

Review Article

THE SCENARIO OF MAN AND ELEPHANT CONFLICT OVER HABITAT IN INDIA: A REVIEW

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ABSTRACT

Biodiversity is the variety of life on Earth. Conflict between man and elephant is not new. Rather it's as old as the human civilization itself. Man and animal conflict is emerging as a major concern for the states in recent years. Human habitation is fast closing on the boundary of many national parks and sanctuaries in India. There is increasing war for space and food between men and animals, shrinking space and shortage of food often forces wild animals towards populated areas. Human – elephant conflict poses a major obstacle to the elephant conservation in the country. Each year, human-elephant conflict results in about 300 human deaths and damage to 10,000-15,000 houses and 8-10 million hectares of crops, while over 200 elephants die due to human-related activities, which include poaching for ivory or meat, poisoning, cattle-borne diseases, electrocution and collision with trains. Forests have been severely destroyed degraded, decimated, and fragmented to make space for agricultural, industry, mines and dams. People affected by carnivores & herbivore are predominantly poor/ rural people where as policies are made by the urban people who are rarely affected. The state and central government spends crores of money as a ex gratia to the victims and on protection and control measures. The states have been compensating for the loss in terms of money, but they now find it difficult to meet the rising demands for monetary relief. The earth will retain its most striking feature, its biodiversity only if humans have the prescience to do so. This will occur, it seems, only when we realize the extent to which we use biodiversity.

Keywords: *Habitation, National Parks, Sanctuaries, Shrinking Space, Shortage of Food, Earth, Biodiversity*

INTRODUCTION

Globally, wild elephants are present in 50 countries, 13 of which are in Asia and 37 in Africa. India holds the largest population of wild Asian elephants (*Elephas maximus*) with nearly 27,000–29,000 animals (Ministry of Environment and Forest, 2010). The elephant has been around in India for a considerable amount of time from mid –Pliocene for nearly 4 million years. It is declared as the national heritage animal by the Minister for Environment, since elephant have been part of our culture since ages In Indian forest cover is too little for its 28000 odd elephants. India, a number of endangered wild animals including elephants, tigers (*Panthera tigris*), leopards (*Panthera pardus*), rhinoceros (*Rhinoceros unicornis*) and gaur (*Bos gaurus*) are killed annually by train hits. Since 1987, the country has lost more than 150 elephants due to train hits. These include 36% cases recorded from Assam, 26% in West Bengal, 14% in Uttarakhand, 10% in Jharkhand, 6% in Tamil Nadu, 3% in Uttar Pradesh, 3% in Kerala and 2% in Odisha (Roy *et al.*, 2009; Rangarajan *et al.*, 2010). Elephants are suffering the consequences of habitat fragmentation and destruction as they migrate over a long distances in search of food and water. Elephant requires a much larger home range that of any terrestrial animal. Elephant needs green fodder which is more than 300–350 lb (136–159 kg) a day, so migration is necessary for an elephant.

In the recent past the Human elephant conflict (HEC) has emerged as the main threat for the survival of Asian elephants across their range. HEC includes crop damage by elephants, property damage and injury or death to people (Ngure, 1995; Lahm, 1996; Ekobo, 1997). Man and animal conflict the most serious challenges facing not just in India, but in the world. Railways and highways are a major source of wildlife mortality throughout the world. Railways also cause direct loss of habitat, degradation of habitat quality, habitat fragmentation, population fragmentation/ isolation and reduce access to vital habitats. In India

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also, a large number of wild species are being killed annually due to railways and highways. Man and animal conflict is emerging as a major concern for the states in recent years. There is increasing war for space and food between men and animals, shrinking space and shortage of food often forces wild animals towards populated areas. This friction results in the loss of life and property. The states have been compensating for the loss in terms of money, but they now find it difficult to meet the rising demands for monetary relief. When animals inflict damage on agricultural crops and property, kill live stock, or worse, attack people. A herd of marauding elephants destroys the entire crop of farmer over the course of one night, how a farmer feels Forests have been severely destroyed degraded, decimated, fragmented to make space for agricultural, industry, mines and dams. The state of Assam along with Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura comprises the North-east India (between $21^{\circ} 58' - 28^{\circ} N$ to $29^{\circ} 27' N$ and $89^{\circ} 42' - 97^{\circ} 24' E$). About a fifth of the known world population of the Asian elephant (*Elephas maximus*) occurs in this region.

In India elephants are worshipped as lord Ganesha, among the Hindu in the Country. But now, it is the same, elephant which is feared and hated rather than venerated.

Reasons for Conflict with Humans

1. Encroachment
2. Lack of environmental awareness among the people in forest area,
3. Poor forest management
4. Lack of buffer zones .etc,

Ownership of Elephants in India

Individuals - 75%

Temples - 6%

Zoo - 2%

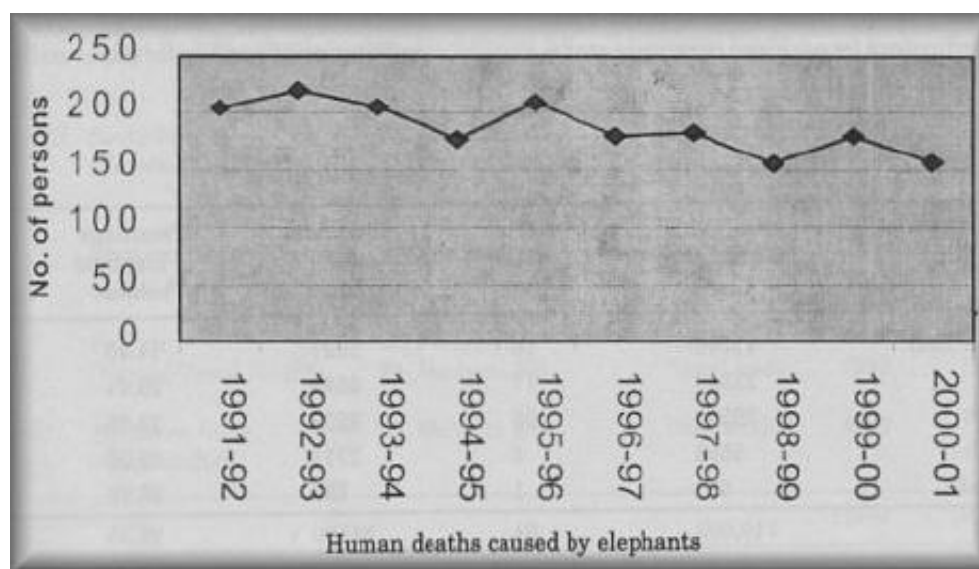
Circus - 3%

Forest Dept - 14%

Humans Killed by Elephants

Many human lives have been claimed by the elephant for the past many years. The fast reduction of their habitats and closing or blocking of their regular corridors has resulted into the elephant encroaching on human settlements that results into both man killing the animal and the animal attacking the man.

Project Elephant claims some success in reducing the number of annual human deaths.



Nigam (2002) reports of the levels of damage that can be caused by small groups of elephants as habitat degradation leads to HEC.

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Elephants Killed by Humans

Demand for ivory, combined with habitat loss from human settlement, has led to a dramatic decline in elephant populations in the last few decades. It is estimated that 30,000 to 50,000 elephants were captured or shot in India, largely in the northeast, during the period 1868 to 1980.

Numbers of elephants being killed annually in India as a result of human activities, approximately 200 elephants per year die because of human-related activities. These include:

120 poaching for ivory or meat

25 poisoned

20 cattle born disease

16 electrocution

10 hit by trains

10 miscellaneous

Poaching for Ivory or Meat

Poaching elephants for ivory and meat is a widespread phenomenon in many Asian countries including India, Myanmar, Thailand, Laos, Kampuchea and Sri Lanka (Sukumar, 1989; Santiapillai, 1987; Santiapillai, 1987a; Santiapillai and Jackson, 1990; Venevongphet, 1995). Ivory poaching has been a serious problem in Asian elephant (*Elephas maximus*) populations. In India poaching has always been a factor affecting the elephant's survival although historically this has been either sporadic or of a low intensity in most parts of the country. Sukumar (1989) estimated that poaching for ivory had indeed become a more serious threat than previously thought in southern India with 100-150 tuskers being lost annually to illegal killings.

Frequent Deaths of Elephants due to Collision with Trains

The elephant has been around in India for a considerable amount of time from mid –Pliocene for nearly 4 million years. It is declared as the national heritage animal by the Minister for Environment, since elephant have been part of our culture since ages. Elephant requires a much larger home range than of any terrestrial animal. Elephant needs green fodder which is more than 300–350 lb (136–159 kg) a day, so migration is necessary for an elephant. Indian forest cover is too little for its 28000 odd elephants. Elephants are suffering the consequences of habitat fragmentation and destruction as they migrate over a long distances in search of food and water.



Elephant is an intelligent and social animal. We have lost 150 elephants due to train accidents since 1987. Recent elephant train accident in Jalpaiguri of north west Bengal killed seven elephants. When a herd of elephants were crossing the railway track, two young elephants got trapped on the track, when other elephants came to rescue, goods train hit them resulting the death of five elephants on the spot and severely injured two elephants died later. Similar accidents occurred recently in Tamil Nadu, where innocent elephants are mowed by speeding trains.

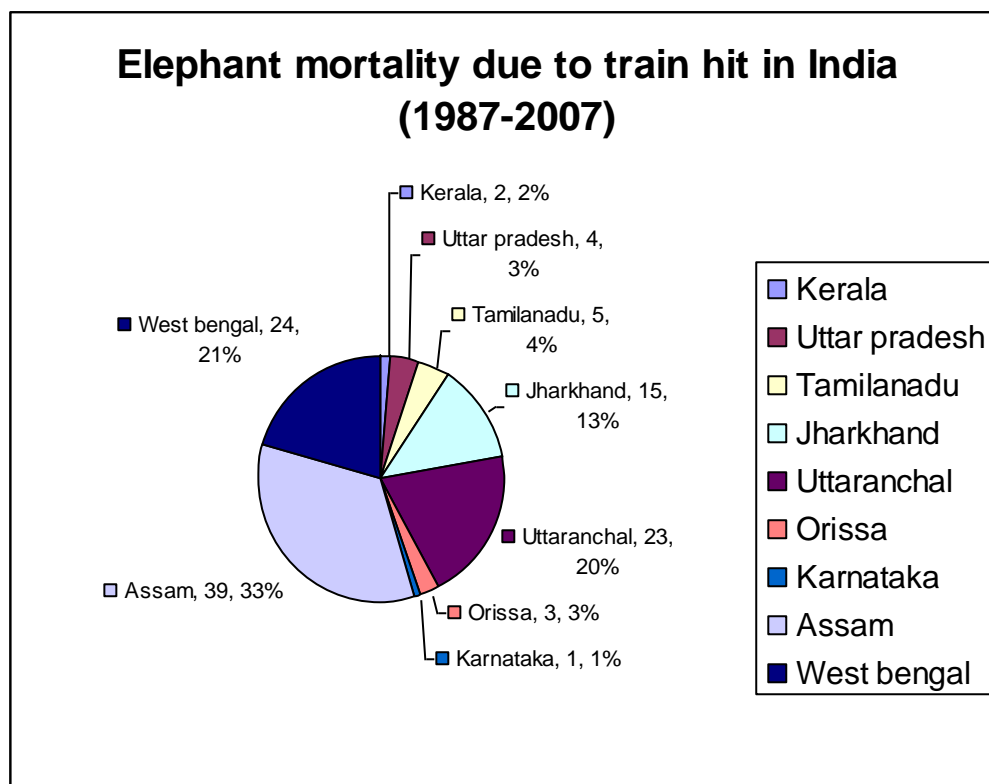
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The following factors are responsible for the unnatural death of elephants. They are

- 1) Train speed
- 2) Lack of awareness among the drivers,
- 3) Dangerous turnings on the railway lines
- 4) Caterers and passengers disposing the edible waste near the tracks .etc

Suggestions to avoid accidents

- 1) Reduction of train speed
- 2) Clearing the bushes near the sharp turnings on the railway track
- 3) Leveling of the steep mounds on the track
- 4) Creating the awareness among the drivers
- 5) Caretakers and passengers are strictly prohibited from disposing the edible waste near the track
- 6) Employing the local tribal youth in areas where accidents are prone.
- 7) Application of latest censor technology to identify the heavy animals on the track



Elephant Problem in Andhra Pradesh

The elephant occupied a crucial place in ancient Indian art and culture. The Rayala Elephant Reserve is the only habitat of elephants found in Andhra Pradesh, bordering the forests of Tamil Nadu. There are about 500 elephants in Laskheri wild life sanctuary in Orissa. The area adopted by elephants has rich vegetation, including bamboo shoots, which are their favorite food and enough water resources. In recent years due to Deforestation, Mining a herd of 11 elephants entered odabai, gummalakshmipuram, seetharam peta mandal of Vijayanagaram district in august 2007 .the Government of Andhra Pradesh launched ‘Operation Gajendra’ to return the elephants to their original habitat, with the help of trained experts. In this operation, three out of 11elephants died during their forcible return to the Lakhari Valley Wildlife Sanctuary. At present, six elephants are found settling down near Veeraghattam forests, which have rich vegetation, including bamboo. The Orissa–Andhra Pradesh border should be recognized as an elephant corridor and the area must be declared as an elephant habitat zone.

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Many people have stopped going to work, even as the Andhra government has started Operation Jumbo to send the elephants back to Orissa.



Recently A herd of around two dozen elephants created havoc have strayed into Lakshmipuram village in Kuppam mandal of Chittoor district of Andhra Pradesh and caused damage to fields and killed two persons. The huge herd is crisscrossing the thick Talakona forests and the fringe villages after straying from Krishnagiri and Satyamangalam forests in Karnataka and TN.

Project Elephant

The project elephant was launched by government of India in 1982 is to 1)increase the population of elephants 2) to avoid the conflict between man and elephant 3)to prevent the elephant killing for ivory or meat 4)prevent frequent train hit of elephants.5) To protect elephants, their habitat & corridors

The project is Implemented in 13 States

- Andhra Pradesh,
- Arunachal Pradesh,
- Assam, Jharkhand,
- Karnataka, Kerala,
- Meghalaya, Nagaland,
- Orissa, Tamil Nadu,
- Uttaranchal, Uttar Pradesh and West Bengal.

Project elephant act 1982 increased the population of elephants in India. As a result of various conservation measures, elephants new enjoy a comprehensive legal support of Government.

The government of India has issued circular to the states and union territories to raise the amount of compensation to the kin those killed. Amount of compensation to the kind of those killed by wild animal to Rs. 1 Lakh per person back in 1999, along with their people must be made aware of the biology of the species, importance of the species, by educating them in a proper way.

Concluding Remarks

Man – animal conflict the most serious challenges facing not just in India, but in the world. The conflict because of lack of fodder, destruction of forest land for wild animals straying into human habitations. Local Forest departments and communities have used several methods and techniques to control this problem. Nowhere has it been possible to eliminate this problem. It is therefore important to learn lessons from other areas in understanding what works and what does not work.

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Current Management Strategies and Methods to Mitigate HEC

Control Measures

Measures for controlling man-elephant conflict have been divided into two categories, viz. the short-term measures and the long-term measures.

A. Short term measures:

Short-term measures aimed at providing immediate relief to the people such as:

1. Driving away elephants physically with the help of wildlife officials.
2. Use of trained elephants to chase away wild elephants.
3. Use of barriers (Elephant – proof trench and watch towers).

B. Long term measures

Long term measures aim at removing the factors responsible for the elephant depredation and at creating ideal living conditions for elephants within the forests, viz. habitat development works eco-development works, establish elephant corridors, and promote conservation education and public awareness.

Among the long-term measures, barriers such as trenches or fences are effective provided they are regularly maintained. Change in cropping patterns around elephant areas to include non-palatable crops is an important measure but it has to be accepted by the local people. Capture of individual elephants should not be encouraged as it increases aggression and conflict in the herd and because the overall utility of elephants in captivity is decreasing in the modern context. The earth will retain its most striking feature, its biodiversity only if humans have the prescience to do so. This will occur, it seems, only when we realize the extent to which we use biodiversity.

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