

Conservation of the Asian elephant in Bangladesh

Md. Anwarul Islam

Introduction

Bangladesh – the Land of Bengal – was once a part of Pakistan, but became independent in 1971. The country has a total land area of 147,570 km² and stretches between 20°34'N and 26°33'N, and between 80°1'E and 92°41'E. It is surrounded by India on the west, north and east, and by Myanmar on the south-east. To the south lies the Bay of Bengal. With a human population of about 130 million, Bangladesh is also one of the most densely populated countries on earth. Average population density is about 880 people per km². The country is rich in culture, history and natural resources. The Ganges-Brahmaputra River systems flow through the country and form the largest delta in the world, extending over some 40,225 km² (Rashid 1991). The monsoonal climate of Bangladesh is characterized by high temperatures and heavy rainfall. Cyclones and floods are frequent. Bangladesh has lost much of its forest, through agricultural development in an effort to feed its huge human population. Less than 6% of the country is forested.

Elephants in Bangladesh: a historical sketch

The elephant is a part of the cultural heritage of Bangladesh (Chakraborty 1996). Only about a hundred years ago, elephants were abundant in most of the forests of Bangladesh. Places such as the Madhupur Forests near Dhaka were also known to have had elephants. They were captured and trained for use for a variety of purposes. A road in Dhaka (Elephant Road) was used by captive, trained elephants, which were brought from Peelkhana (a Royal elephant stable, and a locality in Dhaka to the north-west of Azimpur). Elephants were brought in from various parts of the then 'Bengal' for necessary training before sending for duty to different parts of British India. The mahouts of Peelkhana lived in a locality in old Dhaka called Mahouttuli. During Mughal days, private *zamindars* also kept their elephants in Peelkhana on payment of fees. Demonstration of *kheda* (elephant-trapping enclosure) operations used to take place here even towards the end of the 19th century. The British army needed elephants for its guns and its commissariat. They had to transfer their regular elephant-catching establishment from Dhaka to Myanmar in 1900 because of the depletion of herds in the Garo Hills as a result of excessive capture. Elephants disappeared from the area a few years before the creation of Pakistan in 1947. The principal functions of elephants were the removal of logs cut from deep inside the forest.

The number of elephants captured for domestication or eliminated through shooting during the 19th and 20th

centuries in Bangladesh far exceeds the size of the present wild population. The documented sources indicate that between 1868 and 1985, some 1,534 wild elephants were captured (Table 1).

Kheda (capture in stockade) operation was first practised in Bangladesh in 1868. The Forest Department started it from 1915-1916. The competent authority called for sealed tenders from the intending contractors for quoting the royalties they could offer for each elephant to be caught in the proposed *kheda*. The rate of royalties for capturing elephant by *kheda* sometimes went up to Rs.750 for each elephant. The *kheda* operation was stopped in Bangladesh in 1965.

In former days, a large number of elephants were annually captured and handed over to the Government in payment of the land revenue by certain *zamindars* (landlords). They were then sold by the Collector, and sometimes brought prices averaging only about UK£5 each. This practice, however, has long been discontinued, and the revenue was then invariably paid in money. Some paid their tributes to the Company in elephants. There was very high mortality among these elephants given as tribute.

Current status of wild elephants

The elephant is now a critically endangered species in Bangladesh. Some information on the status and distribution of wild elephants was given by Ranjitsinh (1978), Olivier (1978), Khan (1980), and Gittins and Akonda (1982). Chakraborty (1996) carried out an extensive field study of the elephant in Bangladesh. Islam and Al-Zabed (1992), Islam *et al.* (1999) and Chakraborty *et al.* 2000 have studied human-elephant interactions in the wild. Today the stronghold of wild elephants of Bangladesh is those areas which are relatively less accessible to humans, i.e., Chittagong and the Chittagong Hill Tracts in the south-east. Some herds come down from the neighbouring Indian states of Meghalaya and Assam. These non-resident herds stray into the New Samanbag area of Maulvibazar District under Sylhet Forest Division in the north-east, some of which come from Karimganj of neighbouring Indian State of Assam. The other non-resident elephants, found in Durgapur of Netrokona District in the north, come from the Tura Reserve of Meghalaya, in India. The presence of non-resident elephants coincides with paddy harvesting seasons, i.e., February-May and September-December. The resident herds that live in Teknaf area (south-east) frequent the neighbouring forested areas of Arakan of Myanmar; the Sangu and Matamuhuri (south-east) herds frequent the forests of Mizoram State of India.

Today there are about 200 wild elephants in the country, confined largely to the south-east. The largest number of elephants occurs in the Chittagong Hill Tracts, while the rest distributed in the Chittagong and Cox's Bazar forest divisions. About 30 elephants frequent from the neighbouring Districts of Myanmar. A non-resident herd (about 10 animals) sometimes enters New Samanbag area of Maulvibazar District. Three herds comprising about 30 elephants visit the north-central Districts from Meghalaya of India. An IUCN-Bangladesh team in 2003 recorded 40-45 elephants at Nalitabari of Sherpur District (northern Bangladesh; herds come down from Meghalaya, India), and 8-10 elephants at Rajibpur of Kurigram District (neighbouring district of Sherpur, situated on the north-west of Sherpur).

On the basis of dung count method (indirect method) the mean elephant density was recorded by IUCN-Bangladesh in 2003 as 0.11/km² in its natural habitat and the total number of wild resident elephants was estimated to be 178. However, from discussion with the local people, FD staff and direct field observations the population size was mentioned in the same report to range from 196 and 227. In the early 1990s, the number of wild elephants was estimated to be between 195-234 (Chakraborty 1996). The migratory population has been estimated to number between 83 and 100 animals.

Status of captive elephants

Captive elephants (n=94) are mostly used in the timber industry for hauling logs, and in circuses. Some of these elephants are the descendants of a single female in captivity. Most of the captive elephants are found in Maulvibazar District in the north-east; the owners rent these elephants out for hauling timber, and to circus

parties. Elephants that are not used in circuses are mostly log haulers. Of the 94 captive elephants, 74 (79%) are log haulers (of the 17 government owned elephants, 13 are log haulers), 17 (18%) are circus elephants, 3 are zoo elephants, and one is owned by Betbunia Police Station, Rangamati. 56 of these elephants are females and 38 are males; 57 (27 males and 30 females) are under 30 years of age and 22 (15 males and 7 females) are less than 10 years old (Table 2). People hire log haulers at the rate of Tk.1,200 (US\$20) for the whole day. Circus elephants are rented out for c. Tk.100,000 (US\$1,600) for one year. Price of a log hauler varies from US\$5,000-6,000, whereas a circus elephant may cost up to US\$10,000.

Threats to wild populations

Habitat loss and fragmentation have had a severe impact on the wild elephant population in Bangladesh. Over the past two decades, forested areas within Bangladesh that served as prime elephant habitat have undergone drastic reduction (Gain 1998). Generally, habitat loss and fragmentation is attributed to the increasing human population and its need for fuel wood and timber. However, illegal timber extraction plays a significant role in deforestation and habitat degradation (Gain 1998; Geisen 2001).

As a result of the shrinking habitat, elephants have become more and more prone to coming into direct conflict with humans. With reduced forest land, crop depredation by elephants are on the increase, during which people also get killed. In 2000, 17 people were killed and 15 injured by elephants. On the other hand, three elephants were killed by irate people in September and November 2001. A recent survey conducted by IUCN-Bangladesh shows that such human-elephant conflict is commonplace in

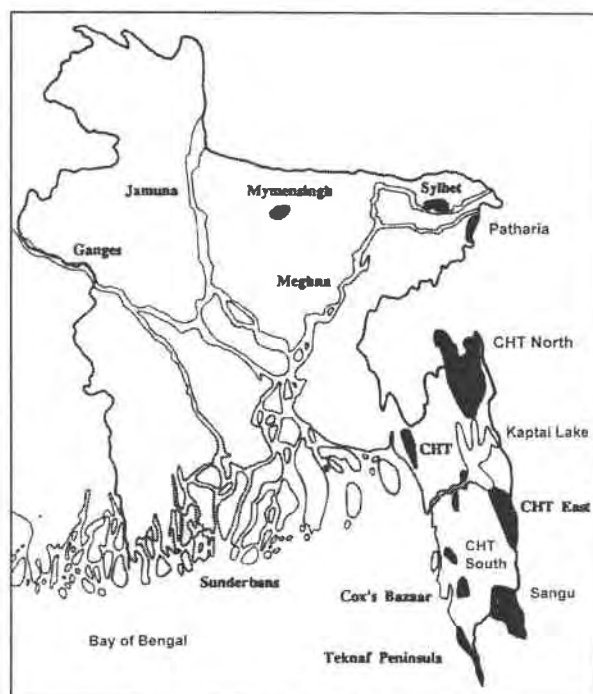


Figure 1. Forested areas in Bangladesh inhabited by elephants. CHT = Chittagong Hill Tracts

some north-eastern villages, where large herds seem to be attracted to croplands on a regular basis (Fernando 2002). In 1997 a total of 21 human deaths were recorded and the economic loss caused by elephants through feeding and trampling of crops amounted to about Tk.4.6 million (US\$102,000) in about 30 incidents of the conflict (Islam *et al.* 1999). In the same year 2 elephants were killed.

Huge areas of forestland have been illegally converted into croplands. It is estimated that the forest cover has been reduced by more than 50% since the 1970s. Estimates in 1990 revealed that Bangladesh had less than 0.02ha of forest land per person; one of the lowest forests to population ratios in the world. Throughout the 1980s, the introduction of advanced technologies, such as high yield varieties of rice, altered the traditional cropping patterns. This made it possible to expand the crop yields without utilising more land. This vertical expansion (more crop yield on the same area of land) has almost reached its limit. Horizontal expansion (aerial expansion of cropped area) into forests and increasingly into wetlands is on the increase.

Conservation needs

A total of sixteen areas have been brought under protection through government initiatives covering about 2% of the country's total area. Teknaf Game Reserve and Chunutai Wildlife Sanctuary in the south-east are forested areas that were set up to protect elephants. However, simply declaring an area as protected alone

does not ensure protection in the absence of guards to protect the area. Manpower is expensive to hire in Bangladesh. Even within the protected areas, the issue of human-elephant conflict is of importance and people from surrounding villages are often responsible for persecuting elephants (Chakrabarti *et al.* 2000). Protected Areas (PAs) in Bangladesh need to be brought under a centralized management system with appropriate funds and manpower being allocated to solve local problems with benefits to both man and wildlife. Corridors should be built by planting trees to facilitate elephant movement.

An important way by which this could be achieved is by launching public awareness programmes. A survey of people in the Chunutai Wildlife Sanctuary showed that 49% were willing to conserve the elephant, and 16% had mixed feelings, whereas the remaining 35% were against conservation. Appropriate education and public awareness programmes are required to facilitate elephant conservation in these areas. People affected by elephant raids should be compensated for their losses as incentives to assist in conservation. Eco-tourism should be developed to meet the needs of local people to relieve pressure on forests.

Some elephant herds, living primarily within the forested areas of India, both along the south-eastern and north-eastern regions, regularly move into Bangladesh territory and raid crops. Management guidelines dealing with transboundary issues should be developed by

Table 1. Partial record of elephants captured in Bangladesh during the 19th and 20th centuries

Location	Number of elephants captured	Period of capture
Dhaka Hill (Madhupur)	413	1868-76
Chittagong	85	1875-76
Dhaka Hill	503	1876-80
Jayalla (Chunutai, Chittagong)	36	1938
Sylhet	3	1947-1962
Chittagong	151	1947-1962
Chittagong Hill Tracts	320	1947-1962
Ukhia (Cox's Bazar)	10	1965
Ramgar (Chittagong)	2	1984
Matiranga (Khagrachari, Chittagong Hill Tracts)	3	1985
Kaptai (Chittagong Hill Tracts)	3	1985
Ramgar (Chittagong Hill Tracts)	3	1985
Edgaho (Cox's Bazar)	1	1985
Kaptai (Chittagong Hill Tracts)	1	1985
Total	1534	

both nations to provide a safer place for the remaining elephants that frequently cross borders. Above all, there should be a strong political commitment for elephant conservation in the country.

Legal conservation measures

Elephants received some protection under The Elephant Preservation Act of 1879, known as Bengal Act of 1879 VI, which has been repealed. All wild elephants are now protected under the Third Schedule of the Bangladesh Wildlife (Preservation) (Amendment) Act of 1974. All reptiles, birds, and mammals under this schedule are protected animals, i.e., animals which shall not be hunted, killed or captured. The rogue elephants, listed under Part II of the First Schedule, could only be hunted with a special permit in places as declared by the Chief Wildlife Warden. There is no clause in the Act for the protection of domesticated elephants. However, Article 9 states: "(i) Any person having the control, custody or possession of any wild animal or meat or trophy of any wild animal shall, within such period as the Government may by notification in the official Gazette, declare to an officer of the number and description of such wild animal, meat or trophy and the place where it is kept; (ii) On receipt of such declaration, the officer shall enter upon the premises of such person in the prescribed manner and such person shall produce the declared wild animal, meat or trophy for inspection and verification before such officer; and if the declaration is found correct, the officer shall fix upon or put such mark of registration on such wild animal, meat or trophy as may be prescribed as lawful possession; (iii) No person shall counterfeit exchange or in any way interfere with any mark of registration fixed or put on by the officer on any wild animal, meat or trophy; (iv) The officer shall, on being satisfied that the requirements of clauses (i) and (ii) have been fulfilled, issues, in the prescribed manner, a Certificate of Lawful Possession of such wild animal, meat or trophy; (v) The authorized officer may, pending legal action, seize any wild animal meat or trophy which has not been legally acquired or imported under this Act."

Regarding trade, Article 15 states: "(1) No person shall, with a view to carrying on a profession, trade or business, buy, sell, or otherwise deal in wild animals, trophies or meat or process or manufacture goods or articles from such trophies or meat unless he is in possession of a valid permit, hereinafter called a Dealer's Permit, issued for the purpose by an officer authorized in this behalf; (2) An officer may grant, or refuse to grant without assigning any reason a Dealer's Permit to any person to deal in any wild animal, trophy or meat, or any class of wild animals, trophies, or meat specified in such permit. (3) A Dealer's Permit shall be issued on payment of the prescribed fee and shall remain valid for a period of one year from the date of its issue unless earlier cancelled; (4) (i) The holder of a Dealer's Permit shall maintain such register or record of his dealings as may be prescribed and shall produce it for inspection at any reasonable time when called upon to do so. (ii) The officer may suspend or cancel Dealer's

Permit at any time and if he suspends or cancels it, he shall record in writing the reason therefore; (5) Nothing in this Article shall be construed to exempt the holder of a dealer's permit from complying with the provisions of Articles 8, 9, 11, 12, and 13."

All the circus parties are registered with the District Commissioner's office. The mahouts and the owners are ignorant of the legal status of their elephants; they are even ignorant of the necessary daily diet for a captive elephant; proper veterinary care is also absent. Only the government-owned elephants receive good veterinary care. Some elephant owners admit that their elephants are registered with the local administration. However, under the existing law the registration of the captive elephants is the jurisdiction of the forest department.

Recommendations

Domesticated elephants

- (a) There should be a compulsory nationwide central registry for captive elephants;
- (b) Information on births, deaths, and transfers (including trade) of all the domesticated elephants should be recorded;
- (c) All the *mahouts* and elephant owners need to be registered;
- (d) An Elephant Managers' Association needs to be established in order to foster better communication among mahouts so that they could share their experiences; and
- (e) Necessary education and training materials should be prepared for those who manage elephants in captivity.

As Bangladesh's forest areas continue to diminish, lack of occupation in the timber trade has meant that many owners are now even prepared to give up the idea of keeping elephants. These elephants could be used in tourism, ceremonial processions, etc. Therefore a management plan is needed to provide the necessary guidelines.

Wild elephants

- (a) Forest Department staff should regularly monitor the movement of elephant populations. They should also assess the habitat conditions and the ecological requirements of elephants, and help identify the causes of human-elephant conflict so that appropriate measures could be taken to mitigate it;
- (b) Isolated elephant populations need to be linked through the establishment of forest corridors through which animals could move and mix, and thereby bring in greater diversity into the gene pool and improve the viability of such populations;
- (c) The Wildlife and Nature Conservation Circle (WNCC) of the Forest Department should be

strengthened through the provision of training to its personnel;

compensation can be paid to people who bear the brunt of elephant depredations.

- (d) Since the territorial District Forest Officers (DFOs) are in charge of the Protected Areas in Bangladesh, a much closer coordination between the WNCC and other Sectors should be developed. Ideally, the management of Protected Areas should come under the auspices of the WNCC; and
- (e) The WNCC should establish a research unit to oversee the management-oriented research on the elephant and other wildlife in Bangladesh.

Isolated elephant populations need to be linked through the establishment of forest corridors, thereby bring in greater diversity into the gene pool and increased viability. In addition, outside the system of PAs, the survival of the elephant will depend on the adoption of appropriate land-use practices that do not come into conflict with elephant conservation. Some elephants in Bangladesh are seasonal migrants from neighbouring India and Myanmar, and hence the management of such a migratory species needs closer cooperation between the three Range States.

Conclusions

The present elephant population in Bangladesh is just a fraction of what used to be in the past. Over the decades, habitat loss and increase in human population have led to the extirpation of the elephant from much of its former range, and today, the species is represented as a fragmented population confined largely to the southeast of the country. There is an urgent need to launch a Project Elephant in Bangladesh to promote the conservation and management of the species, both in the wild and in captivity. In addition, given the scale of the human-elephant conflict, the future of many elephant sub-populations can only be assured, if adequate

Bangladesh is one of the most densely populated countries in the world, where competition for resources between man and wildlife is likely to get worse in the years to come. The combination of increasing numbers of human beings, their depletion of natural resources and their increasing expectations for improved living standards will exacerbate the problem. The fact that a megaherbivore such as the elephant still survives in such a densely populated country is a testament to the people's tolerance and willingness to share the land with wildlife. This offers hope for the future of the elephant and wildlife in Bangladesh.

Table 2. Age-sex groups of the captive elephants of Bangladesh (ages of six males and eight females could not be ascertained).

Age	Male	Female
01 – 10	15	7
11 – 20	7	13
21 – 30	5	10
31 – 40	3	8
41 – 50	1	3
51 – 60	0	6
61 – 70	0	1
71 – 80	1	
Total	32	48

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