

Conservation Values of Asian Elephants: People's Appreciation

Nirupam Hazarika¹, Archana Sharma², Bibhab K. Talukdar¹, Naba K. Nath¹ and Pranjit K. Sarma¹

Aaranyak, Survey, Guwahati, Assam, India

²*Department of Economics, Gauhati University, Assam, India*

Introduction

The Asian elephant *Elephas maximus* has been considered as one of the most reminiscent cultural symbols of the people of Asia and it also stands for the need to safeguard sufficient natural forest areas; however the survival of the species has been in danger due to a number of conservation issues (AERCC 1998). Asian elephants are confined to 13 Asian range countries, of which, India holds over 50% of the global population – approximately 24,000–28,000 distributed across 18 states of the country (Menon 2003; Sukumar 2003). Northeast India holds around 30% of the country's total elephant population (Bist 2002b). Within this north-eastern countryside, the state of Assam is known as the key conservation region of Asian elephants (Stracy 1963; Gee 1964; Santiapillai & Jackson 1990; Choudhury 1991,1997; Bist 2002b) with an elephant population of about 5200 as assessed in the year 2005 (Talukdar *et al.* 2006).

The recognition that the Asian elephant is an endangered species and needs special protection, came after the inclusion of this species in Appendix I of CITES in 1975 and formation of the Asian Elephant Specialist Group of the IUCN in 1976. Consequently, the elephant is upgraded to schedule-I of the Indian Wildlife Protection Act, 1972 (Bist 2002a).

The survival of elephants is also very crucial from the ecological point of view as elephants play an important role in maintaining the balance in our delicate ecosystem. For that reason, the need of the hour is to prepare some long term strategies for conservation of the elephant and its habitat. To prepare and implement any such efforts, it is necessary to find out people's attitude towards those strategies. It is also necessary to understand

the economic value attached to the conservation of elephants, as one of the key causes for elephant habitat decline is the failure to account adequately for their environmental and ecological non-use values. Although more attention has been given on economic issues involved in the conservation of African elephants, *Loxodonta africana*, the Asian elephant has received little consideration (Bandara & Tisdell 2004). Keeping this in mind, we initiated an economic valuation study in Golaghat District of Assam from January to July 2007 to see how people appreciate different economic values related to elephant conservation. This is a preliminary attempt to understand the feasibility of valuation study with regards to wildlife in general, and elephants in particular, in this region.

Methods

We selected Golaghat district (Fig. 1) as our study site. The latitudinal and longitudinal extension of the district ranges from 25°45'N to 26°30'N and 93°45'E to 94°05'E. The forests in Golaghat district are represented by seven Reserve Forests: Diphu, Rengma, Doyang, Nambor North, Nambor South, Upper Doigrung and Lower Doigrung. The forested landscape is represented by Eastern wet evergreen and semi evergreen forest (Champion & Seth 1968). The landscape plays a vital role in the migration of elephants from Kaziranga National Park to the hills of Nagaland through Karbi Anglong (pers. obs.). In the recent past, the establishment of Numaligarh refinery in Telgaram area, the widening of National Highways and growing tea estates has lead to fragmentation of elephant habitats and destruction of their natural corridors (Talukdar *et al.* 2006). This is responsible to a great extent for the increasing human elephant conflict situations in the district. On the other

hand, the people of Golaghat district respect elephants and pray to them as Lord Ganesha. The elephants still occupy a special position in the hearts of the people. In such a diametrically opposed situation, we were very much interested to study people's attitude about elephants and how they appreciate different economic values related to elephant conservation. Therefore, we selected the district as our study area.

We used focus group discussions and household survey methods to collect primary data that were mostly used in the study. However, to provide the respondents with the background information, several published and unpublished literatures on elephants were used. A sample of 240 households was surveyed using the multi stage sampling procedure. In the first stage, the villages affected by human elephant conflict were divided into four forest zones, and eight villages from those created zones were randomly selected for surveys taking two villages from each zone. A sample of 120 persons was selected for survey using proportional allocation method. In the next step, eight urban wards were randomly selected from the eight development blocks taking one

ward from each development block. A sample of 120 persons was selected using proportional allocation method (Kothari 2003).

An interview schedule was used to gather the information. The interview was face-to-face. Following Bann (1999), we used a set of valuation questions to determine whether people recognised different use and non use values related to elephant conservation. Before the actual interview, the respondents were provided with the background information regarding the current status of elephants and conservation, and the issues related to conservation of elephants that need to be addressed. The study began with focus group discussions. The primary stakeholders were involved in a consultative process and the issues were discussed in such group discussions. After having an idea of people's perception of elephants, micro level data was collected through household surveys.

Results and discussion

To have an idea of the respondents' attitude towards different values associated with the conservation of elephants, their mindset was explored. Respondents were presented with a series of six valuation statements and asked whether they agreed or disagreed with each statement. The six statements were used to see how people recognize the non consumptive, direct, option, bequest, existence and indirect use value of elephant conservation. The findings of the attitudinal statements are shown in Figure 2.

Overall, the respondents strongly recognized different values related to conservation of Asian elephants in Golaghat district ($\chi^2_5 = 275.07, P < 0.01$). The first valuation statement was intended to gauge respondents' attitude towards conserving elephants in the wild to promote tourism industry and other recreations in Golaghat district. 95% of the respondents appreciated the statement. This is the recognition of non consumptive use value of elephants and its conservation. The second statement aimed to draw out how people appreciate direct use value of elephants. 53.3% of respondents agreed with the direct use of elephants. The rest of the respondents



Figure 1. Map of Golaghat District, Assam.

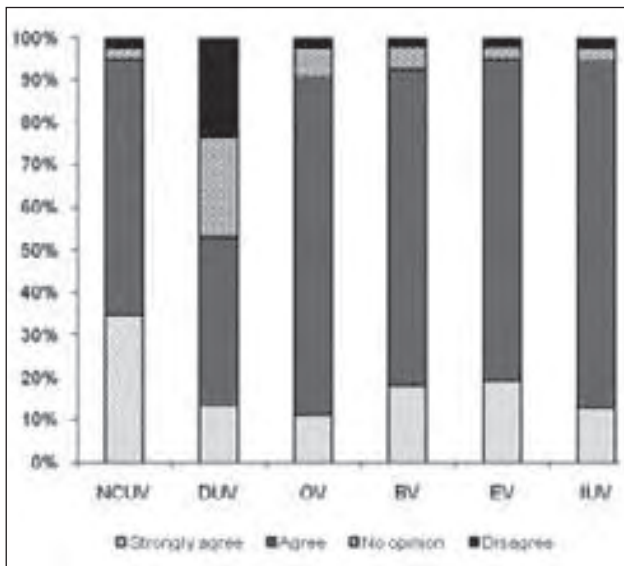


Figure 2. People's opinion on different values (NCUV=Non Consumptive Use Value, DUV=Direct Use Value, OV=Option Value, BV=Bequest Value, EV=Existence Value, IUV=Indirect Use Value).

(46.7%) were against the view that the elephants should be conserved to be used purely for domestic purposes. Therefore, the direct use value of elephants was not a determining factor for the respondents being willing to conserve elephants. The third statement was to assess the appreciation of the option value concept among respondents. 90.8% of the respondents either strongly agreed or agreed with the statement affirming the option value of wild elephants in Golaghat District. Again, 92.5% of the respondents agreed to the statement meant to draw out bequest value motive of elephant conservation: i.e. respondents believe that elephants in the wild are of value because of the benefit they could provide to future generations.

The fifth statement asked respondents if they felt one had a duty to conserve elephant habitats from thoughtless developmental activities regardless of the cost. The question sought to reveal whether the respondents felt that 'elephant habitats' were of intrinsic value and we therefore have a duty to protect those. 95% of the respondents recognized the existence value of elephants in Golaghat District. Moreover, 94.6% of the respondents agreed to the statement meant to draw out indirect use value suggesting a high appreciation of the indirect use value of the elephants (Fig. 3).

Conclusion

The people of Golaghat district were found to be well aware of the issues related to the conservation of elephants in the wild. They recognised different values attached to elephants and its conservation. Since people appreciate different values related to elephant conservation, there are sufficient reasons to infer that they may be willing to contribute part of their incomes to implement some concerted approach to conserve elephants. Therefore, a micro level study to estimate the willingness of the community people to pay for conserving elephants could be suggested. The study was in fact an experimental attempt to determine how people recognise different concepts of economic value related to elephant conservation. We found that they very well appreciated different use and non-use values related to elephant conservation. Therefore, according to the community revealed preference pattern, a concerted approach to the sustainable management of elephants and their habitats should be implemented in the district and thus it carries some encouraging messages to conservation loving people in general.

References

- AERCC (1998) *The Asian Elephant in Southern India: A GIS Database for Conservation of Project Elephant Reserve*. AERCC, Bangalore.
- Bandara, R. & Tisdell, C. (2004) Use and Non-use Values of Wild Asian Elephants: A Total Economic Valuation Approach. *Sri Lanka Economic Journal* 4: 3–30.

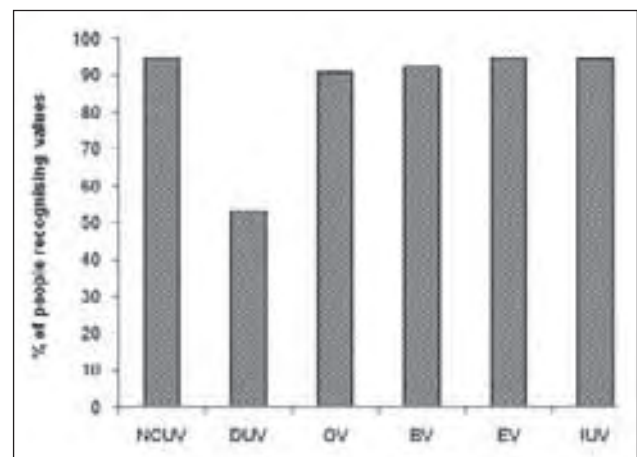


Figure 3. People's opinion on different values.

- Bann, C. (1999) *A Contingent Valuation of the Mangroves of Benut, Johor State, Malaysia*. Johor State Forestry Department/DANCED/Darudec.
- Bist, S.S. (2002a) An overview of Elephant Conservation in India. *Indian Forester* **Feb. 2002**: 121-136.
- Bist, S.S. (2002b) Conservation of Elephants in NE India: Past, Present and Future. *Newsletter of the Rhino Foundation for Nature in NE India* **4**: 7-10.
- Champion, H.G. & Seth, S.K. (1968) *A Revised Survey of the Forest Types of India*. Govt. of India publication, New Delhi.
- Choudhury, A.U. (1991) Status of Wildlife elephants in Cachar and N.C. Hills, Assam a preliminary investigation. *Journal of Bombay Natural History Society* **88**: 512-221.
- Choudhury, A.U. (1997) *Checklist of the Mammals of Assam. Revised 2nd Edition*. Gibbon Books & ASTEC, Guwahati.
- Gee, E.P. (1964) *The Wild Life of India*. St. James Place, Collins, London.
- Kothari, C.R. (2003). *Research Methodology - Methods and Techniques. Second Edition*. Wishwa Prakashan, New Delhi.
- Menon, V. (2003) *A Field Guide to Indian Mammals*. Dorling Kindersley, India.
- Santiapillai, C. & Jackson, P. (1990) *The Asian Elephant: An Action Plan for its Conservation*. IUCN/SSC Action Plan, Gland. Switzerland.
- Stracey, P.D. (1963) *Elephant Gold*. Weidenfeld and Nicolson, London.
- Sukumar, R. (2003) *The Living Elephants: Evolutionary Ecology, Behavior and Conservation*. Oxford University Press.
- Talukdar, B.K, Boruah, J.K. & Sarma, P. (2006) Multi-dimensional mitigation initiatives to human-elephant conflicts in Golaghat district and adjoining areas of Karbi Anglong, Assam, India. In: *International Elephant Conservation & Research Symposium 2006*. Copenhagen Zoo. pp 197-204.

Corresponding author's e-mail:
nirupam@aaranyak.org



Elephant herd roaming in the tea, Assam, India
Photo by WWF India