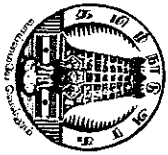
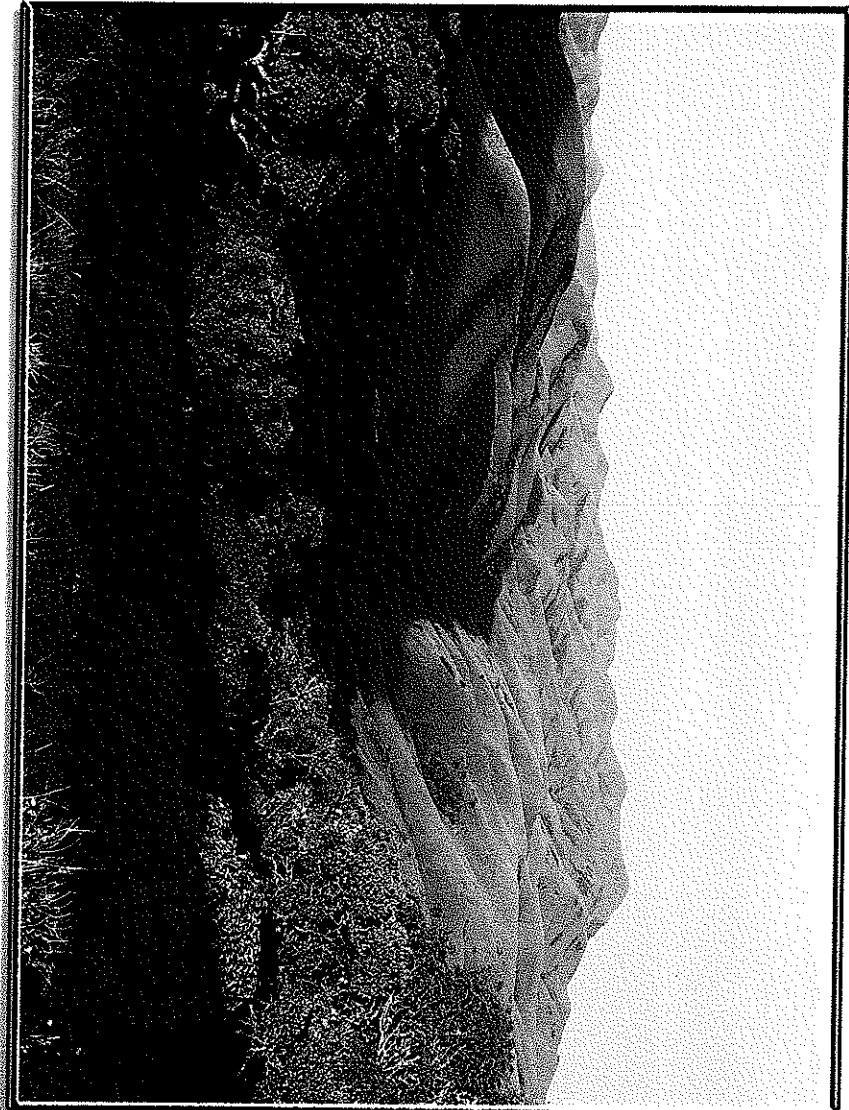


WILD BIODIVERSITY CONSERVATION IN TAMIL NADU

SEMINAR PROGRAMMES AND ABSTRACTS



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CONSERVATION OF THE ASIAN ELEPHANT IN TAMILNADU

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The largest global populations of the Asian elephant (*Elephas maximus*), listed as “Threatened” under the IUCN Red List, are regionally seen in southern India. The major threats to the long-term conservation of the elephant include further fragmentation of habitat from developmental activities, continued poaching of bulls for ivory, and escalation in elephant-human conflicts resulting in public antagonism toward the species.

In Tamilnadu the elephant is distributed as two major populations to the north and the south of the Palghat Gap, respectively, with further isolation of sub-populations especially to the south of the gap. In ecological terms, the elephants of Tamilnadu also range over adjoining areas of the neighbouring states of Karnataka, Kerala and (more recently) Andhra Pradesh; hence, the conservation of the species cannot be viewed in isolation. The elephant habitat of Tamilnadu extends over 4 Project Elephant Ranges (7, 8, 9 and 10) in addition to divisions to the south of Shencottah Gap and Tirupattur. However, most of the elephants of Tamilnadu are found in the four Project Elephant Ranges. Out of an estimated elephant habitat area of about 8200 sq.km and population of 3200 elephants (according to the 2002 census), less than 7% of the habitat and 2% of the population is believed to occur outside the designated Project Elephant Ranges.

Habitat and population surveys show the following broad patterns of status and distribution of elephants in the Tamilnadu part of the elephant ranges.

a) Elephants Range 7, encompassing elephant habitats in the four southern states of Tamilnadu, Karnataka, Kerala and Andhra, is the largest Elephant Range (over 12,500 km²) with the largest single elephant population (over 8000) in Asia. About 4800 km² of this habitat holding about 2500 elephants is within Tamilnadu (major divisions being Hosur, Erode, Satyamangalam, Nilgiri North and Mudumalai WLS). While the viability of the elephant population here is not in question, the threat of habitat fragmentation makes it imperative to secure or strengthen vital corridors (especially in the Sigur plateau) for maintaining landscape integrity for the free movement of elephants. Constitution of a wildlife sanctuary along the Cauvery river (Hosur/Dharmapuri divisions) would considerably strengthen habitat viability in this region. Genetic studies have shown interestingly that the entire elephant population here and in Range 8 constitutes a single matriline (or mitochondrial haplotype). Ivory poaching has gradually distorted the sex ratio; for instance, in the Nilgiris, the adult male to female ratio has skewed from about 1:5 during the early 1980s to about 1:25-30 by about 2000. Since then the ratio has stabilized with the decline of poaching. Elephant-human conflict is also a major problem in this reserve, given the large number of settlements across this landscape; this is acute in divisions such as Hosur and Satyamangalam.

b) Elephant Range 8 that extends over c. 2400 km² in Tamilnadu and Kerala maintains a tenuous link with Range 7. Most of the elephants in the Tamilnadu part are found in Coimbatore division (738 km², c. 100 elephants) with small groups ranging over the montane grasslands and

shola forests of Mukuri WLS and Nilgiri South. Maintaining a viable corridor with Range 7 and management of elephant-human conflict are the major conservation issues.

c) Elephant Range 9 extending over Tamilnadu and Kerala to the south of Palghat Gap is one of the richest landscapes in terms of biodiversity. Out of an area of over 5000 km² and an estimated 1500-2700 elephants, about 1500 km² area and 525 elephants (2002 census) are found in Tamilnadu, mostly in Indira Gandhi WLS and NP. However, our estimate of population density during 2005-06 based on dung count method yielded ~1 elephant/km² over a substantial part of the landscape, indicating higher numbers of elephants. The adult male to female ratio is moderately skewed at about 1:10 indicating the impact of ivory poaching. The elephant population here and further south has higher genetic variability than the population to the north of the gap. The series of dams, canals and penstock pipes has resulted in impeding the free movement of elephants at several places. Elephant-human conflict is acute in the Valparai plateau as a consequence of elephant continuing to use their traditional routes presently under tea plantation, agriculture and settlement.

d) Elephant Range 10 is a compact block of elephant habitat (c. 3350 km²) with the least fragmentation and supporting about 1500-2500 elephants. Tamilnadu's share is relatively small (c. 530 km² and about 100+ elephants). Given the highly skewed adult male to female ratio on the Kerala side (especially Periyar) as a result of historical poaching for ivory, this reserve would need intensive protection.

Elephant distribution to the south of the Shencottah gap, in Kalakkad-Mundanthurai Tiger Reserve, Tirunelveli Division and Kaniyakumari Division, is poorly described. The population is believed to number fewer than 100-150 individuals that also range over adjoining areas of Kerala.

In this talk we explore the priorities for the long-term conservation of the elephant at the broader landscape scale in coordination with neighbouring states.