

Elephant conservation in India – an overview

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Introduction

The Republic of India is a union of 27 States and seven Territories. With a total land area of 3.28 million km², India is the seventh largest country in the world, with about 2.4% of the Earth's total land surface. India's frontier bordered by six countries is over 16,000km long of which about 7,500km is coastline (including those of its islands). India includes (a) portions of the Himalaya and sub-Himalaya regions; (b) extensive Indo-Gangetic Plains together with the Brahmaputra Valley of Assam; and (c) the Deccan Plateau to the south which constitutes the Peninsular India. The Himalaya (Sanskrit: *him*, 'snow', and *alaya*, 'abode') in the far north include some of the highest peaks in the world, the highest in India being Kangchenjunga (8,586m). Major rivers include the Ganges, Brahmaputra, Mahanadi, Narmada, Godavari, Krishna and Cauvery.

The climate in India is dominated by the monsoons, most importantly by rains from the south-west monsoon between June and October.

Forest types include evergreen tropical rain forests in the Andaman and Nicobar Islands, the Western Ghats, and the north-eastern States, to dry alpine scrub in the Himalaya to the north. Between these extremes lie forest types such as semi-evergreen rain forests, deciduous monsoon forests, thorn scrub, subtropical broad-leafed and subtropical pine forests. The total forest cover of the country assessed through satellite imagery interpretation is about 20% of the land area.

With more than a billion people, India is the world's second most populous country. Very little of India's land is uninhabited; more than three-quarters of India's human population inhabits the fertile alluvial soils of the Indo-Gangetic Plain and the deltaic regions of the eastern coast, and along the western coast. Population densities may exceed 800 per km² in agriculturally productive areas.

Historical background to conservation efforts

There are historical records, such as the *Kautilya Arthashastra*, that indicate legal protection for elephants by rulers of the sub-continent about 2,000 years before present (Rangarajan 1992). In more recent times, efforts for the conservation of the elephant in British India were initiated with the promulgation of the Madras Wild Elephant Preservation Act of 1873. Soon after, the Indian Government enacted the Elephant Preservation Act of 1879, that applied to the entire country. This Act, along with the Indian Forest Act of 1927 (IFA-1927) and certain other State Acts, remained a major legal tool for

protecting elephants in most parts of the country until 1972. But all these Acts were quite liberal as regards capturing of elephants and permitted their killing under the pretext of protecting crops and public property. Ivory trade was kept outside the purview of law and there was no serious attempt to protect the habitat of elephants. As a result, the elephant population in the country continued to decline over the years.

The Wildlife (Protection) Act of 1972 (WPA-1972), which superseded all other wildlife legislation in the country, initially including the elephant under Schedule-II of the Act. This implied that elephant was 'Special Game' which could be killed or captured on the basis of a licence issued by the Chief Wildlife Warden (CWLW) of the State or any other authorized officer. The trade in ivory continued to be outside legal control. The recognition that the Asian elephant was an endangered species and needed special protection, came after the inclusion of this species in Appendix I of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) in 1975, and the formation of the IUCN/SSC Asian Elephant Specialist Group in 1976. Consequently, the elephant was transferred to Schedule I of the WPA-1972 on 5 October 1977. This implied a ban on hunting and capturing of elephants except for some specified purpose.

The Forest (Conservation) Act of 1980 (FCA-1980), brought the process of deforestation of elephant habitats under control. As a result of the revision in the Import-Export Policy of Government of India in 1978, 1987 and 1990, and amendments to the WPA-1972 in 1986 and 1991, the domestic and international trade in ivory was totally prohibited, thereby plugging a major legal loophole in the protection of elephants.

In February 1992, the Government of India launched Project Elephant, a major initiative for the conservation of elephants in the country. This project is meant to provide financial and technical assistance to elephant-bearing States. Until 31 March 2004 the Government of India had spent an amount of Rs.747 million (equivalent to US\$16.2 million at current 2004 prices) on this project. A number of measures have been taken under the Project Elephant for strengthening of enforcement machinery, protection and improvement of habitats and corridors of elephants, reducing human-elephant conflict, capacity building of the field staff and veterinarians, care of captive elephants, sensitisation of public, and various other matters relating to elephant conservation. As a result, elephants in India now enjoy better protection and management than ever before.

Present distribution of elephants

Census operations carried out during 2001-2002 indicate the presence of over 27,000 elephants in 16 States and one Union Territory in the country (Table 1). Elephants are found in five distinct geographical zones, *viz.*, north-eastern India (c. 9,200), eastern India (c. 2,600), northern India (c. 1,600), southern India (c. 13,800) and the Islands of Andaman and Nicobar (c. 40) (Fig. 1). The elephant population of Andaman and Nicobar is derived from captive elephants that escaped into the wild in the 1960s. In recent decades several states that were devoid of wild elephants for centuries have witnessed the influx of elephants from neighbouring States. The elephant population of Andhra Pradesh in southern India is derived from elephants that came into the state from Tamilnadu and Karnataka in late 1983 and thereafter. In central India elephant herds from Orissa and Jharkhand have been visiting Chhattisgarh since 1999, but there is no evidence so far that these elephants have permanently settled there. The total elephant habitat in the country is about 110,000km²: 41,000km² in the north-eastern India; 23,500km² in the eastern India; 5,500km² in the northern India; 39,500km² in the southern India; and 500km² in the Andaman and Nicobar Islands.

Current population trends

The population of wild elephants has apparently increased

in the country since 1980 when the first estimates were made by the Asian Elephant Specialist Group (Chart 1). Increase in elephant population is not uniform throughout the country. A negative trend is seen in the elephant populations in the north-east and Orissa. The population of elephants in Assam has gone down from 5,524 (year 1993) to 5,246 (2002); Arunachal Pradesh from 2,102 (1993) to 1,607 (2001); Meghalaya from 2,872 (1993) to 1,868 (2002); Nagaland from 256 (1980) to 145 (2002); and Orissa from 2,044 (1979) to 1,841 (2002). Some of the variation may be on account of refinement in census techniques in the recent years. In fact, during the recent enumeration in 2003, population estimates of Kerala and Uttaranchal had to be 'technically corrected' and brought down.

Threats to elephants

Poaching of elephants for ivory continues to be a serious problem in the country, though the average number of cases of poaching of tuskers has come down from 64 per year (during 1991-2000) to 44 per year (during 2000-2004) (Chart 7.2). However, there is reason to believe that not all the cases of poaching are brought on record. This is particularly true in the north-eastern States, where insurgency is a major problem.

A matter of serious concern in recent years has been the deliberate killing of elephants by villagers through

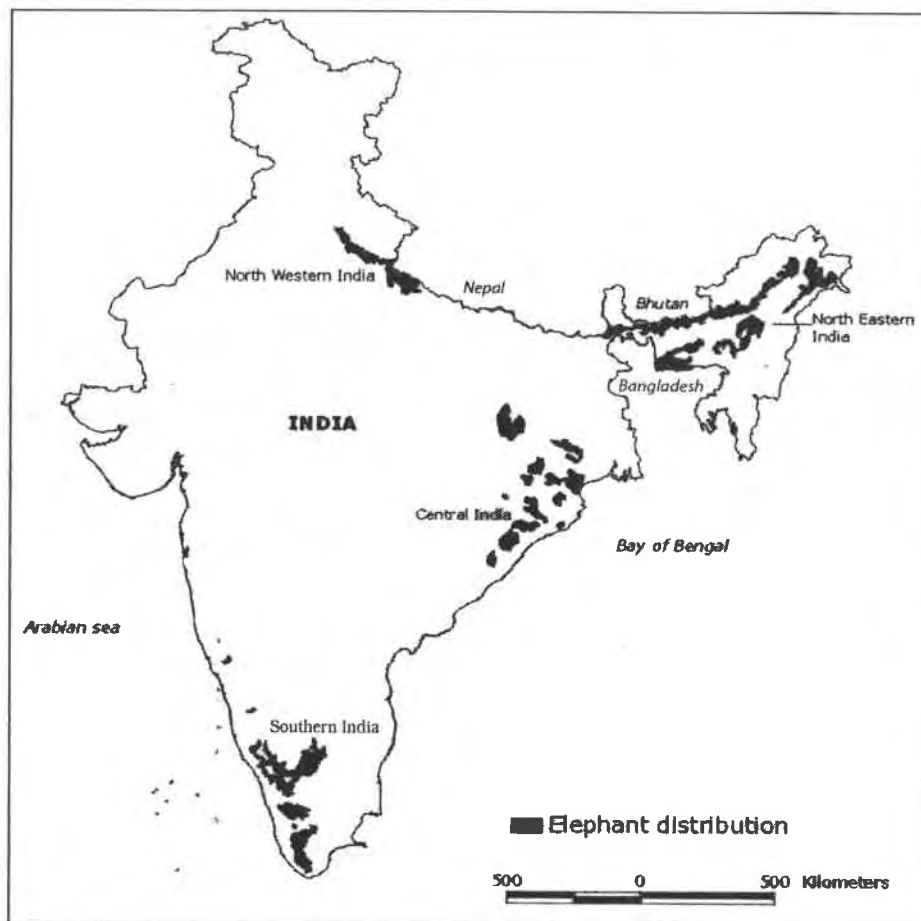


Fig 1 Distribution of the Asian elephant in India

poisoning or electrocution in retaliation against crop depredation by elephants. At least 21 elephants were killed by poisoning in Assam alone during 2001-2002. There were, fortunately, only two cases of elephant deaths in the country by poisoning during 2003-2004. On average, however, 35 elephants died of electrocution per year between 1998-2004, most of the reports coming from Karnataka, Kerala, Tamilnadu, Orissa and Assam. Cattle-borne diseases (e.g., anthrax, haemorrhagic septicaemia, trypanosomiasis, etc.) also account for about 20 elephant deaths every year. Ironically, expansion of railways, the indicator of country's economic growth, has proved to be a bane for elephants. During 1998-2004, reports of 74 elephants getting killed by trains were received — about 88% cases being reported from Assam, Jharkhand, West Bengal and Uttaranchal. Project Elephant has initiated coordinated efforts with the State Electricity Boards, Veterinary Department, the Railways and other relevant agencies to deal with these problems. As only the bulls among the Asian elephants carry tusks, they are selectively killed by ivory poachers. This has resulted in abnormally low proportion of adult bulls and highly skewed sex ratios in certain areas. Some examples of highly skewed adult male to female ratios are between 1:100 and 1:122 in Periyar Tiger Reserve in Kerala during the 1980s and 1990s [Chandran 1990; Ramakrishnan *et al.* 1998; but also see Easa (2001) who reports adult male to female ratio of 1:10 for the same reserve]; 1:29 in Mudumalai Sanctuary in Tamilnadu (Baskaran and Desai 2000); 1:9 in Coimbatore Division in Tamilnadu (Sivaganesan 1998); 1:12 in Bandipur National Park (Menon *et al.* 1997); and 1:7 in Nagaland (Lotha 1999). On the other hand, Meghalaya with a sex-ratio of 1:1.8 (Marak 1999), and northern West Bengal, with a sex-ratio of 1:1.3 (Bist 2000), have reported a very high proportion of adult bulls — probably due to large scale capturing of cow elephants in the past. Monitoring of adult sex-ratio has now been accepted as a useful indicator of the protection status of tuskers in India.

Threats to elephant habitats

Despite the provisions of the FCA-1980, elephant habitats are under threat in many States. The Forest Survey of India (FSI) has recorded a decrease in forest cover by 1,800km² between the 1991 and 1999 assessments in the north-eastern States of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram and Nagaland (Anon 2000). Most of the loss of forest cover is over elephant habitats and caused by encroachment and deforestation. But the actual loss of elephant habitats may be much more. About 1,500-1,800km² of prime elephant habitat on the north bank of the Brahmaputra in Assam is estimated to be under encroachment. Loss of elephant habitat has also been observed in Orissa and Jharkhand due to encroachment and mining activities. Large chunks of elephant habitats in Meghalaya, Nagaland and Orissa are under the control of either the local communities or the district administration and hence the State Forest Departments do not have much say in their management.

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Yet another problem concerning elephant habitat is that of *jhum* (shifting cultivation). The FSI has assessed the cumulative area affected by shifting cultivation in the seven States in the north-east during the period between 1987 and 1997 as 17,300km² (Anon 2000) or at least 50% of this area forming the elephant habitat. Strictly speaking, *jhum* with longer cycles may not be detrimental to elephants as the secondary growth in the abandoned fields is greatly favoured by elephants. But human demographic pressures and diminishing soil fertility have resulted in a considerable shortening of the *jhum* cycle in most parts in the north-east and elephants are virtually on the run everywhere. In Garo Hills (Meghalaya), *jhum* areas experience the maximum human-elephant conflict.

Proliferation of weeds and monocultures of teak and eucalyptus have reduced the carrying capacity of forests for elephants in many areas. Forest fires and livestock grazing also affect the quality of elephant habitats. The Project Elephant supports activities for protection and improvement of elephant habitats.

Threats to elephant corridors

Corridors facilitate movement of elephants between two larger habitats, reduce the impact of fragmentation and enhance the viability of elephant landscapes. Therefore, protection and maintenance of corridors is essential for elephant conservation. Unfortunately, with a few exceptions in the south, no serious attempt to inventorize, demarcate and protect corridors has been made. Provisional estimates suggest that there are over 100 potential elephant corridors in the country. The proportion of corridors *vis-à-vis* elephant habitats

Table 1. Regional estimates of the number of elephants in the wild in India (2002).

| Region | State/Union Territory | Population size |
|-----------------------------|-----------------------|-----------------|
| North-east | Arunachal | 1,607 |
| | Assam | 5,246 |
| | Meghalaya | 1,868 |
| | Nagaland | 145 |
| | Mizoram | 33 |
| | Manipur | 12 |
| | Tripura | 40 |
| | West Bengal (north) | 292 |
| Total for north-east | | 9,243 |
| East | West Bengal (south) | 36 |
| | Jharkhand | 772 |
| | Orissa | 1,841 |
| Total for east | | 2,649 |
| North | Uttaranchal | 1,582 |
| | Uttar Pradesh | 85 |
| Total for north | | 1,667 |
| South | Tamilnadu | 3,052 |
| | Karnataka | 5,838 |
| | Kerala | 3,850 |
| | Andhra Pradesh | 74 |
| Total for south | | 12,814 |
| Islands | Andaman and Nicobars | 40 |
| Grand total | | 26,463 |

is greater in the eastern region than in the rest of India – indicating the high level of fragmentation of habitats in this region. About one-fifth of the known corridors are inter-State in extent, making their management much more complicated. Available information indicates that at least one-third of the land in corridors belongs to private companies (mostly tea and coffee estates), individuals and communities. Management of these corridors without active support of the land-owners is a difficult proposition. The corridors under the control of the government agencies are generally affected by grazing, trespass, encroachment, mining, commercial forestry practices, and other kinds of biotic pressures. Project Elephant has provided financial support to the State Governments of Kerala, Karnataka and Meghalaya for procurement of land for consolidating and securing some important corridors.

Human-elephant conflict

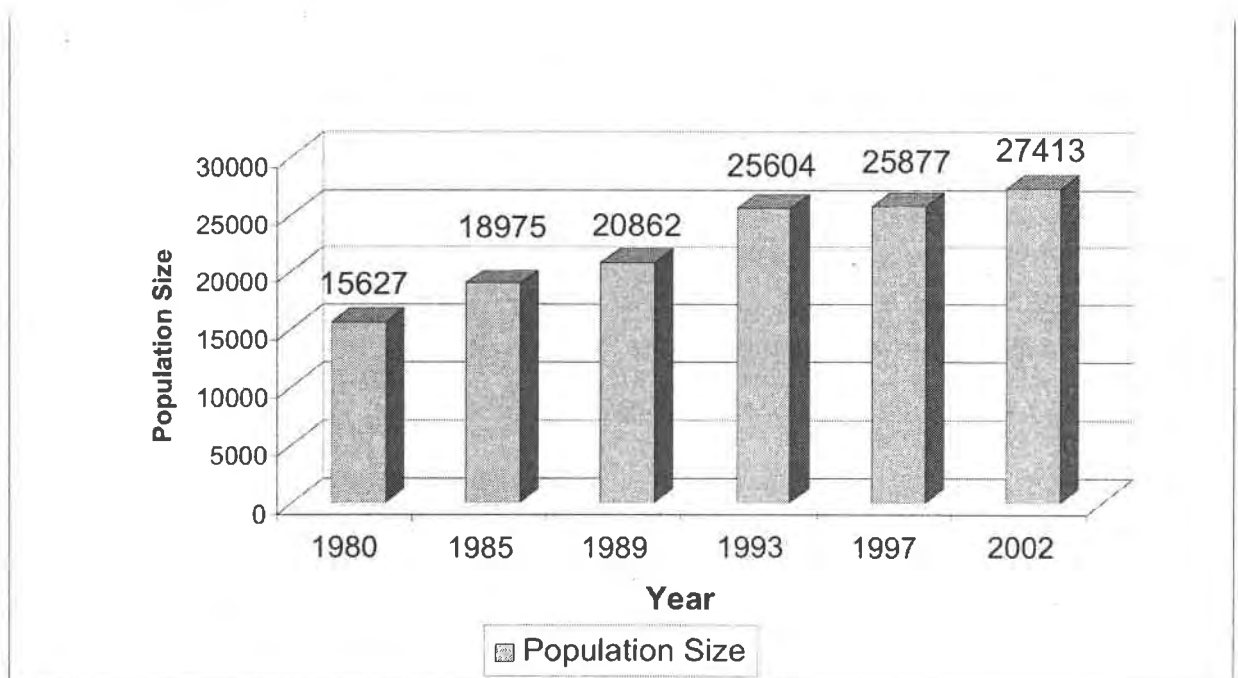
Human-elephant conflict continues to be a serious issue in India. On average, 240 people have lost their lives in encounters with elephants every year since April 1991 (Chart 3). Ironically, the eastern region, which harbours only 10% elephants of the country, contributes over 60% of the human casualties. It is estimated that elephants annually damage 10,000 – 15,000 houses and 0.8 to 1 million hectares of crops. As stated earlier, incidents of villagers killing elephants by poisoning and electrocution are increasing. The Central and the State Governments spend Rs.100-150 million (equivalent to US\$2.2-3.3 million at current 2004 prices) every year on measures for controlling elephant depredation and payment of *ex-gratia* relief to the victims of depredation. The Project Elephant has been sponsoring a medley of

conflict-mitigation measures varying from such modern methods as the use of energized fences and chemical immobilization of elephants to traditional methods like *Mela Shikar* (i.e., chase and capture) using *kunkis* (trained elephants). People's participation has been identified as the key to gain maximum benefit from any conflict-mitigation measure.

Captive elephants

Capturing elephants for taming and use is an age-old practice in India. The Project Elephant directorate carried out a rapid survey in December 2000 and estimated that there were 3,400-3,600 elephants in captivity in 21 States and three Union Territories in the country (Bist *et al.* 2001). There is no evidence to suggest any significant increase or decrease in population of captive elephants in recent years. There is, however, some regional shift in their distribution. For example, the number of captive elephants has increased in Kerala from 250 in 1983 to about 800 in 2002. Jaipur (Rajasthan) with about 90 captive elephants has presently become a major elephant centre. As a result of the restriction on logging operations in the north-eastern States and Andaman and Nicobar Islands imposed by India's Supreme Court in the 1990s, there has been an exodus of captive elephants from these areas to other parts of the country, particularly Kerala. The WPA-1972 stipulates that all the captive elephants, except those in recognised zoos, should be declared to the State Chief Wildlife Wardens (CWLW) who should register these elephants by issuing ownership certificates. But only about 2,000 captive elephants are registered with the State Forest Departments. Project Elephant has now undertaken a programme for registration of captive elephants by using microchips.

Chart 1. Trend in the growth of elephant population in India from 1980 - 2002



The survey by the Project Elephant directorate revealed that 75% of the captive elephants are owned by private individuals, 6% by temples, 3% by circuses 2% by zoos, and 14% by the State Forest Departments. The survey has also revealed that 43% of the elephants are primarily used for logging, 12% for ceremonial purposes, 10% for transportation, 7% for begging, 6% for tourism, 5% for entertainment (circus and zoo), 4% for elephant capturing (as *Kunkis*), and 2% for agriculture (mostly in Arunachal Pradesh). The remaining 11% elephants (mostly calves, sub-adults and old ones) are not put to any work. There is not much demand for captive elephants in the country at present.

Veterinary support

Veterinary support is needed for treatment of sick and injured elephants, immunization of livestock on the forest fringes to protect elephants against communicable diseases, control of problem-elephants (e.g., elephants in *musth*) and for post-mortem and forensic requirements. Not all captive elephants in India get proper veterinary support. Elephants owned by the zoos and State Forest Departments have better facilities. All major zoos in India have one or more full-time veterinarians. Major National Parks and Sanctuaries also have full-time veterinarians. The Protected Area (PA) authorities generally receive help from the State Veterinary Officers in arranging immunization of livestock – a legal requirement under the WPA-1972. In some PAs, NGOs also arrange veterinary support. A large number of captive elephants, particularly under private possession, do not have access to modern veterinary care and the elephant keepers depend on *Kaviraj* (practitioners of

traditional medicine), or their own knowledge. Most of the veterinary doctors called upon to treat a wild or a captive elephant, lack necessary knowledge, experience and laboratory support. There have been instances when a problem elephant had to be destroyed in the absence of tranquillizing equipment. In a large number of cases of post-mortem of elephants, the reports are either defective or inconclusive. Project Elephant has initiated regular training programmes for veterinary doctors at Guwahati (Assam) and Trichur (Kerala) with help of the local agricultural universities.

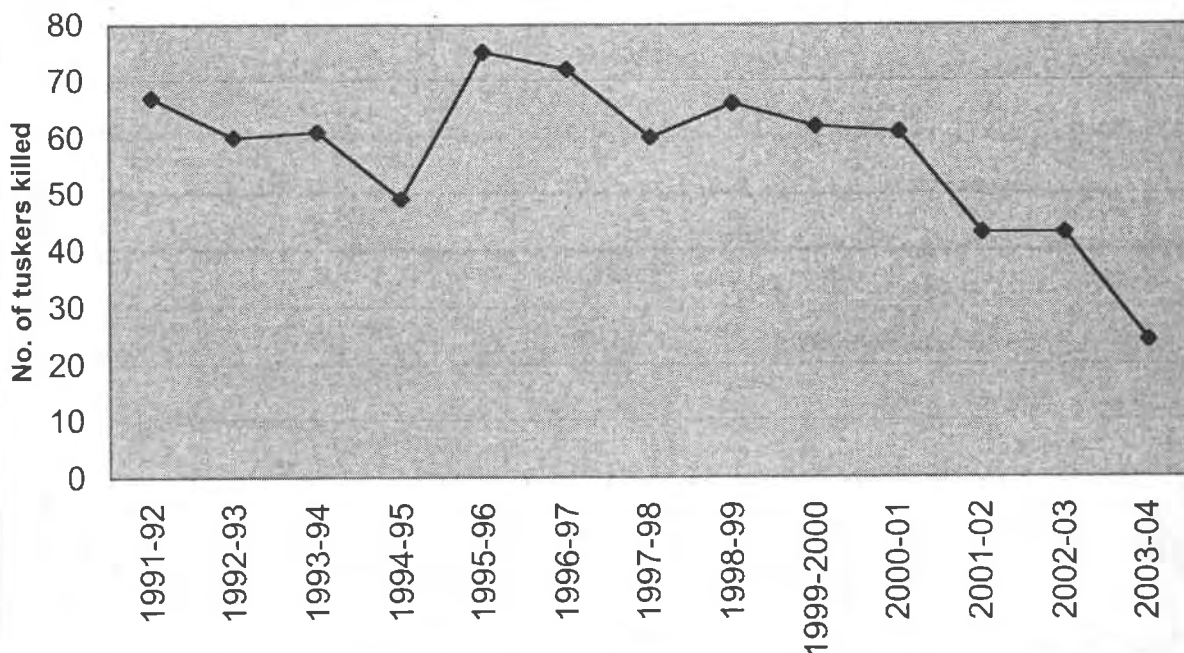
Legal support

The IFA-1927 and various other State Forest Acts recognize elephants as 'forest produce' and require a transit permit for their movement from one place to another. The FCA-1980 prohibits the diversion of any forestland for non-forestry purposes without concurrence of Government of India. This Act, as stated earlier, has prevented the destruction of elephant habitats in many areas.

As already stated, there is a ban on hunting and capturing of elephants as well as on ivory trade (both domestic and international) in India. The CWLW can however, proclaim a rogue elephant that has become dangerous to human life, and permit it to be hunted. The CWLW may also, with the prior permission of the Central Government, permit capturing of elephants for scientific research or population management.

As stated earlier, no person can keep, possess or acquire an elephant without an ownership certificate issued by

Chart 2. Number of tuskers killed in India between 1991 and 2004



the CWLW or any other authorized officer. Ironically, as a consequence of an amendment carried out in 2002 in Section 43(1) of the WPA-1972, the persons possessing ownership certificates for elephants have been forbidden from selling or transferring their elephants by any mode of consideration of commercial nature. This has created a serious problem for the owners who cannot afford to keep elephant as well as for the persons and government agencies desirous of procuring elephants. Government of India is now contemplating another amendment in the WPA-1972 to sort out this problem.

Zoos, recognized by the Central Zoo Authority, are exempted from the requirement of ownership certificates, but they are required to follow the standards and norms prescribed under the Recognition of Zoos Rules (1992) for keeping elephants.

Offences relating to elephants and ivory under the WPA-1972 can not be compounded and invite a term of imprisonment varying from three to seven years along with a fine which shall not be less than Rs.10,000 (equivalent to US\$220). Any elephant captured or kept in violation of the WPA-1972 becomes government property and is liable for confiscation.

Domesticated elephants are also subject to the provisions of the Prevention of Cruelty to Animals Act of 1960, (PCA-1960) and the rules framed thereunder, viz. Prevention of Cruelty to Draught and Pack Animals Rules of 1965; Performing Animals Rules of 1973; and Prevention of Cruelty (Capturing of Animals) Rules of

1972. 'Cruelty' has not been defined in the Act. However, certain acts of omissions and commissions described in the Act constitute cruelty punishable under the Act. The Government of Kerala has also enacted 'The Kerala Captive Elephants (Management and Maintenance) Rules, 2003' for the welfare of captive elephants.

The Import-Export Policy of the Government of India does not normally permit import and export of live elephants. Zoological parks, recognized scientific institutes, circus companies and private individuals can import elephants subject to recommendation of the CWLW and the provisions of the CITES. Non-commercial export of elephants for scientific, zoological or educational purposes is permitted subject to recommendation of the Ministry of Environment and Forests.

Elephant Reserves

The conventional strategy in India to protect wildlife is through setting up PAs, i.e., National Parks and Wildlife Sanctuaries. There are 64 PAs in the country spread over an area of 24,580km² which harbour elephants (Anon 1998). However, for long-ranging animals like elephant, the existing PAs are inadequate. In fact, PAs protect less than 23% of the elephant habitat. The PAs are also not uniformly distributed over the elephant territories. It is evident that the strategy of PAs alone does not serve the purpose of elephant management and it is required to conserve elephants all over their range. Thus, Project Elephant has identified 11 viable 'Elephant Ranges' in

Chart 3. Human deaths caused by elephants

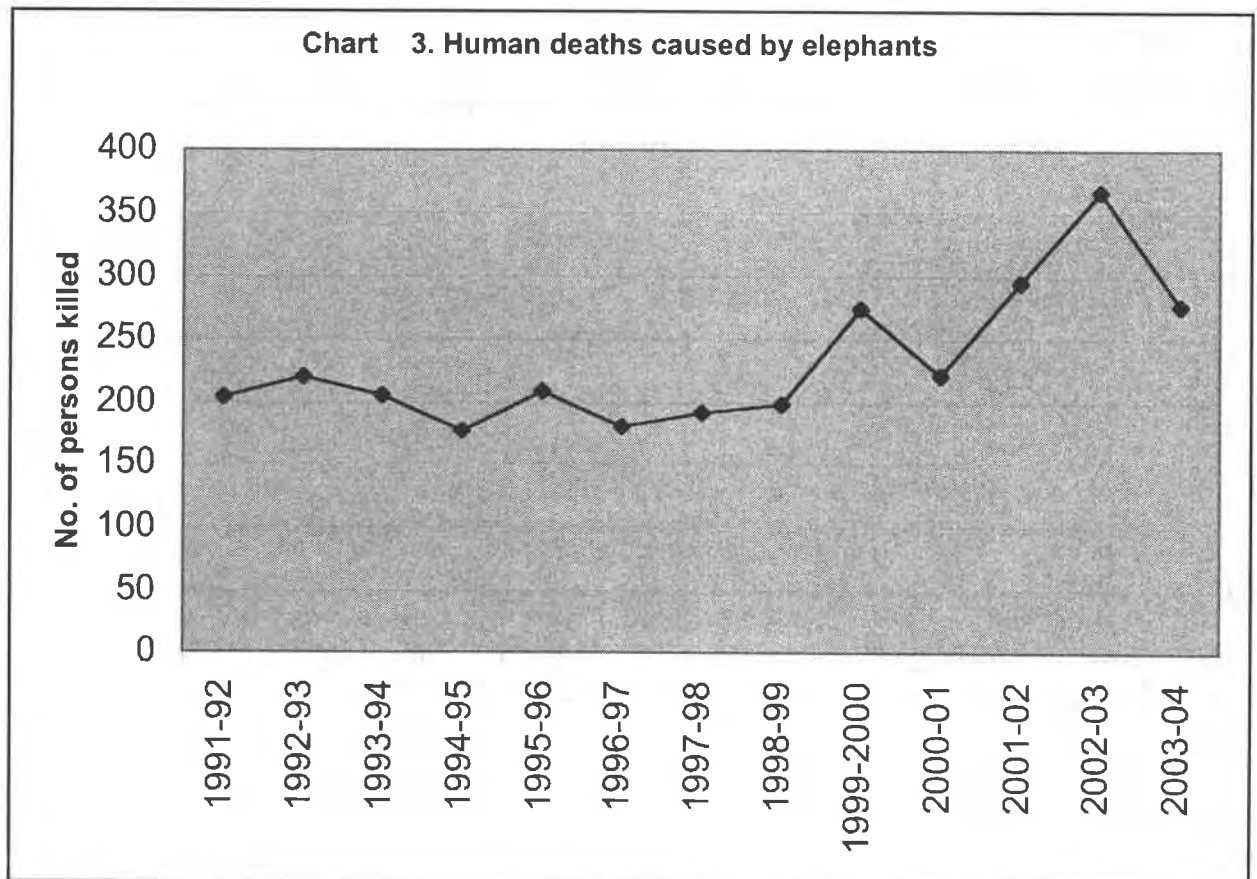


Table 2. Number of elephants in captivity in India (December 2000).

| Region | State /U.T. | Number |
|------------------|----------------------|----------------------|
| North-eastern | Assam | 1,253-1,290 |
| | Arunachal Pradesh | 564-580 |
| | Meghalaya | 45-54 |
| | Nagaland | 6 |
| | Tripura | 35-40 |
| Sub-Total | | 1,903-1,970 |
| Eastern | Bihar | 76-92 |
| | Jharkhand | 15-20 |
| | Orissa | 8 |
| | West Bengal | 110-120 |
| Sub-Total | | 209-240 |
| Northern | Uttar Pradesh | 115-140 |
| | Uttaranchal | 18-22 |
| | Delhi | 31 |
| | Punjab | 17 |
| | Rajasthan | 90 |
| Sub-Total | | 271-300 |
| Western | Gujarat | 2 |
| | Maharashtra | 20-26 |
| | Madhya Pradesh | 53-60 |
| | Goa | 2 |
| | Dadra - Nagar Haveli | 2 |
| Sub-Total | | 79-92 |
| Southern | Andhra Pradesh | 20-25 |
| | Karnataka | 101-115 |
| | Kerala | 612-635 |
| | Tamilnadu | 127-145 |
| Sub-Total | | 860-920 |
| Islands | Andaman & Nicobar | 145 |
| Sub-Total | | 145 |
| Total | | 3,467 - 3,667 |

the country and advised the State Governments to notify their respective portions of these Ranges as 'Elephant Reserves'. There are presently 26 identified Elephant Reserves (ERs) extending over 58,000km² and harbouring over 20,000 elephants (Table 3). Of these, 24 ERs have been formally notified so far. A few more ERs are likely to be notified in the near future. As envisaged by Project Elephant, each ER will have a Field Coordinator, a Stakeholders Advisory Committee and a 10-year Perspective Plan.

Future of elephant conservation in India

Conservation of elephants in a developing and a highly populated country like India is bound to be a big challenge. There are problems on account of organized poachers of tuskers, mounting pressures on elephant habitats and corridors, and increasing human-elephant conflict. But despite all these problems, India has been able to maintain a reasonably good population of elephants with the help of a comprehensive legal and administrative system. India's commitment to elephant conservation is reflected in Project Elephant

which ensures that sufficient financial and technical support is available to the elephant managers and enforcement staff. Establishment of Elephant Reserves is a step towards scientific management of elephants and rational utilization of resources. Project Elephant has invested heavily in capacity building programmes for the field staff, mahouts and veterinarians, which are likely to improve the quality of elephant management in India. Project Elephant has also been implementing the MIKE (Monitoring of Illegal Killing of Elephants) Programme of CITES. The Project has also focussed on improving research support for mitigation of human-elephant conflict and welfare of domesticated elephants. Project Elephant fundamentally provides a sound basis for elephant conservation in India. But a much more secure and reliable foundation is provided by the common people of India, who have tremendous love and sympathy for elephants because of their cultural and religious values. These values must be nurtured and encouraged as an essential ingredient of the conservation strategy for elephants in the coming years.

| Sl. No. | Elephant Range | Elephant Reerve (Date of notification) | State | Total area (km ²) | Elephant numbers |
|------------------|---|--|-------------|-------------------------------|------------------|
| I | Eastern India (south West Bengal-Jharkhand-Orissa) | 1. Mayurjharna ER(24 October 2002) | W. Bengal | 414 | 56 |
| | | 2. Singhbhum ER (26 September 2001) | Jharkhand | 4,530 | 300 |
| | | 3. Mayurbhanj ER (29 September 2001) | Orissa | 3,214 | 512 |
| | | 4. Mahanadi ER (20 July 2002) | Orissa | 1,038 | 204 |
| | | 5. Sambalpur ER (27 March 2002) | Orissa | 427 | 284 |
| Sub-total | | | | 9,623 | 1,356 |
| II | North Brahmaputra (Arunachal-Assam) | 6. Kameng ER (19 June 2002) | Arunachal | 1,892 | 377 |
| | | 7. Sonitpur ER (6 March 2003) | Assam | 1,420 | 577 |
| Sub-total | | | | 3,312 | 954 |
| III | South Brahmaputra (Assam-Arunachal) | 8. Dihing-Patkai ER (17April 2003) | Assam | 937 | 457 |
| | | 9. Deomali ER* | Arunachal | 900+ | 150+ |
| Sub-Total | | | | 1,837+ | 600+ |
| IV | Kaziranga (Assam-Nagaland) | 10. Kaziranga - karbi Anglong ER (17 April 2003) | Assam | 3,270 | 1,000 |
| | | 11. Dhansiri-Lungding ER (19 April 2003) | Assam | 2,740 | 430 |
| | | 12. Intanki ER# | Nagaland | 202 | 28 |
| Sub-Total | | | | 6,212 | 1,458 |
| V | Eastern Dooars (Assam-W. Bengal) | 13. Chirang-Ripu ER (7March 2003) | Assam | 2,600 | 807 |
| | | 14. Eastern Dooars ER (28 August 2002) | W. Bengal | 978 | 165 |
| Sub-Total | | | | 3,578 | 972 |
| VI | Garo Hills (Meghalaya) | 15. Garo Hills ER (31 October 2001) | Meghalaya | 3,500 | 878 |
| VII | Nilgiri-Eastern Ghats (Karnataka-kerala-Tamilnadu-Andhra) | 16. Mysore ER (25 November 2002) | Karnataka | 6,724 | 5,838 |
| | | 17. Wayanad ER (2 April 2002) | Kerala | 1,200 | 961 |
| | | 18. Nilgiri ER (19 September 2003) | Tamilnadu | 4,663 | 1,938 |
| Sub-Total | | | | 13,335 | 8,818 |
| VIII | South Nilgiri (Kerala-Tamilnadu) | 20. Nilambur ER (2 April 2002) | Kerala | 1,419 | 886 |
| | | 21. Coimbatore ER (19 September 2003) | Tamilnadu | 566 | 132 |
| Sub-Total | | | | 1,985 | 1,018 |
| IX | Western Ghats (Tamilnadu-Kerala) | 22. Anamalai ER (19 September 2003) | Tamilnadu | 1,457 | 680 |
| | | 23. Anamudi ER (2 April 2002) | Kerala | 3,723 | 750 |
| Sub-Total | | | | 5,185 | 1,430 |
| X | Periyar (kerala-Tamilnadu) | 24. Periyar (2 April 2002) | Kerala | 3,742 | 1,268 |
| | | 25. Srivilliputtur ER (19 September 2003) | Tamilnadu | 1,249 | 223 |
| Sub-Total | | | | 4,994 | 1,491 |
| XI | Northern India (Uttaranchal) | 26. Shivalik ER (28 October 2002) | Uttaranchal | 5,405 | 1,391 |
| Total | | | | 58,900+ | 20,150+ |

Approved by Govt. of India, but not yet notified by the State Government.
* Under process.

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Photo: Heidi Riddle for International Elephant Foundation (IEF)