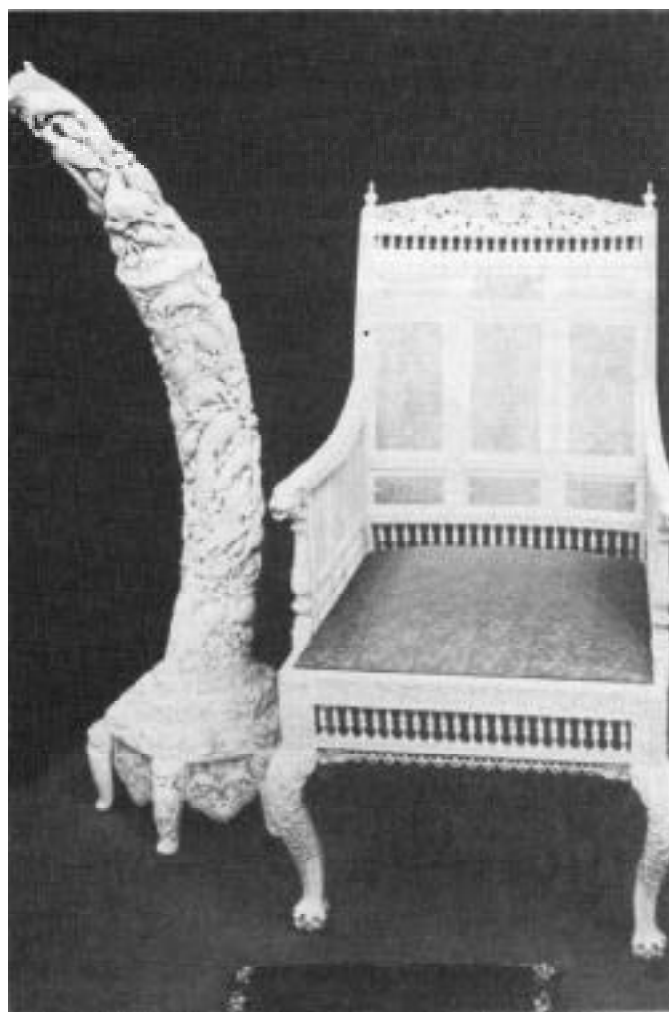
Although the world-renowned 1903 Delhi Exhibition highlighted India's historical and contemporary ivory carving, the amount of raw ivory imported between the two World Wars declined, and the industry slowed down. From 1919 to 1939, India imported about 125 tonnes per year. We also have statistics on India's exports of indigenous elephant ivory during this period: between 1918/19 and 1938/39, an annual average of just over a tonne went to Japan, mainly from Bengal and from Burma, which was then still part of India.¹¹ The seemingly odd practice of importing African ivory while exporting indigenous ivory had existed at least since the latter part of the 19th century and came about because the Japanese preferred the harder Indian ivory and were willing to pay a premium of about 23% more for it between 1918/19 and 1925/26.¹² Moreover, the Indian carvers preferred African ivory because, being softer and less brittle, it is easier to carve and less prone to cracking. The Indian dealers liked it because the tusks were so much larger.

For a brief period after World War II, India was one of the major importers of African ivory, taking an annual average of 246 tonnes between 1944/45 and 1946/47, but this quantity dropped to an annual average of 115 tonnes in the 1950s. By 1958 Hong Kong had become the world's largest ivory importer, closely followed by Japan which, unlike India or Hong Kong, did not re-export it to any degree and by the 1970s was the world's greatest ivory consumer.

In the 1960s, India's official imports of raw ivory were down to 50 tonnes a year. Zanzibar, which had been the main source of imports, providing more than half of India's total intake since 1950, underwent a revolution in 1964 and its role in the international ivory trade collapsed. While mainland Tanzania, Kenya and Uganda still had ample ivory, it was becoming

difficult for Indian traders to import it legally. On the other hand there was a large exodus of Indians from the East African countries when these became independent, and many who returned to their homeland took large consignments of ivory with them as a means of externalizing their wealth. No one knows how much ivory was smuggled into India during the 1960s, but traders in Bombay have told me that there were "tens of tonnes". Nevertheless India's importance as an international ivory market continued to diminish and fall further behind Hong Kong and Japan.

Illegal imports of ivory from East Africa continued in the 1970s, but sharply diminished in the 1980s. Had it not been for them, India's ivory industry would have declined much earlier than it did. After independence in August 1947, it had become increasingly complicated for Indian traders to obtain convertible currencies; then, in the 1960s, the Indian government issued strict controls on import licences, and traders wishing to bring in ivory could not easily obtain them. Furthermore, high import duties were put on ivory, which discouraged the trade. The duties rose to 120% in 1978, and during the 1970s legal ivory imports fell to an average of 20 tonnes per year.



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This intricate ivory chair is part of a furniture set completed in the 1950s.

In the 1980s, up to 30 March 1987, an average of only 13.24 tonnes of African elephant ivory was legally imported into India each year, according to Indian Customs' figures, or 9.46 tonnes yearly according to the CITES statistics from the Indian Management Authority in New Delhi. The discrepancy in these two sets of figures cannot entirely be explained by the fact that CITES uses a calendar year and Customs a financial year. Since the Indian government raises considerable revenue from ivory imports, it is likely that the Customs' figures are more accurate, but the important point is that both show a very marked further decline. For 1988, CITES recorded just 2.1 tonnes, most probably the lowest ever for ivory imports into India.

Aside from the restrictions imposed by the Indian government, traders have experienced difficulty in buying raw ivory in Africa during this decade. In some African countries, the government puts all the ivory into a single consignment and sells it to one buyer only. Indian traders say that they do not have the money to purchase a whole consignment, which may be a very large quantity, and when this happens the tusks vary considerably in weight and quality. In fact, the majority of tusks so sold often weigh under 5 kg each. Indian traders usually want to buy tusks between 5 and 10 kg in weight, but they have no choice when the ivory is sold in bulk and not by lot.

Private ivory exporters have been abolished in many African countries, including Kenya. The exporters were often Indian residents with whom traders in Bombay maintained close contact. This ensured that the traders knew when ivory stocks were available and whether the ivory was what they wanted. After losing their personal contacts in the African trade, Indian buyers were not sure how to go about ordering ivory from the source countries.

By the late 1970s, some of the main Indian ivory importers had stopped trying to buy directly from Africa; instead, they made arrangements with Hong Kong dealers who allowed them to buy small quantities and select individual tusks. This strategy added greater expense to their purchases, further hampering their business.

The Market for India's Carvings

At the end of the 19th century, India was one of the top three ivory manufacturing countries in the world. Thousands of craftsmen were processing not only imported African ivory but also Indian ivory from the local elephant population. Although we do not have statistics on China's ivory industry during the first half of the 20th century, it is probably true that India was the largest manufacturer of ivory items from 1900 to 1957.

Since the middle of the 19th century, foreigners have been the major purchasers of Indian ivory carvings. One authority estimated that "90% of the indigenous production was finding its way into foreign countries prior to World War II",¹³ Although this percentage is probably an exaggeration as there was a thriving trade in ivory bangles for local consumption, there is no doubt that the industry made every effort to cater to foreigners; during World War II many skilled craftsmen even left their homes in Agra, Jaipur and Gwalior to go to Delhi to supply ivory animal figurines, vanity sets, cigarette boxes and jewellery to the foreign troops stationed there.¹⁴

The foreign demand for Indian carvings was discussed at length by Sir George Watt who compiled the official catalogue of Indian art for the 1903 Delhi Exhibition. Having visited almost all of India's best-known ivory carving centres, he provided a wealth of information on them, describing in detail regional specialities, how craftsmen were trained, and where the ivory they carved originated. Practically the only information lacking is the number of craftsmen in various cities and how much ivory was used in the industry. We cannot assess the value of the ivory industry at the turn of the 20th century, but it certainly produced many of the ivory items most sought-after in Europe.

According to Watt, the four most important ivory carving centres were Delhi, Murshidabad, Mysore and Travancore. In Delhi, Watt wrote, most craftsmen were Hindus, although the older examples of carvings to be found there were made by Muslims for the Mogul emperors' courts. The modern pieces, "mainly such as meet the requirements of the European demand", included table ornaments of miniature elephants, camels, horses and carriages; card cases and chessmen; glove boxes and paper cutters; mats woven from threads of ivory; and miniature paintings on ivory, "an art that has attained marvellous perfection in Delhi". As for the sculptures, "there is always a stiffness, a want of flexibility and a clumsiness that is most reprehensible". Other places in northern India which had significant numbers of craftsmen were Amritsar, where combs were made for Sikhs, and Pali, near Jodhpur in Rajasthan, where bangles were produced in great quantities.

Murshidabad developed its ivory industry, Watt tells us, because of a lack of back-scratchers in Delhi, and the Murshidabad

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Ivory statues of Hindu gods and goddesses are the most common carvings from southern India.

carvers doing the work in the early part of the 20th century were hereditary idol-makers. In addition to the back-scratchers, they soon began supplying the market with models of bullock carts, processions and marriage ceremonies. Watt did not like the “flat and flimsy style” of Murshidabad’s ivory work, and he called it a “modern abomination” which “could hardly have originated in any other province than Bengal”. Nevertheless, Watt was very impressed with the ivory carving just south of Bengal, in Orissa. He described a splendid tortoise made there, concluding that “the life-like texture and anatomy of the legs and neck of the animal raise the artist who produced this wonderful creation to a position of equality with the ivory carvers of Europe, Japan or China”.

Sir George Watt thought that the ivory carvings from southern India were the best produced in India during this time. Travancore’s sculptures were superb, and some of the most intricate carving was carried out in Trivandrum, the state capital. In Mysore, the inlaying of ivory into wood far surpassed the work done in any northern locality. In Vishakhapatnam, ivory veneer work was excellent and the finest examples were howdahs.¹⁵

The Decline of the Indian Ivory Business in the 1970s

Regrettably, there is no contemporary data published on the structure of India’s ivory industry prior to the study I made in 1978. Much of what I discovered was published in an article I wrote for *Oryx*, and I refer readers to it for details on the ivory imported, the major centres processing ivory, the types of items made for the tourist market, craftsmen and their working conditions.¹⁶

I estimated that there were 7,200 ivory craftsmen in 1978,¹⁷ but the amount of raw ivory available to them from indigenous elephants, legal and illegal imports, would probably not have allowed for an average of more than a few kilos per person in a year. The main importers were still based in Bombay, as they had been for over a hundred years, but there were also some significant importers in Delhi, the capital. Almost all of them were complaining about the upsurge in raw ivory prices on the international markets, and those who were bringing in supplies legally and paying the 120% duty felt that the government was crippling the ivory industry.

The effects of the high prices and government restrictions were particularly noticeable in the bangle trade. Ivory bangles had traditionally been worn by Hindu women, and the making of them was, and still is, the major use of ivory for domestic consumption. When Indian ivory was destined for bangle-making, the domesticated elephants were sometimes given extra salt to enhance the shine of their tusks when polished. According to custom, a maternal uncle would present a bride with a set, or many sets, of ivory bangles which she would wear at her marriage ceremony. These bangles had to be new, not secondhand. Among the higher castes of Hindu women, they would be worn only during the first year of marriage, then replaced with gold or silver bangles¹⁸. In some castes, however,



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An ivory bangle-maker in Bombay hand-spins with the rod a tube which holds the tusk. As the tusk rotates, he cuts through it to produce the rough bangles.

the women continued to wear their ivory bangles throughout life, and these were even left on them when they died and their bodies were burned on wood fires. If the husband died before the wife, it was often the practice to smash the bangles as a sign of the end of the marriage. Art historians have occasionally remarked that it seemed unnecessary for the bangles to be of ivory, as in many instances they were so highly decorated with golden threads, tinsel and dye (usually red for good luck) that the nature of the ivory was disguised; and despite being an ideal medium for carving, the ivory marriage bangles were not worked. By 1978, only brides of middle and upper classes could afford ivory bangles, and the custom was only prevalent in Bombay and the states of Rajasthan and Gujarat — even in these states, plastic was being substituted for ivory among the majority of the population. In Rajasthan, some women in 1978 still wore many pairs of ivory bangles, often covering their arms from the wrist to the elbow. Among the Rajputs, the traditional warrior ruling class who comprised 20–25% of Rajasthan’s population, almost every bride wore ivory bangles for her marriage ceremony even though the wealthiest often replaced them with gold jewellery afterwards. In Gujarat, a higher percentage of Hindus bought bangles made of ivory in the 1970s; a pair cost between US\$ 5 and US\$ 290. The bangles were made in many towns of Gujarat.

such as Ahmadabad, Patan and Baroda, even though this state did not possess many ivory craftsmen. The bangles purchased in Rajasthan were mostly from Gujarat, but the town of Pali,

near Jodhpur did still produce some. An average skilled craftsman could make as many as six pairs in a day, using a *sanghada*, a primitive lathe hand powered by a bow. At that time some of the bangles were being carved while the more expensive had gold threads attached to them. There were various widths of bangles ranging from extremely thin to very thick.

Because ivory had become so valuable in the 1970s, sometimes a woman's bangles would be removed from her body before it was put on the funeral pyre; and sometimes the bangles would be salvaged from the ashes of the wood fire which would be insufficiently hot to consume either bone or ivory. And, when a husband died first, the widow no longer smashed her ivory bangles, but just put them aside.

There were huge quantities of old bangles in the towns and villages of Gujarat and Rajasthan, and some in the Punjab and West Bengal in the 1970s. In 1974 a Delhi trader made a major effort to encourage businessmen in those states to go around collecting the old bangle ivory, which they did, sometimes for as little as three rupees per kg; they sold it to the Delhi trader for between five and 100 rupees per kg. He, in turn, passed it onto other ivory firms to make bangles for foreigners.

In using the old bangle ivory, which came mainly from Cutch, Budj, Baroda, Jodhpur and Bikaner, the craftsmen cut each bangle into half and fitted two silver clasps to make the original

large enough to fit a European wrist. These became very popular with the tourist trade, and the profits made on them were very high because, even at the maximum wholesale price of US\$ 13 a kg, it was much cheaper than new imported ivory. However, the ivory in some of them was from Indian elephants, and after India became a party to CITES in October 1976, the export of anything made from Indian ivory was technically illegal, although it was practically impossible to enforce the law since the authorities could not distinguish between Indian and imported African ivory. Export permits were only granted by officials in Delhi when satisfied that the ivory was from African elephants and legally imported. Ivory items sent out of India in the 1970s by the wholesale and retail trade required permits but at that time tourists did not need them for what they bought and took away in their suitcases.

It was not only old bangle ivory of Indian origin that was reaching the market for eventual export as tourist items in the 1970s. Some state forest departments were selling raw ivory from their domesticated elephants and elephants that had died in reserves and parks. Much of this went to local carving industries, including state-operated handicraft corporations. During the middle and late 1970s, the forest departments of the southern states of Karnataka, Kerala and Tamil Nadu together sold over a tonne of Indian ivory a year,¹⁹ knowing that this ivory would end up being carved into items that would be purchased by foreign tourists.²⁰ One businessman in Bangalore regularly bought whole tusks from the Maharajah of Mysore's private collection of Indian ivory. When I was at the headquarters of the Trivandrum Forest Department in January 1979, a consignment of 515 kg of Indian ivory from the Maharajah of Travancore was being registered for sale to traders. Such ivory, in addition to legal and illegal imports from Africa, was expensive. One of the largest ivory firms in India decided to set up a factory in Gujarat's Kandla Free Trade Zone in order to bring in the material without paying the import duty. This was allowed, on condition that all the product would be exported. Between 25 February 1976 and 24 January 1979, 8,404 kg of raw ivory were imported, about 80% of which came from Kenya. Since this ivory was not technically in India, it does not appear in India's Customs' statistics. In 1978 the factory had 40 craftsmen using electrically-powered tools, such as dentists' drills, to make jewellery, ornaments and small charms. Out of the 7,677 kg of ivory actually used 21% went into the making of larger items, 18% into smaller pieces, especially charms, and 61% was waste. Over this almost three-year period, the craftsmen each consumed on average 62 kg of raw ivory a year, an astoundingly high average for Indian craftsmen. However, 60% of the 7,200 craftsmen at that time did not use any of the electrically-powered tools which had been introduced into the country in the early 1950s. Even though they allow for much more rapid work, still today carvers in the south shun them and use instead simple hand files and chisels to carve.

The craftsmen as well as the traders were very pessimistic about the future prospects of the ivory industry in India. By 1979 there were only half as many craftsmen as there had been ten years earlier, and some had begun carving cheaper substances, wood and bone. They were not well paid artisans, receiving on average US\$ 60 a month; moreover, most of them were not regularly

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Ivory craftsmen in southern India never use electric tools.

employed with salaried jobs, but earned their income from doing piecework for the traders. The traders, having more and more difficulty importing ivory legally, and having to pay higher and higher duties, complained that their ivory products could no longer compete on the international market with those produced in Hong Kong where ivory was duty-free. This did not apply to the home market since no worked ivory was allowed into India. They were also discouraged by all the bureaucratic procedures they had to follow to export ivory and the pressure being exerted by certain Indian conservationists to close down the entire industry.

The Ivory Industry in the 1980s

On my return to India in 1989 with my project co-ordinator, Lucy Vigne, to study the ivory trade, I found that a number of major changes had occurred. Several traders I had interviewed in 1978 had stopped dealing in ivory because, they said, it was no longer worthwhile. Delhi had taken over from Bombay as India's main importing city. Trivandrum, which had had the majority of ivory craftsmen, had practically collapsed as an ivory carving centre.

The reasons for the changes are primarily those due to the Indian government's implementation of stricter controls. These controls have led to a vastly increased amount of paperwork demanded by the Indian CITES Management Authority which has its headquarters in New Delhi. Indian traders have found it extremely time-consuming and inconvenient to arrange the arrival of their ivory shipments legally anywhere but in the capital. The trade is now carried on mainly by air to Delhi, rather than by sea to the port of Bombay.

India has been highly successful in controlling its ivory trade. Government officials say that it is imperative, in order to conserve elephant populations both in India and Africa. Another reason may well be that the Indian government is embarrassed by its ivory traders. Conservationists worldwide are vociferously decrying the use of ivory and attempting to make it as unfashionable to wear ivory jewellery as it was to wear a leopard coat in the 1960s. The Indian government is rightly proud of its efforts to conserve wildlife in parks and reserves, and there are officials who look upon the ivory trade as a blemish on India's reputation for good conservation management. One proclaimed the ivory trade "should die a natural death".

The Indian CITES Management Authority is much stricter about ivory imports than required. For example, the CITES Secretariat legalised Singapore's holdings of ivory when that country became a member in 1987, but the Indian CITES management Authority would not allow any of that ivory into India, on the grounds that it had no "country of origin" documentation

and that it had probably come from poached elephants in Africa and been exported illicitly; later the consignments legally went to India's ivory competitors in Hong Kong, China and Japan. Moreover, no ivory is permitted to come into India from South Africa, despite the fact that elephants are culled in Kruger National Park because there are too many of them, and the money earned from exporting their ivory is income for conservation. Imposed for political reasons, this ban denies the traders ivory from one of the most legitimate sources. With African ivory becoming scarcer and much more expensive in the 1980s, with the already mentioned difficulties in purchasing it from source countries, traders in India were also faced with exorbitant import duties which rose to 140%. Albeit, government statistics indicate that the importers were grossly under-estimating the value of the ivory they bought. For instance, in 1986 and 1987 when the world market price for a 5 kg tusk was around US\$ 80, they were stating its value at under US\$ 30 and claiming that the tusks they purchased were "broken, cracked or rotten".

Aside from setting up a business in a duty-free zone, there was another legal way to avoid the high import duties; this was by obtaining an "advance licence" for ivory imports. However, anyone who brought in ivory under this licence was likewise required to export all the carvings made from the ivory. Government officials rigorously checked that such a licensee complied to the regulation.

The Indian government tightened the restrictions on internal trade upon amending the Wildlife Protection Act of 1972 in November 1986. No longer was any Indian ivory allowed to be sold within the country. Although some state forest departments were given a grace period of six months to dispose of their stocks, would-be buyers knew that if they purchased any they could not legally make any items from it to put onto the market. To prevent mix-up between Indian and African ivory carvings, the permits which tourists now had to obtain to export any that they



A mammoth tusk is easily distinguished from an elephant tusk by its dark outer layer. Once carved, however, it can be confused with elephant ivory.

purchased were very complicated. They were supposed to obtain a "legal procurement certificate" from the Chief Wildlife Warden of the state in which they bought the ivory and submit that to the CITES Management Authority in Delhi, which in turn would check the import records for the raw ivory and the licence of the dealer who sold the ivory piece. It took time to do all this, and tourists did not only buy ivory in Delhi, but in many other parts of India; that meant it took even more time to send in the applications and receive the permits in return. Recently, the CITES Management Authority has opened regional offices in Bombay, Madras and Calcutta; still, that has not made it much simpler if a tourist buys ivory elsewhere.



Mammoth ivory carvings sometimes have dark streaks on them as can be seen on the statue on the right. Copyright Esmond Bradley Martin

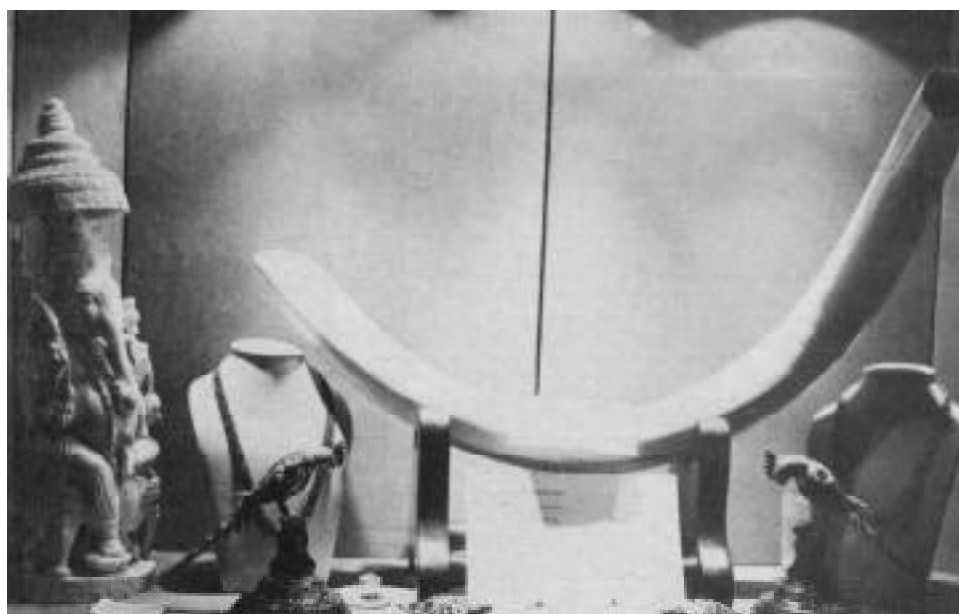
keepers have to prove that their stocks tally with their shop records, and if an inspector is particularly officious, insisting on weighing various ivory pieces, it is likely that problems will arise even if scrupulous records have been kept. Ivory loses moisture in the dry season and is consequently lighter then. If a piece has been accounted for in the wet season, it will not be the same.

It is no wonder that dealers are now saying it is not worthwhile to deal in ivory. As for the carvers, many of them are illiterate and have no understanding of the regulations. Some of them become very agitated when an inspector arrives at their home in a village, fearing what the neighbours will say.

The most irksome of the new internal regulations on ivory that came into force with the amendment were those which required all ivory factories, dealers, exporters and even individual carvers to be licensed annually and to submit monthly returns on the amount of ivory purchased, the number of pieces made from it, their weights and a record of their sales. There are government inspectors who go round to shops and carvers' premises to make random checks that these regulations are followed. The shop-

External Sources of Ivory

There is no doubt that Indian traders obtain illegal supplies from abroad; these added significantly to the legal imports from Africa in the 1980s as noted in an earlier section of this report. The Indian government has not been able to stop ivory smuggling, which is perhaps another reason for the increased vigilance on manufacturers of ivory items. We were told about a Bombay businessman alleged to have brought in by boat at least 2 tonnes of ivory from Dubai in late 1987. Supposedly, this ivory made its way into the interior of Gujarat where it was made into bangles and sold locally to avoid the need for documentation. Other ivory traders were furious over the matter, not so much by the smuggling but by the fact that the ivory was of illicit African origin and the businessman had been able to buy it for about half the price demanded on the world market. We did not learn who the businessman was, although several traders spoke of him and said they would turn his name into the authorities if it happened again.



The recently carved mammoth ivory Ghanesh on the left weighs 6kg and is for sale in Delhi for US\$ 8,000. Beside it is an unusually shaped mammoth ivory tusk being sold for US\$ 25,000!

In an attempt to conserve foreign exchange, the newly-independent government of India in 1947 prohibited the importation of gold.

Dubai businessmen correctly perceived that Indians would not forego this store of wealth, and by the 1960s they were importing millions of dollars worth of gold for re-export to India and Pakistan by dhow, the traditional sailing vessel. Those used for smuggling in the western Indian Ocean have very powerful engines enabling them to outrun most patrol boats. Businessmen in other Sheikdoms in the Gulf are also pursuing lucrative interests in sending goods to India, and it is very probable that ivory is sent from the United Arab Emirates, notorious for their role in wildlife trade. In the 1980s the Indian authorities stepped up their efforts to prevent gold from being landed on the beaches of Gujarat, but because smugglers can make at least 40% profit on their activities, they have not given up. There is some evidence that they are now landing illicit cargoes farther south, on the coasts of Karnataka and Kerala which, coincidentally, are closer to the few remaining carvers in Trivandrum²¹. If ivory is among these illicit cargoes, it would probably be in small amounts and it might possibly originate in Tanzania, as many tusks have been illegally leaving the Tanzanian coast in the 1980s.

Another possible source for illegal ivory is Singapore. A well-known Indian conservationist in southern India claims that the Tamil community in Singapore has family and business connections in Madras, the capital of Tamil Nadu, and that this community is illegally supplying raw ivory to Madras, which eventually finds its way to carvers in Bangalore and Trivandrum. Lucy Vigne and I found no evidence of this trade. Of course, it is conceivable that large consignments could be brought into India and stockpiled for future use, in which case we would have been unable to discover their presence. However, we suspect that if stockpiling on a large scale were taking place, the information would have leaked out to some of the big traders. It is more likely that contraband from Singapore, like that brought in by dhow from the Gulf states, would largely consist of luxury goods and electronic items which carry duties of over 200%.

Although there is no evidence of hippo teeth or narwhal tusks coming into India, in 1986 two people in Jaipur legally imported 5 tonnes of Siberian mammoth ivory. One told me that because he was a Jain by religion he wanted to save living elephants from the ivory trade. Possibly, the fact that he had to pay only US\$ 25 per kg for the mammoth ivory had something to do with his decision to buy it. However, his hopes to make huge profits from it were soon dashed. Mammoth ivory is extremely hard and brittle and hence very difficult to carve. It rapidly wears out tools and gives a higher percentage of waste. Carvers insisted on 20-25% higher fees when working on it. Even though details can be carved more intricately on it, cracks often develop. The traders have had to have many exquisitely detailed sculptures painted to cover up such cracks. There was also the problem that when just polished, the ivory has a yellowish colour which is not popular, and it is also marked with brown or black lines; the craftsmen tried to carve items in such a way that these lines only showed on the backside of them. Retailers found that the mammoth ivory carvings did not command a good market price and demanded a discount of up to 50% of what they would pay for similar carvings in African ivory. A 17.5 cm high figure, weighing 360 gm was priced at only US\$ 132 in a first class

hotel shop in New Delhi in 1989. One of the traders, having had little success in selling carvings he had had made from the mammoth ivory, by early 1989 decided to sell the raw tusks, polished only, as antique curiosities; we saw one unusually-shaped tusk which was twisted. It was a metre long and weighed just 6 kg. The asking price was a ludicrous US\$ 25,000. The shop-owner no doubt believed that a very rich and rather ignorant person would purchase it because of its uniqueness. If a tourist were to buy it, he would not be allowed to export it: the government, in April 1988, banned imports and exports of mammoth ivory, fearing that carvings from it would not be easily identifiable and so enable illegal exports of Indian ivory.



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Sometimes domesticated elephants' tusks are cut off to sell as shown here at Amber Palace near Jaipur.

Internal Sources of Ivory and Poaching

Within India there are several sources of ivory available to the traders, but since the 1986 amendment to the Wildlife Protection Act, they are illegal. Nevertheless, some traders continue to make use of all but the state forest department supplies. Some, too, have encouraged the illegal killing of elephants in India. Realizing that poaching had become more remunerative and significant, the government abolished all import duty on raw ivory in April 1988, to lessen the pressure on Indian elephants.

Old bangle ivory and collections of trophy ivory are two examples of sources which are practically as much in demand as they were in the 1970s. Especially after transactions in Indian ivory became illegal, Maharajahs and other wealthy people found it more profitable to sell their ivory to traders; moreover, the traders were hardly likely to report them to the authorities for not paying taxes.

Used for timber removal, temple processions, circus and zoo displays, film-making, wedding processions and tourist activities, the 3,000 or so domesticated elephants in India generally have their tusks or tushes pruned to prevent accidents. Some of this ivory also reaches traders. Although there is a controversy among scientists on how much ivory an elephant can produce in a year, probably the average bull of ten to 25 years old produces 1.4 kg of new ivory each year.²² At Amber, near Jaipur, where there is a private tourist company with 42 elephants to take visitors up a hill to visit the old palace, the manager said that he sometimes has as much as 7.5 cm annually removed from a tusk on a bull. He also said that his cows' tushes are usually trimmed every two to three years, but the amount of ivory removed is very little. A hand saw is used to do the job. In February 1989, the black market price for ivory from domesticated elephants in Jaipur was US\$ 265 per kg and it was being bought mainly by ivory painters and carvers. It is very difficult to try to estimate how much ivory domesticated Indian elephants produce because there are no data on the sex ratios, tuskless individuals, ages, numbers of deaths per year, etc., but a rough guess might be a minimum of 300 kg which could have entered the trade yearly in the 1980s.

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A domesticated elephant in the Kerala Forest being guided by his mahout to move a log.

State forest departments are required to keep records on all the ivory they collect from dead elephants, and these are checked. If some went missing or if the records showed a sudden decline in the amount gathered, there would be serious problems. Therefore, it is unlikely that significant quantities from this source reached traders after 1986. Some of the forest departments now have large quantities of ivory in their strongrooms and will have to make space for more if the present policy of simply holding the ivory continues indefinitely. In early 1989, the Kerala Forest Department had 2 tonnes,²³ the Mysore Forest Department in Karnataka had 406 tusks weighing 2.2 tonnes,²⁴ and in Tamil Nadu there was said to be about 2 tonnes,²⁵ although we were unable to confirm this. Kerala sold no ivory whatsoever during the 1980s, but Karnataka did, prior to the ban. It went to the local handicrafts board.

Estimates of India's wild elephant population vary between 16,595 and 22,261²⁶. Some are killed for the trade every year, but there is actually little poaching in the east central region²⁷ or in the far north.²⁸ According to official records, 14 elephants were poached in Meghalaya between 1960 and 1981, four in Tripura between 1961 and 1981, and 14 between 1975 and 1980 in North Bengal.²⁹ Although Dr. D.K. Lahiri Choudhury, the main authority on northeast India, says that these statistics "err grossly on the lower side", he also states that in this region "poaching of elephant is not a serious problem"³⁰. Recently, Dr. Choudhury notes, a few elephants have been killed in the northern part of West Bengal, two in southern Bengal and a small number in Orissa's Simlipal National Park. Furthermore, there is occasional poaching in East and West Siang, Triap, Dibang Valley and the Lohit civil districts of Arunachal Pradesh. Some tribes in Mizoram and Nagaland have traditionally killed elephants for meat and have almost exterminated them from parts of these areas. Whether the ivory from these elephants reaches the trade is not clear; Dr. Choudhury does not know what happens to it.³¹ From the north and central regions of India, we can guess that maybe 20 elephants a year, on average, were killed in the 1980s, making available about 360 kg of ivory.

Poaching has been more intense in the three southern states: Tamil Nadu, Karnataka and Kerala. The official statistics only cover certain periods: 85 elephants in Tamil Nadu between 1975 and 1983, three from April 1988 to February 1989; 78 from 1975 to 1983 in Karnataka, 26 in 1983/84 six in 1984/85, 15 in 1985/86, 11 in 1986/87 and six in 1987/88³². No reliable figures exist for Kerala, although it is well known that extensive elephant poaching occurred in the Periyar Tiger Reserve during the late 1970s³³; the Chief Conservator of Forests in Kerala from 1981 to 1988 is of the opinion that on average ten tuskers were killed a year during the early 1980s, but this number was reduced to just four in 1988.³⁴

The person who has done most research on illegally killed elephants in southern India is R. Sukumar. He says that from 1980 to 1986 a minimum of 100 elephants succumbed to poachers in the south each year, which is well above the official figures given. He estimates the average weight of a poached tusk at 9.5 kg. Taking 190 tusks, since some of the animals would only have one, and multiplying by 9.5, he calculates that at least 1,800 kg of ivory would have been available from the south to traders during that period.³⁵ During 1987 and 1988, when poaching abated, perhaps only 900 kg were available.

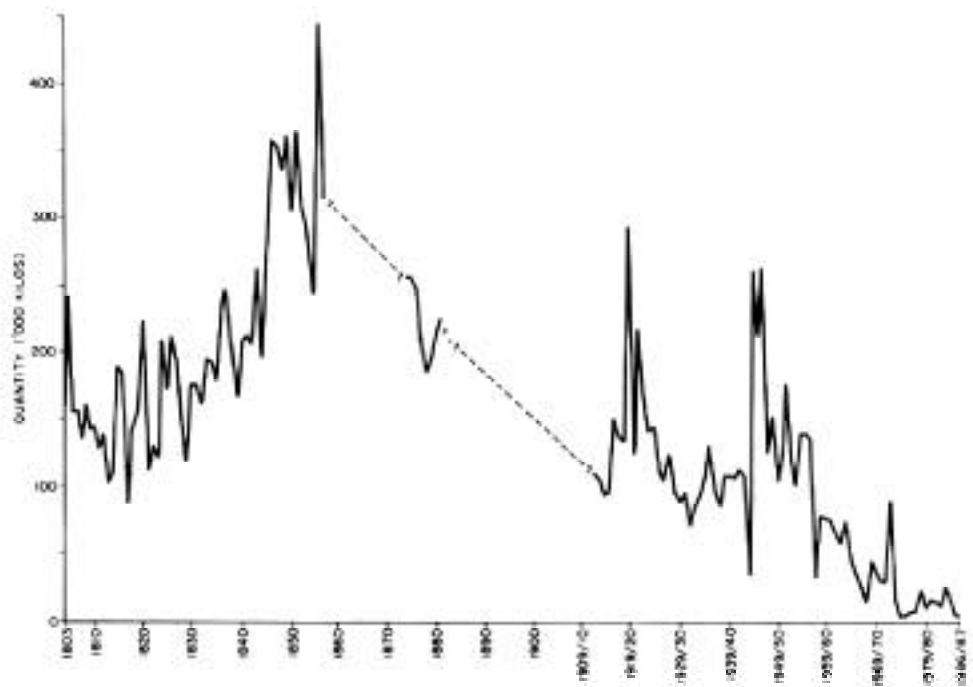
Many of the elephants in southern India are in reserves and national parks which bestride the state boundaries of Tamil Nadu, Karnataka and Kerala, making it easy for poachers to move from one state to another and thereby avoid pursuit by police or forest department guards who are generally confined by the borders. In southern India, poachers, usually from villages adjacent to parks and reserves, operate in gangs of up to 30 men, several of whom carry guns. These used to be only muzzle loaders but recently some gang members have obtained modern rifles from Tamils with connections in Sri Lanka. A gang leader may pay local informants to disclose the location of large tuskers. The poaching is, in fact, selective: the gangs do not go after cow elephants because they have only tushes, and the smallest bulls

shot are usually five years or older. The largest bulls poached may carry as much as 25 kg of ivory per tusk.

When a gang enters a protected area, the members go on foot and stay for several days, during which time they may shoot as many as eight tuskers, hacking out the ivory with axes. Sometimes, they also take the tail hairs. Carrying their trophies out of the park or reserve, they rendezvous with a vehicle whose driver takes the tusks and tail hairs to a middleman in a nearby village or town. Tail hairs are bought locally for under a dollar each, to be made into rings and bracelets as lucky charms purported to ward off evil spirits. The tusks often pass through a chain of middlemen, the last one selling them clandestinely in Trivandrum. Rarely is the poached ivory exported, although the former Chief Conservator of Forests in Kerala told us that in 1988 government officials intercepted six very large baskets labelled “wooden toys” but containing 300 kg of Indian ivory en route to Calcutta to be shipped to Hong Kong via Singapore. The people in Trivandrum who had collected this ivory for export had been paid US\$ 140 per kg for it.

One poaching gang in particular exasperated the authorities. It was led by a criminal known to have killed seven people. This gang operated in the Nagarhole-Bandipur-Mudumalai-Wynad-Sathyamanglam conservation area which, even though not vast, extends across the boundaries of the three southernmost states. At the end of 1986 and in early 1987 the gang succeeded in killing at least 15 tuskers. Finally, the forest departments of the three states pooled their resources and met regularly to coordinate efforts to eliminate elephant poaching. They acquired more wireless sets to better communications with their men in the field, and they increased the number of modern weapons for their staff. They improved their intelligence-gathering network to find out who was involved in poaching, and they greatly increased the number of tribal people and others to patrol the reserves and track down poachers. Although most villagers were so terrified of the leader that they thought they would be killed if they co-operated with the authorities, informants finally revealed the whereabouts of the gang. In 1987, forest department officials managed to surround the group while they were trying to collect illegal supplies of sandalwood, but suddenly the gang leader shot the Range Officer from Sathyamanglam in the chest, mortally wounding him, and managed to escape. Soon afterwards, though, the officials from Bandipur caught up with the gang again, killed one of the poachers and took several guns. The photograph of the leader had been widely circulated, stating that he was wanted - dead or alive. He has still not been caught, but has given up poaching at least temporarily and gone into

OFFICIAL IMPORTS OF RAW IVORY INTO INDIA FROM 1803 TO 1986/87



hiding. The joint measures taken to combat the elephant slaughter by the forest departments, the government’s increased fines and prison sentences for convicted poachers and the regular inspections of the premises of ivory craftsmen and retail dealers in Trivandrum and Bangalore have effectively reduced elephant poaching. Today, the elephant population in the south is on the increase.³⁶

It is not possible to give anything like a total weight of ivory annually available to the trade from all sources —internal and external, legal and illegal.³⁷ We can only estimate the minimum amount per annum in the 1980s, namely 23 tonnes a year between 1980 and 1984, and 15 tonnes a year between 1985 and 1988. It is important to stress that these are minimum figures. If most of this ivory did go to craftsmen for carving, their average consumption would be higher than that I estimated for their use in the 1970s, when writing my article for *Oryx*. However, as we were able to carry out more research on this matter during our recent trip to India, I believe that my earlier estimate should be increased. Certainly, there has been less ivory available to Indian craftsmen during the 1980s than in the previous decade.

Carvers and their Masters

Of the vast range of objects fashioned from ivory, the majority are manufactured in the Delhi area by about 450 craftsmen. Professional and master craftsmen generally use electrically-powered tools everywhere, except in the south. With the noticeable exception of Bangalore, the quality of ivory carving has declined during the past decade. Carvers are rarely salaried, but paid for piece-work. The dealers’ argument is that a salaried workforce has no incentive to complete a job on time and causes labour problems. Ivory painters and polishers receive less than carvers and are also usually paid for piece-work. There are some women painters and polishers, but only men do carving.

The craftsmen are very worried about their future prospects in the ivory trade, not only because of the shortage of raw material but also because of the restrictions on that which is available. Many carvers have given up. From 7,200 in 1978, their numbers fell to an estimated 2,060 in 1988. Most of the master craftsmen are now old and retired. In the Delhi area, there are only a dozen or so still working. Unlike in the past, they are not encouraging their children or grandchildren to learn their skills.

The highly intricate carving for which India is famous, such as "jali" (lace-work tracery, usually on furniture) is rapidly disappearing. It takes a decade or longer to produce a jali screen, and dealers do not have craftsmen make them now as they are

Its extensive operations spread to many parts of India, but those in Trivandrum closed in 1984, Kandla in 1985, Delhi in 1985, Varanasi and Bombay in 1987. It no longer has any interest in ivory.

Some Economic Aspects of the Indian Ivory Industry

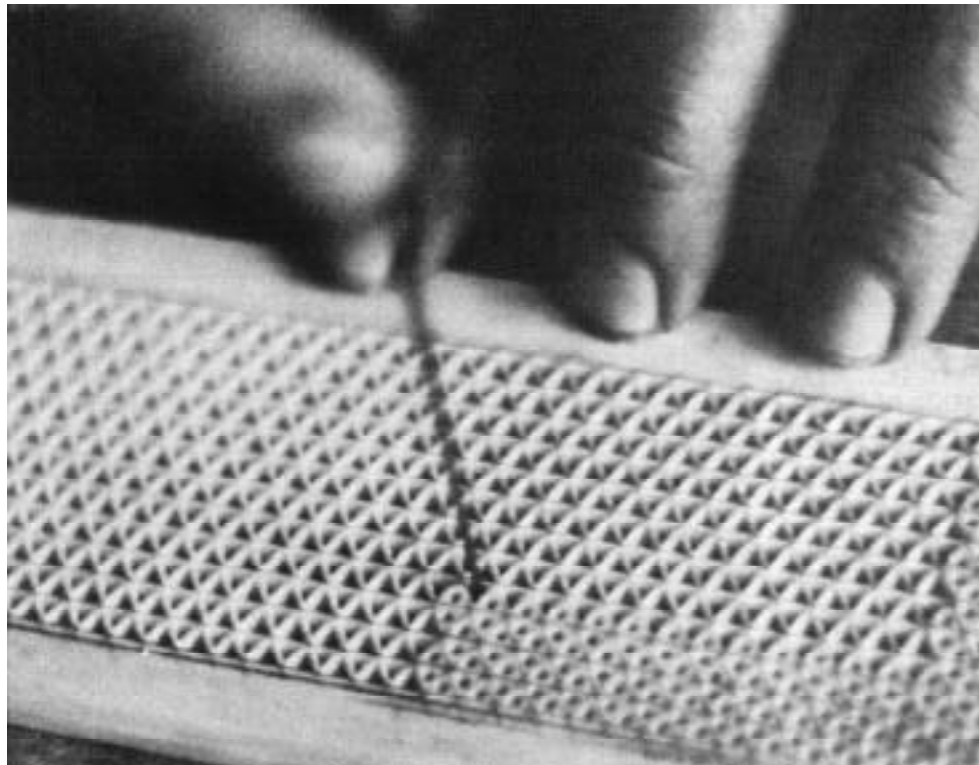
The biggest raw ivory importer in India during the late 1980s is a Delhi-based firm which is also responsible for manufacturing and exporting the largest amount of finished products. The two salaried employees presently earn only US\$ 86 a month making jewellery and decorative items. Other workers are brought in

when needed, paid for piece-work, and make about US\$ 165 a month because their production rate is much higher. In addition carving is sub-contracted to craftsmen in Jaipur, Jodhpur, Varanasi and Murshidabad, who make sculptures, chess sets, lamp-stands, boxes and charms. In 1984 6 tonnes of ivory were consumed, 4 tonnes per year in 1985 and 1986, and 3 tonnes per year in 1987 and 1988. From this five-year total of 20 tonnes, 10.6 tonnes of finished ivory pieces were exported. During the financial year 1986/7 3.6 tonnes were exported at a declared value of US\$ 680,157, and in 1986/7 1.7 tonnes at US\$ 454,275. During 1986 the raw ivory, free of import duty under the advance licence system, cost US\$72 per kg.³⁸ This was processed in 1987 and 1988, and sold at US\$ 260 per kg, giving an average 90% mark-up from the raw ivory cost to the manufacturer's selling price, taking into account the 47% wastage factor. The wholesaler adds

another 50% when he sells it to the retailer, making the cost US\$ 390 per kg. The retailer in turn adds another 100%. Thus the value added to a piece of ivory from raw material to finished retail product is almost sixfold.

If the wholesale price for an item is US\$ 100, roughly US\$ 40 will be the cost of the ivory, US\$35 the cost of labour, and US\$25 the gross profit. In 1980 this firm exported almost all its ivory products to Europe, and only 10% went to the USA. In 1988, however, 25% went to the USA and the rest, half of which was jewellery, went to Europe.

When a manufacturer is able to sell some of his ivory waste, he makes a little more profit. However, that does not regularly happen; it is usually given away or thrown out. There are some uses for ivory powder. The most popular seems to be for alleviating baldness, in which case the powder is burnt, mixed with an oil and applied to the scalp. In Gujarat it is believed that



"Jali" work as shown here is extremely time-consuming to produce. This panel is to be incorporated within a 2 m high ivory screen which is taking two master carvers about eight years to complete.

doubtful whether any ivory sales will be allowed in ten years' time. Instead, the dealers are urging the craftsmen to produce items quickly and inexpensively for immediate sale. Innovation is lacking. Although many dealers complain about the present status of the ivory trade, they have made no effort to form a national association to protect their interests. They are mostly very wealthy men — one has a collection of 38 vintage automobiles, including several Rolls-Royces — and for years they have been diversifying their business interests. In particular, they have been producing handicrafts which they sell to tourists in India and also export. Some have moved out of ivory entirely, not wanting the vexation of regulations which, if infringed even inadvertently, could lead to lengthy investigations and other importunities.

The most important ivory firm which has given up in the 1980s is that which had the factory in Kandla Free Trade Zone, mentioned earlier. The firm started in 1901, based in Calcutta.

a woman's infertility can be cured if she mixes ivory powder with honey and takes this "medicine" twice a day for a week. Some people take regular doses of ivory powder in hope of improving their memory, and there are some others who think haemorrhoids can be cured if a concoction of the powder mixed with an equal amount of rusted iron is applied³⁹. Ivory powder sells for about US\$1 per kg in Bombay.

What is the value of the India ivory industry as an entity? The dealers themselves are unwilling to divulge the necessary figures (attempts at evading tax are rife), so we must look elsewhere. The official statistics of the Indian CITES Management Authority show that in 1987 2.9 tonnes of worked ivory were legally exported, compared with 4.4 tonnes the year before. Of the 1987 amount, the USA took 52%, Italy 10%, France 10%, Canada 4%, Spain 2.5%, UK 2.5%, West Germany 2.5%, Greece 2.5% and 14% went elsewhere.⁴⁰ However, although we know that the major purchasers of some of the most expensive ivory items are the Gulf Arabs, the CITES 1987 figures show that buyers from these countries only purchased 20 kg of worked ivory. Of course, CITES and Customs statistics only show official exports with proper documentation; many ivory items sold in India are exported illegally by tourists whose suitcases are generally not examined on departure from the country.

The CITES Management Authority admits that about an additional 30% of worked ivory was exported by tourists carrying the goods out the country in their personal luggage.⁴¹

Therefore, if we add 30% to the official CITES export figures, then 3.8 tonnes of worked ivory were exported in 1987. In reality, this figure should be higher. If the 3.8 tonnes of finished ivory had the same value as did the worked ivory from the largest wholesale exporter of finished ivory products in India, then the wholesale export value of India's ivory industry in 1987 was worth a minimum of US\$ 1,500,000, or a minimum retail value of US\$ 3,000,000. Another set of figures from the Development Commissioner of Handicrafts in Delhi gives the declared wholesale value of ivory exports for the financial year 1985/86 at US\$ 1,279,350 and for 1986/87 US\$ 1,325,400⁴². These and the values calculated from the CITES figures are similar enough to lend credence to the estimates made as to costs and profits, but they do not take into account the full amount of exports. One trader told us the ivory illicit exports could equal in value those officially documented. We think he was exaggerating as it is unlikely there would be sufficient raw ivory for manufacturing which would allow that.

The Ivory Centres

Delhi Although Delhi has only recently become the main ivory importing city, it is not a newcomer to this aspect of the trade. Some of the biggest retail shops date back to before the 1857 Indian Mutiny and a few of these have habitually imported their own ivory which they locally manufacture, now paying between US\$ 100 and US\$ 132 a month to salaried professional craftsmen and about US\$ 165 to those who do piece-work. On average, ordinary ivory painters and polishers earn about US\$83 a month. The older shops are opposite the gigantic

17th-century Jama Masjid Mosque in Old Delhi; the more modern are in the southern part of the city, near the Qutab Minar which is another major tourist attraction but where parking problems are less acute. Some of the ivory shops have impressive premises displaying antique items, not all of which are for sale. There is a tremendous variety of carvings available in Delhi from all over the country as well as locally made, and people buy more ivory here than anywhere else. Retail prices are very high for the best pieces. The most expensive we saw was a suite of furniture consisting of a sofa, two chairs and a table. The proprietor of the shop was asking US\$ 2,000,000 for it. He turned down an offer of US\$ 1,000,000 by a Saudi Arabian in 1987. The furniture was carved by a man and his two sons who spent 25 years making it, completing the job in 1978. The same family of craftsmen made a 2 metre by 2 metre jali screen which took 15 years to do. Its owner refuses to sell it as he says nothing like it could be made today. For the same reason, a gigantic ivory chess set of Moguls vs Rajputs with the major pieces 60 cm tall is not for sale. Among the most outstanding works of ivory for sale in Delhi is a 45 cm high screen carved with bird scenes on both sides; it is priced at US\$ 33,000. Ibises, peacocks and cockatoos decorate the heaviest carved pair of tusks for sale; weighing 42 kg, they are priced at US\$ 300,000 and a customer from Dubai bid US\$ 225,000 for them, but this was refused as being too low. A Ghanesh elephant god, 65 cm by 35 cm, painted and partly covered with gold leaf, can be purchased for US\$20,000.

One wonders how a shop-owner would handle a tout if it turned out that he had brought a customer who purchased one of the more expensive items. Touts have become increasingly more aggressive in Delhi, and include taxi and auto rickshaw drivers, tour operators and hotel staff as well as men on the street looking for tourists to lure into a shop in hope they will buy something and a commission handed over. Touts receive on average 20%



This master carver in Delhi has been working for eight months on this 6 kg tusk and his carving is almost finished.

of the final retail price, and they are especially active around the ivory shops. To avoid this, many shop-keepers will ask their tourist customers to leave when a tout is standing by, or taxi driver waiting, explaining the problem and suggesting that they return on their own or, if they come by taxi, to enter a nearby shop and later make their way undetected into the ivory showroom. The tout is a nightmare for many ivory merchants in Delhi.

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Paintings on ivory plates are mostly produced in Jaipur such as this one by the eminent artist, Bannu.

Jaipur Jaipur has the largest number of craftsmen today, some 760, half of whom specialize in painted pictures on ivory. While the finest Mogul-style painting on ivory is still produced in Delhi, probably the total output here is greater than in the capital. The ivory for pictures is thinly cut from solid tusk tips, using electric band saws. The slices, called plates, vary in size from 5 cm by 7.5 cm, weighing about 6gm, to 12.5 cm by 20cm at 40 gin. A 15 kg tusk is needed for the biggest plates, and if a larger picture is painted, plates will have to be joined together. The cutting of ivory into plates is a major part of the ivory business in Jaipur, and many which are painted in Delhi have been cut here. The wholesale price is between US\$ 528 and US\$ 990 per kg, depending upon the thickness of the plates.

In Jaipur an artist may spend a fortnight painting a typical Mogul scene on a 10 cm by 19 cm plate which is sold retail for between US\$ 160 and US\$ 280. Modern paints are not popular among the better artists; still preferred are those made traditionally from crushed stones mixed with gum and water for most colours, although a certain flower produces a distinctive yellow and the bark of a tree purple. Clay is used for white. Often gold leaf is used to heighten detail. Probably the most expensive ivory paintings made today in Jaipur are by the artist Bannu; one of

his 15 cm by 11 cm portraits of an Indian woman sells retail for at least US\$ 660 of which he receives half.

American buyers usually choose paintings of traditional Mogul court scenes; Italian and Spanish customers often purchase erotic paintings of explicit Indian love-making scenes; Indians prefer traditional Hindu gods and goddesses on theirs. The quality of the Jaipur ivory paintings varies from poor to excellent, and the prices accordingly.

Because the agricultural potential of Jaipur, and most of Rajasthan, is limited by lack of water, handicrafts and the production of fine arts have long been an alternative source of employment, one which was especially encouraged by the Maharajahs in this state. Since the late 1960s, unlike other ivory craftsmen, the number of Jaipur ivory painters has increased. With an average take-home pay of US\$ 100 per month, their labour is cheaper than in Delhi. Some work illegally without being licensed. Painting makes no noise and the thin plates can easily be hidden. Quite a few tourists have become much more interested in buying an ivory painting instead of a statue or an ornament, and they are aware that the better bargains are to be found in Jaipur. Some tourists, who want ivory pieces but not the bother of obtaining permits to export them, now smuggle their purchases out of the country; ivory plates are ideal as they weigh little, lie flat in a suitcase and take up little space. Those who do go through all the procedures of obtaining export permits also realise that it is much easier to transport a painting on ivory.

Another Jaipur speciality is ivory charms, especially elephants. Typically, the style has remained unchanged, but it is no longer popular with European tourists. The charm-making enterprises have consequently foundered in the 1980s. However, one merchant studied a catalogue of ivory carvings from Hong Kong and in 1982 started to copy the style of carved figurines of Chinese people. His business has become very successful; in fact, he has a Japanese clientele, which is very surprising as few Indian carvings are attractive to the Japanese. Other ivory dealers in Jaipur have begun copying his work. Also in Jaipur, there has been a tradition of making new ivory look like old. Small carvings of gods, chessmen and ornaments are treated sometimes with tea, henna or coffee to imitate the slight brownish tinge that the blood in ivory brings forth in pieces over a hundred years old.

Bombay One of the world's largest cities and a major ivory importer until the 1980s, Bombay has never been a significant ivory manufacturer. Particularly in connection with first-class hotels, there used to be quite a few retail shops promoting ivory products, and one would expect still to see a lot of ivory around. In comparison to what I saw in 1978, there is not. The paperwork involved in selling an ivory item to a tourist is, of course, a problem. However, the fact that retailers have been forced to reduce significantly their profit margins in the 1980s due to the high cost of ivory and strong competition from Hong Kong is an even more likely reason.

Bangle-making is just about the only ivory business in Bombay, located where tourists never go, in the very congested Third Bhoiwada Section. There one finds five small, cramped shops

with craftsmen sitting on the floor, working hand-powered lathes to produce bangles for Gujarati and Rajasthani brides living in Bombay. The left-over scraps are used to decorate wooden boxes. It is actually in these workrooms that the sales are made, and the atmosphere is reminiscent of what many parts of Bombay must have been like in the Victorian era.

Trivandrum The fall in the trade in Trivandrum was the greatest of any ivory carving centre during the 1980s, and was brought about almost entirely by the government's various restrictions. Traditionally, Trivandrum carvers obtained their supplies from elephants in the southern part of the country; not until a big importer in Bombay started a factory in Trivandrum in 1966 did they use much African ivory. During the factory's last full year of production, 550 kg of raw ivory, costing US\$ 119 per kg duty-paid, were consumed to make 385 kg of finished ivory pieces valued at US\$ 128,713. The wastage factor of 30% was very low because only hand tools were used, but the factory-owner wanted his carvers to modernize their techniques and sent one to Varanasi to learn to use electric drills. This was an unsuccessful endeavour as the man refused to work with them on his return to Trivandrum, correctly stating that hand tools can produce finer carvings; none of his co-workers would switch either. In 1984 the factory-owner's Kerala state wildlife licence for manufacturing ivory was refused renewal. He had to close down his business. The carvers who had depended upon him for their livelihood in the ivory industry thus lost not only their jobs but also their source of raw ivory.

At that time there were still around 1,800 ivory craftsmen in Trivandrum, but their supplies of legal ivory were fast dwindling as the Kerala Forest Department sold none. Some Trivandrum businessmen began buying African ivory from firms in Bombay, and some obtained illegal supplies, but the shortage was already acute. Furthermore, nothing made from Indian ivory had been allowed to be exported since 1976 when India became a party to CITES, and many retailers in the main tourist centres would not buy from Trivandrum as they

did not want to risk having Indian ivory items in their shops. While some worked Indian ivory from Trivandrum ended up in the Gulf countries, it was usually taken there by migrant workers from southern India, and the quantity was relatively small in the 1980s.

The worst blow, of course, was the 1986 ban on the use of Indian ivory. Some Trivandrum carvers did continue to use what they could obtain, but selling items made from it became even more problematical. To try to save the industry, eight registered ivory companies in Trivandrum formed the Imported Ivory Licensees, Manufacturers and Traders Association in 1988 to try and import African ivory, which they planned to share amongst themselves. However, the association's members had no idea how to go about buying ivory abroad. In early 1989 they pleaded with us for the names and addresses of African ivory exporters as they had not so far succeeded in importing any whatsoever, nor had any individual carver even though the government had expected craftsmen to start to import their own ivory when duties were abolished.

Recently, some Trivandrum ivory businesses have been buying the so-called "broken, cracked or rotten" ivory imported by dealers in Bombay when duty was still applicable. Because it was declared cheap, the sales records reflect this; in fact, the Trivandrum purchasers pay in cash the difference to make up the full market price of African ivory. Illicit Indian ivory sells for US\$ 157 per kg in Trivandrum today, a third less than legal African ivory. Whatever the means Trivandrum

businesses use to obtain ivory, there is simply not enough to support the craftsmen.

Their numbers have dropped from 3,000 in 1978 to well under 100 now. Many of those who gave up went into woodcarving, but unless they use sandalwood, they cannot earn nearly as much as they did when they worked ivory, and that is also a product in short supply and controlled by the state government.



Jaipur craftsmen have recently started making Chinese-style ivory figures.

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This craftsman in Bangalore works only with hand tools producing high-quality carvings.

Bangalore Bangalore's ivory industry is dominated by a merchant family from Trivandrum, who set up a carving factory here years ago to avoid Kerala state communist party politics which have caused many labour problems. The son who now runs the business has always been interested in ivory, his father having hawked carvings door-to-door to the British in India in the 1920s.

In the 1960s and 1970s, when many ivory businesses were beginning to decline, this merchant was expanding his. In 1982 he had his carvers, whom he brought with him from Trivandrum, begin making metre-high statues of Hindu gods and goddesses. He sold his first one to a wealthy man in Bombay, whose friends greatly admired the work and ordered some for themselves. Now he has pre-paid orders for the next two years. He sells directly to his customers; he does not supply to retail shops nor does he sell to other traders the raw ivory he imports.

Although the merchant complains that Trivandrum carvers "drink and womanize", he has respect for their abilities. His employees, although they are uneducated and mostly illiterate, earn more than a civil servant with a university degree on first appointment: they receive an average US\$ 164 monthly salary,

and the highest paid artisan is presently making US\$ 2%. Guaranteed a regular income by being salaried, rather than paid for piece-work, they are allowed to take whatever time needed to complete a job and are under constant supervision to ensure that they are doing their very best work. Their finished pieces are among the finest produced in India.

Following tradition, everything is carried out by hand. After an ivory tusk is divided into the pieces needed for various items, the most skilled artisan makes a pencil drawing of the figure to be carved, which is then roughly cut out using a mallet and steel chisels. Another carver carries out the more detailed work, and someone else does the final touches on the face of the god or goddess. None of the statues is the work of a single artisan. When the carving is completed, a moistened breadfruit leaf is rubbed over the statue to remove any stains; the polished finish is achieved by buffing with porcelain powder mixed with water.

The merchant's 30 artisans are using 300-400 kg of raw ivory per annum, or 11.7 kg per craftsman. In a typical year they produce six to eight of the very large statues which sell for around US\$ 16,000 each, 25-30 smaller figures for US\$ 650 to US\$ 3,300, six to eight boxes for US\$ 460 to US\$ 1,000, and ten to 15 elephant sculptures for US\$ 200 to US\$ 1,000. One of the most expensive statues was a 135 cm tall Krishna bought by a Delhi businessman in 1987 for US\$ 57,860. The merchant is very proud of having Indian patrons for the works of art his craftsmen produce, and he thinks that the finest ivory carvings made today should remain in India.

Conclusion

India's ivory industry is dying. Illicit supplies of raw ivory, infringements of regulations on the use of ivory and illegal exports have led the government to enact and enforce increasingly harsh restrictions, stronger even than those proposed by the CITES Secretariat, with the result that importers, dealers, manufacturers, retailers and craftsmen are giving up their roles in the ivory trade.

Well aware that illegalities still exist, the Indian government has not, however, banned the ivory trade. An attempt at compromise has been made to resolve the conflict of interests between the people whose livelihood is earned from ivory and the conservation needs of the elephant. Unlike several countries which have closed down the ivory industry but still have severe poaching problems, India's elephant population is presently increasing.

The ivory dealers and manufacturers are wealthy and educated; they have been able to diversify their businesses successfully. The people who have suffered are the ivory craftsmen who have few assets. More than 5,200 of them have lost their jobs since 1978. It has not been easy for them to find alternative employment even though the state handicraft corporations are encouraging them to work other materials. The remaining 2,060 produce a lot of tourist trinkets of no intrinsic merit; only a few make quality ivory carvings and paintings. As one trader said, the "endangered species" in India is the skilled artisan, not the elephant.

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18. Kunz, p.103.
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20. The Kerala Forest Department's last auction took place on the 23 December 1976. The prices ranged from 440 rupees a kilo (about US\$ 49) for female tusks to 731 rupees a kilo for Class I Ivory (unpublished data from the Forest Department, Trivandrum).
21. *Indian Express* (Bangalore), 6 March 1989.
22. Personal communication with R. Sukumar, 1 March 1989.
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24. The details of these stocks are as follows:

Class I	82	pieces weighing	1.347	kg
Class I	140	pieces weighing	313	kg
Class III	24	pieces weighing	126	kg
Class IV	260	pieces weighing	416	kg
Total:	406		2,202	kg
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36. The sources for this section on the illegal killing of elephants are: interviews with R. Sukumar, P.N. Surendran (Additional Chief Conservator of Forests, Wildlife, Kerala). M.K. Ranjitsinh (Joint Secretary Wildlife). S.C. Sharma (Joint Director Wildlife). Rajesh and Ramesh Bedi (film-makers), N.M. Pillai, M.K. Appayya (Additional Chief Conservator of Forests, Wildlife Preservation, and Chief Wildlife Warden, Karnataka). B. Prabhaker (Assistant Conservator of Forests, Wildlife Preservation, Mysore) and Ajay Desal (Scientist with the Bombay Natural History Society Elephant Project, Mudumalai Sanctuary). In addition, see Sukumar, Vol.2, pp.409-441 and J.C. Daniel (principal investigator). *Study of the Ecology of Some Endangered Species of Wildlife and their Habitats - The Asian Elephant (Report October 1985 to September 1987)*. Bombay, pp.115-116.
37. There is no evidence that any of the raw ivory shipped into the two free trade zones of Kandla and Varanasi (2.8 tonnes were imported to the latter during its existence from 1985 to 1987) was illegally removed from the zones and sold to local businessmen.
38. In January 1989 the importer paid a Hong Kong trader US\$ 190 per kg for Somali ivory tusks weighing between five and ten kg each.
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TABLE 1
OFFICIAL IMPORTS OF RAW IVORY INTO INDIA FROM 1898 TO 1955/5

YEAR IN KILOS	QUANTITY IN US\$	VALUE /KILO IN US\$	PRICE / KILO IN US\$	SOURCE	YEAR	QUANTITY IN KILOS	VALUE INUS\$	PRICE / KILO IN US\$	SOURCE	YEAR	QUANTITY IN KILOS	VALUE INUS\$	PRICE / KILO IN US\$	SOURCE
1803	162,849			1	1853	297,412			1	1843/44	37,783	218,644	5.79	8
1804	242,540			1	1854	289,377			1	1844/45	282,863	1,287,786	4.90	8
1805	155,214			1	1855	242,578			1	1845/46	211,898	1,001,959	4.73	8
1806	157,536			1	1856	448,239			1	1846/47	263,090	1,282,858	4.88	8
1807	137,273			1	1857	315,915			1	1947/48	127,829	637,213	4.98	8
1808	161,900			1	1874/75	257,298	544,128	2.11	2	1848/48	152,982	966,828	6.32	9
1809	143,584			1	1875	257,922	941,049	3.65	2	1949/50	102,727	750,177	7.30	9
1810	145/963			1	1876	248,024	1,060,487	4.28	2	1950/51	124,013	654,836	5.28	9
1811	128,509			1	1877	207,150	808,283	3.90	2	1951/52	178,876	1,037,581	5.87	10
1812	138,977			1	1878	184,163	702,335	3.81	2	1952/53	119,491	802,687	5.04	10
1813	102,796			1	1879	195,845	718,224	3.67	2	1953/54	101,218	545,821	5.39	11
1814	109,332			1	1880	213,966	832,176	3.89	2	1954/55	140,396	800,923	5.70	11
1815	190,534			1	1881	232,175	885,175	3.81	2	1955/56	141,628	1,086,178	7.54	11
1816	185/178			1	1882	920,175			3	1956(Apr/Dec)	98,470	895,488	7.06	12
1817	88,376			1	1883	836,885			3	1957	134,217	828,137	6.17	12
1818	142,667			1	1883/84	209,754			4	1956	32,890	247,038	7.51	12
1819	157,761			1	1884	929,703			3	1959	78,074	664,284	8.51	12
1820	224,094			1	1885	775,207			3	1980(Jan/Mar)	18,751	205,100	10.94	12
1821	111,897			1	1886	1,200,900			3	1960/81	74,982	802,106	10.70	12
1822	130,026			1	1887	1,066,261			3	1961/62	68,844	805,259	11.70	12
1823	122,909			1	1904/05	2,478,890			5	1962/63	58,352	712,652	12.21	12
1824	209,898			1	1912/13	109,967			6	1963/64	73,249	814,378	8.39	12
1825	172,949			1	1913/14	105,625			6	1964/65	46,092	303,845	6.59	12
1826	212,314			1	1914/15	96,422			6	1965/66	35,762	308,425	6.82	12
1827	195,759			1	1915/16	97,209			6	1966/67	26,567	303,685	11.43	12
1828	148,191			1	1916/17	150,652	866,606	5.75	6	1967/68	13,932	105,041	7.54	12
1829	119,669			1	1917/18	136,924	769,202	5.62	6	1968/69	45,420	290,508	7.02	12
1830	175,945			1	1918/19	132,356	716,648	5.41	6	1969/70	37,916	276,627	7.30	12
1831	175,140			1	1919/20	292,909	2,020,272	6.90	6	1970/71	30,053	224,806	7.48	12
1832	162,218			1	1920/21	125,212	715,816	5.72	6	1971/72	89,950	176,446	1.96	12
1833	195,497			1	1921/22	219,760	1,089,606	4.96	6	1972/73	13,557	167,612	12.36	12
1834	192,426			1	1922/23	163,362	886,731	5.42	7	1973/734	3,080	81,105	19.84	12
1835	180,496			1	1923/24	142,813	750,963	5.27	7	1974/75	5,403	157,430	29.14	12
1836	224,000			1	1924/25	147,624	844,531	6.40	7	1975/76	4,919	114,371	23.25	12
1837	246,983			1	1925/26	111,042	805,353	7.25	7	1976/77	8,998	247,743	27.53	12
1838	201,321			1	1926/27	103,199	671,074	6.36	7	1977/78	10,841	339,295	31.30	12
1839	167,705			1	1927/28	125,431	754,460	6.01	7	1978/79	22,174	452,488	20.41	12
1840	209,187			1	1928/29	96,786	629,271	6.50	7	1979/80	10,980	468,497	42.67	12
1841	211,378			1	1929/30	90,504	528,854	5.84	7	1980/81	16,840	528,932	31.41	12
1842	205,741			1	1930/31	93,661	502,142	5.36	7	1981/82	13,363	386,819	28.95	12
1843	281,717			1	1931/32	71,813	260,961	3.63	7	1982/83	11,067	297,403	26.87	12
1844	197,800			1	1932/33	83,050	281,742	3.39	7	1983/84	27,537	778,917	28.29	12
1845	280,426			1	1933/34	96,911	329,054	3.40	7	1984/85	14,470	366,161	25.30	12
1846	359,082			1	1934/35	107,811	383,150	3.55	7	1985/86	4,876	124,848	25.60	12
1847	352,227			1	1935/36	132,539	456,080	3.44	7	1986/87	4,467	127,592	28.56	12
1848	334,361			1	1936/37	96,233	307,210	3.19	7					
1849	381,572			1	1937/38	84,681	280,127	3.31	7					
1850	306,663			1	1938/39	108,161	361,685	3.34	7					
1851	367,603			1	1941/42	111,860	298,180	2.67	7					
1852	306,214			1	1942/43	109,215	345,834	3.16	7					

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TABLE 2
OFFICIAL RE-EXPORTS OF RAW IVORY (AFRICAN ORIGIN) FROM 1943/44 TO 1956

YEAR	QUANTITY IN KILOS	VALUE IN US\$	PRICE PER KILO IN US\$
1843/44	0	0	-
1944/45	0	0	-
1945/46	12,296	66,952	5.61
1846/47	41,292	201,552	4.88
1947/48	32,971	104,587	3.17
1848/49	79,413	2,974	4.15
1849/50	499	2,674	5.78
1950/51	2,479	10,331	4.17
1951/52	254	869	3.42
1952/53-56	0	0	-

NB From 1956 onwards, very little raw ivory of African origin was legally exported from India annually because of government restrictions.

Source: same as Table 1

TABLE 3
OFFICIAL EXPORTS OF RAW INDIAN IVORY FROM
1916/17 TO 1956/57

YEAR	QUANTITY IN KILOS	VALUE IN US\$	PRICE PER KILO IN US\$
1916/17	633	1,631	2.58
1917/18	117	427	3.65
1918/19	439	3,149	7.17
1919/20	1,802	15,565	8.64
1920/21	813	6,744	8.30
1921/22	2,458	13,752	5.60
1922/23	742	4,326	5.83
1923/24	2,751	22,164	8.06
1924/25	3,066	20,998	8.85
1925/26	1,631	12,712	7.79
1926/27	365		
1927/28	231		
1928/29	307		
1929/30	103		
1930/31	650		
1931/32	1,286		
1932/33	5		
1933/34	102		
1934/35	21		
1935/36	461		
1936/37	1,517		
1937/38	1,683		
1938/39	1,593		
1941/42	3,085		
1942/43	0	0	-
1943/44	0	0	-
1944/45	18	?	-
1945/46	0	0	-
1946/47	673	14,929	22.18
1947/48	2,934	23,625	8.05
1946/49	1,155	9,754	8.44
1949/50	7,054	86,480	12.26
1950/51	680	3,214	4.73
1951/52	802	6,600	8.23
1952/53	3,486	27,501	7.89
1953/54	3,275	23,077	7.05
1954/55	1,464	12,162	8.31
1955/56	1,776	15,405	8.67
1956/57	2,325	23,369	10.05

NB Blank spaces: unavailable statistics
Source: same as Table 1

TABLE 4
LOCATIONS AND NUMBERS OF IVORY CRAFTSMEN
IN INDIA IN 1986

LOCATION	NUMBER
Delhi area	450
Jaipur	780
Udaipur and Nathdwara	300
Jodhpur and Pali	190
Amristar	25
Lucknow	30
Ahmadabad	30
Bombay	15
Murshidabad	40
Varanasi	20
Trivandrum	45
Madras	10
Bangalore	40
Mysore	5
Others	100
Total	2,060

Source: information supplied by the ivory traders of India

TABLE 5
NUMBERS OF WILD ELEPHANTS IN INDIA

PLACE	MIN	MAX	REFERENCE
North Kanara	40	40	
South Kanara	50	80	
Malnad-Bhadra	100	150	
North Wynad	800	800	
Bandipur	1,200	1,500	
Nilambur	300	500	
Eastern Ghats	1,800	2,000	
Nalliampathis	800	1,000	
Periyar	700	900	
Agasthyamalai	150	200	
South India	5,740	7,150	R Sukumar 1965
Palamau	65	65	
Singbhum	200	200	
Dalbhum	70	70	
Similipal	375	648	
Kuldiha	25	25	
Hadgarh	10	10	
Satkosia/Baisapalli	300	400	
Chandaka	21	57	
North Keonjhar	25	25	
South Keonjhar	110	150	
Ushakothi/Khalasoni	110	216	
Kapilas	40	50	
Madanpur	250	300	
Lakhaura	50	60	
Mahendragiri	10	15	
Khurda	21	21	
East Central India	1,682	2,312S	P.Shahi 1965
Sub Himalayan Tract	3,008	3,633	
South Bank	1,070	2700	
Kaziranga	1,725	1,946	
Garo and Khas	5,500	3,500	
Jainti Hills	150	175	
South Cachar	100	150	
Tripura	120	150	
North East India	8,703	12,254	D.K Lahlri Choudhury 1985
Terai	425	490	
Dudhwa	25	25	
North India	450	515	R.D. Gupta 1985
Andaman Islands	20	30	M.K. Ranjitsinh
Totals	16,595	22,261	

Source: Ministry of Environment and Forestry and Wildlife, Delhi (unpublished data)

TABLE 6
NUMBERS OF DOMESTICATED ELEPHANTS IN INDIA

PLACE	MIN	MAX	REFERENCE
Arunachal Pradesh	1,000	1,100	
Assam	400	500	
Tripura	20	20	
West Bengal	40	40	
North India	750	750	
South India	700	700	
Total	2,910	3,110	R Sukumar 1965

Source: Ministry of Environment and Forestry and Wildlife, Delhi (unpublished data)

TABLE 7
INDIA'S REGIONAL IVORY SPECIALITIES IN 1986

LOCATION	SPECIALITIES IN IVORY
Delhi	Paintings jewellery, magic bells, tusks, table lamps boxes, screens, seals, erotic figurines, elephants, paper knives, drop licks, cigarette holders, dice ad toothpicks
Jalpur	Paintings Indian gods and goddesses, charms, Chinese-style human figurines and animals
Lucknow	Fans, lamps and boxes
Ahmadabad	Bangles
Udaipur	Paintings
Jodhpur	"Chip work" Ivory chips are used to cover wooden animals ad boxes
Trivandrum	Human figurines, Ghanesh (elephant-headed Hindu god) figurines, other Hindu gods and goddesses, and flower pots
Marshidabad	Bullock carts, peacock boats, and elephants with howdahs
Bangalore	Hindu gods and goddesses
Armitsar	Chess sets and boxes
Varanasi	Chess sets and lamps
Bombay	Bangles and pendants
Madras	Hindu gods and goddesses
Mysore	Inlay work on furniture ad pictures

Source: survey takes by the authors

TABLE 8
RETAIL PRICES IN INDIA OF VARIOUS IVORY ITEMS
INEARLY 1986

LOCATION	PRICE 14US\$
Bangles	2-430
Necklaces	5 - 265
Plain seal, 6 cm long	20
Elephant figurine, 2.5cm high weighing 35g	59
Chop sticks (pair)	105
Far 30 cm span	160
Magic ball (16 balls)	430
Carved tusk, 37cm long, weighing 510 g	490
Chess sets of good quality	520 - 4,000
Fully carved tusk weighing 11 kg	20,000

Source: survey taken by the authors

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