

The Elephant Orphanage (Pinnawela): a proposal for development

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ABSTRACT *The Elephant Orphanage at Pinnawela is a unique resource in Sri Lanka. A herd of about sixty elephants is maintained by mahouts in a setting suitable for observation. However, the potential of this collection is far from realised. There is no permanent information available to visitors concerning elephant biology, ecology, conservation, breeding and training, nor are there any facilities to encourage further studies on these animals. This paper presents outline proposals for developing the centre to portray all aspects of the relationship between elephants and humans with emphasis on captive breeding of the earth's largest terrestrial mammal. The elephant orphans have the potential to form a major focus in Asia for the education of the Sri Lankan public and international visitors. Provision for holding meetings, library, museum, and laboratory facilities and modest accommodation could transform the centre into a major attraction for national and foreign tourists, naturalists, photographers, artists, scientists, government officials, and those responsible for elephant conservation in Sri Lanka and elsewhere. The centre should provide a museum display of artefacts relating to elephant capture and training. A registration and training scheme for elephants and mahouts would improve the care and maintenance of domesticated animals. Library and laboratory facilities would allow a repository of library, archival, photographic and artefactual material attractive to international scholars and researchers world-wide. Of central importance is the development of the Elephant Orphanage as a breeding centre for animals within and outside the orphanage which could enhance the experience of undergraduate and postgraduate veterinary surgeons in all aspects of breeding behaviour, conception, artificial insemination, pregnancy, birth, and postnatal development. Permanent display of educational, library and archival material would make the centre more valuable to scientists and other visitors, especially Sri Lankan children, who need to be better informed about a significant aspect of their rich heritage. Additionally, if international funding were obtained to develop the area, the Elephant Orphanage could be converted into a significant source of income for Sri Lanka.*

Introduction

In biological time, the elephants, like the dinosaurs, are probably destined for extinction. Today the greatest threat to the survival of *Elephas maximus* is loss of habitat. The elephant is part of our rich heritage, and through recognition of the service which has been obtained by domestication of the largest land mammal, we have a responsibility to maintain this species for as long as possible. This means compromising the conflicts which arise where humans and elephants interact ecologically.

There are two aspects, which distinguish the policy for elephants from that for any other species, to action

plans for the management and conservation of elephants. The two aspects relate to the maintenance of wild stocks and supplying the need for domesticated animals. Apart from the possibility of interaction through breeding, the two groups are essentially distinct and require different management schemes. Yet, the two populations are not totally unconnected; limited breeding success with domesticated stock means that numbers can only be sustained through the import of wild animals. This import can be a consequence of a controlled capture programme, or the adoption of wild animals orphaned by poaching or natural disasters.

There are only a few elephant orphanages in the world, of which the one at Pinnawela is the first of its kind and also the largest. The elephant orphanage (EO) at Pinnawela currently maintains about 60 elephants of both sexes and all age classes. The herd is managed by a small group of mahouts and other staff. Visitors to the EO can see the animals bathing in the river and being fed. Occasionally, the younger animals may be touched, but contact is mainly for the purpose of obtaining souvenir photographs of the visit. Mahouts will answer questions although language differences make communication difficult. Sadly, there is no permanent information available about elephant biology, ecology, history and conservation, or the training of mahouts and elephants and the use of elephants.

The Potential

The EO is probably a resource which is unique to South-East Asia with unrealised potential to:

- educate Sri Lankans and foreign visitors about all aspects of elephants
- provide registration and training for elephants and mahouts
- provide a library and information service for lay people, naturalists, conservationists, government officials and scientists,
- make available meeting and basic laboratory facilities for *bona fide* researchers
- develop an archival collection of literature, photographs, and artefacts illustrating the history of the relationship between humans and elephants, and the methods used in the past to capture and domesticate wild stock
- to serve as a breeding centre to ensure genetic diversity of existing stock, to facilitate breeding within and outside the EO, and for the education of veterinarians in all aspects of breeding and breeding behavior.

The EO has the potential to take the lead in forming an association of those concerned about elephants, produce a newsletter, provide an integrated forum for scientists, conservationists, and those whose lives are interwoven with those of elephants, to provide basic facilities for holding meetings and accommodation, and to generate funds. A well organised centre would also enhance tourism.

Possible developments

An Education Centre

Elephant Conservation will not be effective unless there is widespread public awareness of the problems and their solutions. The emphasis of the EO needs to be on education, not entertainment. Visitors to the EO should be able to obtain education and information about all aspects of elephants. This should include the biology, ecology, numbers of wild and domesticated elephants, causes of human/elephant conflicts, elephant and mahout training methods, and current research activities. The education centre should contain material in Sinhala, Tamil and English, on permanent display, and leaflets, books and booklets at affordable prices, directed at a range of readership. Mahouts or others fluent in more than one national language, should be able to answer visitors' questions about their work and the animals in their charge. Suitable volunteers, who might be drawn from teachers, especially biology teachers, or those staying for longer periods at the EO for cultural or scientific purposes, could be trained as guides.

Learning Resource Centre

There is a need for more advanced literature, on elephants, which can be consulted by writers and researchers from a range of backgrounds. A library with books, journals, bibliographies and literature searching facilities and a photocopier should be established. Such a library should contain only reference material.

A meeting room would give the opportunity for lectures to the public, school parties and tourists, and provide a forum for naturalists, scientists and others

concerned with the dissemination and sharing of knowledge about elephants. The meeting room should be fitted with audio-visual facilities for multimedia presentations. Frequent video presentations could be interspersed with live lecture demonstrations. A backup generator would ensure continuity presentations during electricity failure.

Laboratory and Research Facilities

Elephant management and conservation must be based on scientific research and principles. The EO can offer a minimal service for research in the first instance with little more than the basic requirements: benches, stools, water and electricity supply. Researchers could bring their own equipment as required (e.g. microscope, collecting tubes etc). This would facilitate the collection of body fluids, parasites or post mortem materials needing examination. The research centre could develop projects relevant to the biology, genetics, pathology, breeding, conservation, and migration of elephants. Facilities may be extended in a later phase to include full veterinary pathology, hospital and therapy services.

There is a need for more work at the ecological level, of course. More synecology needs to be studied. For example, buffaloes are commonly seen with, or close to, elephants in the wild. Paradoxically they seem to fill similar ecological niches and share similar food. If so, how can such competitors survive together?

Much research needs to be done on and beneath the elephant's skin, especially in relation to working elephants. What blood and gut parasites do they have? What happens to the cardiorespiratory system under working conditions, and how are serum concentrations of nutrients affected by such conditions? How efficient is energy or water balance? How do elephants regulate their temperature? Can parallels be drawn with the working buffalo? Such information is needed to provide a rational basis for the working conditions and length of work time appropriate for domesticated stock.

Perhaps the time is right to make an appeal. The days of 'one-man' research have almost ended. Now, grant awarding authorities expect to see applications from multi-disciplinary teams; even multi-national co-ordination. If descriptive and experimental research is to progress at the speed necessary to ensure elephant conservation, then we must stop being selfish about our own corner of research and prepare to work in a collaborative manner. There is a certain satisfaction, and a success rate, that comes from working as a team member, which cannot be matched by working alone.

Museum

There is unlikely to be another keddah in Sri Lanka but the trapping and training of elephants from the wild stock has been an important part of the history of Sri Lanka and other Asian countries until recent times. Artefacts still exist pertaining to this and the knowledge about the capture and training of elephants is still just first hand. It needs to be put on record in a consolidated manner. This can be achieved by collecting photographs, records, recordings of those with experience, artefacts, and skeletal material relevant to the use of elephants in the service of man. The display can include the role of elephants in forestry, agriculture, and religion. The museum display can also be extended to include current research findings.

Training and registration

Methods of training elephants and mahouts have become traditionally established. However, there is value in formalising training programmes and sharing experiences gained in other Asian countries. Maintaining a register of all domesticated elephants and their mahouts or handlers could provide a source of information about elephant breeding and genetics. Additionally, handlers should have education and training in elephant well-being and illnesses. Mahout and elephant training aspects would have to be dealt with by outside mahouts as those handling elephants at Pinnawela deal with elephants on a herd basis and not as individual animals.

The Department of Wildlife Conservation is legally required to have a register of domesticated elephants; however, the records of these animals are incomplete. If the spirit of the laws relating to cruelty to animals and the care of those in captivity is to be maintained, there should also be a register of experienced (qualified?) mahouts and owners. (In many countries of the world the drivers of vehicles as well as the vehicles are tested). Perhaps all domesticated elephants should have a mandatory veterinary examination annually, and all mahouts should also be examined for their suitability to train, maintain and manage the health of the animals in their care. More knowledge about the changes in the physiology of an animal under working conditions could lead to legislation about its working conditions and duration of work. This would lead to improvements in the health of working elephants and a limitation of the extent to which they may be worked by commercial pressures.

Domestic facilities

There are needs of two kinds;

- a shop supplying snacks, meals and souvenirs (pictures, post cards, carvings etc)
- simple residential accommodation for naturalists scientists photographers, artists and others wishing to spend longer periods at the EO for their studies.

Both of these should be profit making facilities.

Elephant breeding

A central focus of activities of the EO should be its development as a breeding centre. Selected males could serve as a stud source for outside domesticated breeding females. Registration and regulation would ensure the maintenance of appropriate genetic diversity. A breeding centre would provide education for undergraduate and postgraduate veterinary surgeons in all aspects of breeding behaviour, conception, pregnancy, birth, weaning, and postnatal development. Registered breeding, as with cattle, could lead to improvements in genetic diversity and stock selection.

Friends of the Elephant Orphanage

Many zoological gardens have associated groups of "Friends" who may engage in a range of activities which include publishing newsletters, raising public awareness of the work of the zoos, and funds. A similar organization "Friends of the Elephant Orphanage", would be of great benefit to the Elephant Orphanage.

Other facilities

Sri Lanka has other relevant resources and personnel which could be networked to the EO. These include:

- working elephants that can be seen at another nearby centre. Some museum material is poorly displayed here, but elephant rides are available
- the IUCN Asian Elephant Specialist Group
- NARESA and the National Museum in Colombo
- the Dehiwala Zoological collection where Asian and African elephants can be seen
- the Natural History and Wildlife Society
- the Department of Wildlife Conservation
- the Veterinary Faculty at the University of Peradeniya
- the Zoology Departments at Peradeniya and Colombo Universities.
- special personnel: These include Professor V. Kuruvita (Dean, Faculty of Veterinary Science, University of Peradeniya), and Professor Charles Santiapillai (of the Department of Zoology, Faculty of Science, University of Peradeniya, and Editor of *Gajah*, Journal of the IUCN/SSC Asian Elephant Specialist Group), as well as many others who have researched a variety of aspects of elephants and their biology.

Funding

Necessary funding for these proposals will be substantial, but the world 'climate' is currently sympathetic to animal conservation, especially the conservation of elephants. This has been enhanced by the recent discovery of 300 carcasses of African elephants killed by poachers using machine guns. The EO has the potential to become self funding but 'pump priming' will be necessary. Funding can be raised internationally by the sale of entrance tickets, souvenirs, the hire of facilities and through special fund-raising events such as adopt an elephant, private donations and legacies, and the activities of the Friends of the EO. Experience has shown that many visitors to the EO are keen to donate funds *at the time of their visit*. Official receipt of international currency should be possible at that time and before enthusiasm wanes.

Funding will be needed for:-

- buildings - education centre, museum, library and meeting room, laboratory, accommodation, staff offices and quarters, and animal holding stables. These must be environmentally suitable, cost effective and hygienic.
- materials - books, journals, telephones and computers with Internet facilities to allow international contacts, keddah artefacts, photographs, educational and museum displays, collections of skeletal and other materials, laboratory facilities and basic equipment.
- staff - managers, lecturers (part time staff could be drawn from interested teachers and others), animal keepers, technicians, library and museum attendants, and security staff.

Planning

Implementation of these proposals must be preceded by mapping and planning the area for development. The costs involved mean that the development plans must be phased and carefully 'milestoned' to ensure that development is matched by availability of funds.

Discussion

There are several reasons for developing the elephant orphanage. As custodians of our environment we have a collective responsibility to care for animals displaced by human activities. Housing such animals is expensive and other national priorities may result in the required funding being inadequate. These animals must either attract or generate sufficient funding if the needs of the animals are to be met. The plight of the Asian elephant must be publicised either by attracting people to the centre or disseminating information from it. This requires an educational programme. Knowledge about elephants is essential if conservation plans are to be rationally devised. This means more research must be done and research facilities provided. Health of captive and wild elephants needs to be monitored and improved, especially in conditions of habitat destruction, food shortage and attempted poaching. Commercial interests may be jeopardised if the animals are overworked and unhealthy. Additionally, everybody should have the opportunity to experience and enjoy these magnificent animals, which form part of our heritage, in their natural habitat.

If the potential of such a centre is to be fully realised, certain key issues must be addressed. Is the project needed? Are the funds available, or can they be made available? Is there willingness on the part of the people and the Government of Sri Lanka to make the project work? Is the project sustainable? Is there a model in Sri Lanka or abroad on which the project could be based? An affirmative answer can be given to all these questions. Globally, in Asia and in Sri Lanka there is a willingness to improve the lot of both wild and domesticated animals.

However, there are those who are unsympathetic to the use of elephants for domestic work. Nevertheless, even if all additions to domesticated stock stopped now there will still be a need to care for and improve the care of the animals already domesticated, which cannot be released back into the wild. The young age of some of the elephants in the orphanage at Pinnawela shows that this need will continue for the next seventy years at least.

There is a model in Sri Lanka on which the development of the EO could be based. The Wetlands Conservation Project has been funded by the Ministry of Transport, Environment and Women's Affairs, and the Netherlands Government. This project has set up most of the kinds of facilities listed above. (Details from: Wetland Conservation Project, Central Environmental Authority, Maligawatte Secretariat, Colombo 10, Sri Lanka). These include nature trails, educational displays, an exhibition with videos on conservation, a restaurant, a shop, and a 'Friends' Association. It has published guidelines on conservation, technical reports and educational material. It is committed to institution strengthening, implementing a national programme of public awareness, and publishing a

newsletter summarising the progress and achievements of the project. It is close to being cost effective. What has already been achieved for the wetlands of Sri Lanka should be repeated for Sri Lanka's Asian elephants.

Conclusions

The EO has the potential to become an international centre of renown, attracting tourists, scientists and funds. It can be an important centre in Sri Lanka providing education about the biology and ecology of elephants. Most important would be its contribution to the breeding and conservation of all elephants.

