

# TOWARDS A RATIONAL, SCIENTIFIC ELEPHANT CONSERVATION AND MANAGEMENT STRATEGY FOR SRI LANKA

P. Fernando, M.D. Gunawardene, H.S. Haturusinghe, H.K. Janaka, L.K.A. Jayasinghe, R.A.R. Perera, K.P.A. Samansiri, A. Sandanayake, D.K. Weerakoon and E. Wikramanayake

## Abstract

For the past two millennia, direct and indirect effects of anthropogenic activity have caused major fluctuations of elephant populations in Sri Lanka. Currently, the primary challenge to elephant conservation is the human-elephant conflict caused by widespread conversion and fragmentation of elephant habitat. Contemporary management practices to mitigate the conflict are based on the premise that elephants should be restricted to protected areas. Over the past several decades, the policy has been to drive large numbers of elephants or translocate individual animals from areas slated for development, into relatively small, protected areas and erecting electric fences along protected area boundaries to confine them. The success of this approach in mitigating the human-elephant conflict has been limited, especially since the practice of the policy has been piecemeal. Moreover, this approach disregards the ecological needs of elephants, endangering their long-term survival in Sri Lanka. Here, we recommend an elephant conservation and management strategy with a long-term vision, based on a landscape approach that meets the ecological needs of elephants. Our recommendations are based on field research elephant ranging patterns, habitat use, social organization, genetics, and human-elephant conflict; thus it has empirical, scientific underpinnings.

## Introduction

Given the extent of ranging of elephants, the success of such a strategy would be dependant on a landscape approach where sufficiently large areas are taken into consideration in land-use zoning, with targeted population levels and specific management objectives and mechanisms to achieve them. In Sri Lanka, faunal management, and especially that of elephants, has been the exclusive preserve of the Department of Wildlife Conservation. However, large areas of land are designated as 'Forest Reserves' under the jurisdiction of the Forest Department, many of which support elephants. Successful management of wild elephants cannot be practiced without consideration of these areas. A management plan for elephants, needs to address land use over all habitat occupied by elephants and cannot be limited to areas under the jurisdiction of the Department of Wildlife Conservation.

## Conclusion

The future conservation of the Asian elephant, will depend on the study of its ecology, behavior, resource and habitat utilization, and use of this information to develop management strategies and to monitor effects of management actions on elephants. Such an approach will enable the modification and development of management measures to maximize their effectiveness

and minimize detrimental consequences. Conservation of elephants in the present socio-economic, cultural, and political context of Asia poses a major challenge to wildlife managers, conservationists, and scientists. However, it is not too late to ensure the survival of the Asian elephant, which can be achieved by management of elephants and their habitat on a sound scientific basis. Given the close association of Asian cultures with elephants, and the commitment to the conservation of elephants in the region, an optimistic outlook for the future of the Asian elephant as a free ranging species can yet be maintained.

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## References

- Abeywickrama, B. A., Baldwin, M. F., Jansen, M. A. B., et al. 1991. Natural Resources of Sri Lanka. Natural Resources, Energy and Science Authority of Sri Lanka.
- Fayer-Hosken, R. A., Brooks, P., Bertschinger, H. J., Kirkpatrick, J. F., Turner, J. W. and Liu, I. K. M. 1997. Management of African elephant populations by immunocontraception. *Wildlife Society Bulletin* 25(1):18-21.
- Fernando, A. B. 1993. Recent elephant conservation in Sri Lanka - A tragic story. *Gajah* 10:19-25.
- Fernando P. 1997. Keeping jumbo afloat: is translocation an answer to the human elephant conflict? *Sri Lanka Nature*, 1: 4-12.
- Fernando P. 1998. Genetics, ecology, and conservation of the Asian elephant. PhD thesis, University of Oregon, Eugene, Oregon, USA
- Fernando P. 2000. Elephants in Sri Lanka: past, present, and future. *Loris* 22:38-44.
- Fernando P. and Lande R. 2000. Molecular genetic and behavioral analyses of social organization in the Asian elephant. *Behavioral Ecology and Sociobiology* 48:84-91.
- Fernando P., Pfrender M.E., Encalada S. and Lande R. 2000. Mitochondrial DNA variation, phylogeography, and population structure of the Asian elephant. *Heredity* 84:362-372.
- IUCN 2002. IUCN Red List of Threatened Species. IUCN, Gland Switzerland.

Jayewardene, J. 1994 . The Elephant in Sri Lanka. Distributed by The Wildlife Heritage Trust of Sri Lanka. Colombo.

Jayewardene, J. 1996. Elephant management and conservation in the Mahaweli project areas. *Gajah* 11:6-15.

Mueller-Dombois, D. 1971. Crown distortion and elephant distribution in the woody vegetations of Ruhuna National Park, Ceylon. *Ecology* 53(2):208-226.

Olivier, R. 1978. Distribution and status of the Asian elephant. *Oryx* 14:379-424.

Rudran, R., Jayewardene, J. and Jayasinghe, W. A. 1993. Need for an integrated approach to elephant conservation in Sri Lanka. In: *A week with elephants. Proceedings of the International seminar on Asian elephants 197-216.* eds. Daniel, J. C. and Datye, H. Bombay Natural History Society, Oxford University Press, Bombay.



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**Front cover** depicts a stylized version of the '*Sandakadapahana*' or moonstone, an essential element of ancient Sri Lankan architecture. The moonstone is a form of stone sculpture unique to Sri Lanka. It was placed at the foot of steps leading to important royal and religious buildings. The level and intricacy of decoration on this half-moon shaped step depended on the era and the kingdom. The moonstone, archeologists say, symbolizes the endless cycle of birth and death and the path to nirvana.

**Back cover** carries an image of the elephant stone carving found at the entrance to the Temple of the Tooth in Kandy, Sri Lanka's last capital before the British colonized the entire country in 1815. Sri Lankans believe that a tooth relic of Lord Buddha is enshrined in the 400-year old temple, which has preserved its medieval rituals and carried them on even today. The temple is best known for the colourful pageant it holds during the full moon of August, where hundreds of heavily caparisoned elephants parade in the narrow streets of Kandy. The tooth relic is carried by an especially trained tusker.

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