

SHORT COMMUNICATION**Saving elephants by helping people - a community integrated pilot project to resolve human-elephant conflict in Sri Lanka****Ravi Corea**127 Kingsland Street,
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The Sri Lankan elephant (*Elephas maximus maximus*), which has shared a special cultural bond with the people of Sri Lanka for centuries, now faces an uncertain future. Reduced to fewer than 3,500 in the wild, the elephant has suffered from habitat loss, habitat fragmentation, habitat degradation and poaching for ivory. Dedicated conservation efforts, backed by political will and commitment and adequate financial support, are needed to halt these threats and ensure the long-term conservation of the elephant. The conservation benefits would be far-reaching not only for the Sri Lankan elephant, but also for the many other species of plants and animals that share the elephant's range and the human communities that have co-existed with the elephant for so long.

Perhaps no other wild animal in Sri Lanka has had such a close relationship with people as the elephant. In Asia, this unique relationship between people and elephants runs deep and dates back as far as 4,000 years, when elephants were first captured and trained as draft animals and for use in warfare and religious ceremonies. Beyond this unique relationship with human beings, the Asian elephant is a flagship for the conservation of the tropical forest habitats in which it is found. Elephants range over long distances and across a variety of habitats that are home to numerous other wildlife species. As they need very large areas to survive, effective conservation and management of elephants can deliver widespread benefits for other endangered species.

Conflict between humans and elephants is not a new phenomenon, elephants have been raiding crops since time immemorial. However, the reverence people had for elephants in Sri Lanka historically ensured its peaceful co-existence and made them tolerant of the occasional intrusion. In recent times however, human settlements have been encroaching further and further into elephant habitat, and the incidence of crop-raiding has increased phenomenally,

leading to the destruction of crops, human homes and lives. Most of the large scale clearings of jungle for agriculture have not given due consideration to the ecological needs of the elephant and other wildlife. As people have suffered escalating losses to elephants, their tolerance has given way to anger and frustration. Every year hundreds of acres of agricultural crops, considerable number of houses and other property are destroyed by elephants looking for food.

On average every year about 100-150 elephants die in Sri Lanka due to intense human-elephant conflict. Conflict is widespread throughout the elephant's range wherever human settlements abut elephant habitat. The reasons for conflict too varies from region to region. It is unlikely that just one solution will help resolve human-elephant conflict. New ideas should be tried out as pilot projects and refined to suit regional issues. It is important to involve the local people from the very beginning. Consideration should be given to their plight as well as to the elephant's if these projects are to succeed. Public participation is crucial not only to resolve human-elephant conflict but also to ensure the long-term survival of the Sri Lankan elephant. A farmer who can reap the benefits of his labor would be more benevolent towards the elephant than one whose life, family, property and crops are under constant threat from it.

The project, "Saving Elephants by Helping People" at Gamburu Oya/Pussellayaya, at Wasgomuwa in the North Central Province of Sri Lanka was initiated in 1998 by Ravi Corea of New Jersey, USA. The project at Gamburu Oya/Pussellayaya is based on a preliminary field study that he conducted in 1997 to assess the extent of the human-elephant conflict and its resolution in Sri Lanka. The initial field survey was part of his study program at the Center for Environmental Research and Conservation (CERC) at

the Columbia University of New York. It was funded by CERC with additional financial support from the Asia Program of the Wildlife Conservation Society/Bronx Zoo of New York. Based on the report that ensued from this survey, the Wildlife Preservation Trust International, USA (now known as the Wildlife Trust), and the Disney Wildlife Conservation Fund gave two grants to establish a pilot project in Sri Lanka, this was intended to integrate community participation into human-elephant conflict management. It was the first time such a project has been attempted in Sri Lanka. The project was approved by the Sri Lanka Department of Wildlife Conservation (DWLC) and by Drs. Raman Sukumar and Charles Santiapillai of the Asian Elephant Specialist Group (AESG) of The World Conservation Union (IUCN). The Deputy Director DWLC, Dr. Nandana Atapattu provided the project with advice and guidance. Lyn de Alwis, the former Director of the Dehiwala Zoological Gardens and the Department of Wildlife Conservation gave valuable advice during the initial field survey.

The Wasgomuwa National Park and its environs, the Maduru Oya National Park to the southeast and the areas

north of Wasgomuwa that are designated as protected areas (Minneriya-Giritale, Kaudulla, Flood Plains and Somawathiya) may offer some of the best opportunities for the long term conservation and management of the Sri Lankan elephant. This whole region is supposed to have a population of 650-700 elephants. A series of buffers consisting of electric fenced villages in strategic locations in this region will not only help reduce conflict, but also leave more room for the elephants to wander without hindrance. The village of Gamburu Oya/Pussellayaya is situated in the North Central Province two kilometers south of the Wasgomuwa National Park along the main Hettipola-Wasgomuwa Road. The village was also identified by the Biodiversity and Elephant Conservation Trust of Sri Lanka as having intense human-elephant conflict. In 1997 alone nearly 30 houses in the village were destroyed by marauding elephants. Many elephants too had either got injured or lost their lives while raiding crops in the village fields. In 1998, as publicized by a local newspaper, the villagers of Gamburu Oya/Pussellayaya at the lack of official response to their complaints, were planning to blockade the road to the Wasgomuwa National Park to bring public and official attention to their plight.



Fig. 1 A cultural and religious icon and a flagship of Sri Lanka's biodiversity lies dead in 1998 at Gamburu Oya/Pussellayaya killed by and irate farmer. (Photo: Ravi Corea)

THE OBJECTIVES OF THE PROJECT:

1. Focus on the human aspects of human-elephant conflict, and try to resolve them with the participation of the villagers who are victims of elephant crop raiding. By helping the farmers to initially protect their crops and property, the project will build the credibility and integrity of the conservation process in the communities whose support is essential to the long term conservation and management of the Sri Lankan elephant.
2. Help protect the Sri Lankan elephant by providing management strategies for its conservation.
3. Develop processes to integrate community participation into human-elephant conflict management.
4. Develop an integrated human-elephant conflict management process which can be applied island-wide wherever there is conflict.
5. Bring economic relief to the farmer and help raise their standard of living by helping to stop crop depredation by elephants. A farmer who can reap the benefit of his endeavours would be more tolerant of the elephant, and more willing to help towards its long term conservation.
6. Increase public awareness as to the plight of the elephant and help garner its support for elephant conservation.
7. Develop activities that would help the farmers to benefit from elephants. Introduce the concept of eco-tourism. Such activities will help show the elephant as a resource rather than a liability and a deadly adversary.
8. Develop the project as a model for possible replication in other range countries of the Asian elephant.
9. Generate interest among other international bilateral and multi-lateral aid agencies of the need to fund Asian elephant conservation.



Fig. 2 The completed electric fence along the main road leading to Wasgomuwa National Park
(Photo: Ravi Corea)

ANTICIPATED BENEFITS AND OUTPUTS

It is hoped that the project can demonstrate that it is possible to:

1. develop a successful human-elephant conflict management program using electric fences on large agriculture settlements to reduce human-elephant conflict.
2. release more land for elephant conservation, especially in buffers around parks.
3. bring economic benefit to the farmers.
4. obtain the support of the farmers and the general public for long-term elephant conservation.
5. obtain empirical data on the annual economic and social costs caused to a village by crop raiding elephants.
6. establish the credibility and integrity of the conservation process.
7. educate the public and create a deeper awareness of environmental issues and the need to conserve the elephant.
8. enhance the prospects for long-term elephant conservation in Sri Lanka.
9. publish and promote the results of the project including: project development, implementation, administration, management, methods and procedures, outcomes, discussions and conclusions.
10. publish a manual for developing integrated community participating programs for human-elephant conflict management.

The concept behind the project was simple. All attempts by the Department of Wildlife Conservation to fence elephants in National Parks have met with various degrees of failure. The primary reason is the lack of manpower and resources needed to maintain hundreds of kilometers of electric fencing on an ongoing basis. The second reason is that most of the electric fences erected by the Department of Wildlife Conservation are along administrative boundaries which means nothing to elephants who move along their own well established cultural and ecological boundaries. This traditional and instinctive urge to

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move makes the elephants determined to breach electric fences and other deterrents such as ditches and trenches that obstruct their path. So, the less maintained and managed these electric fences are, the easier they become for the elephants to break through. Most of the private electric fences protecting large and small scale plantations have a much better success rate due to rigorous maintenance and management procedures. The project has attempted to merge these two strategies of using electric fencing to reduce crop raiding, and stringent fence maintenance procedures of the private sector and apply them to the resolution of crop raiding in village settlements. The project proposed to fully integrate community participation to successfully manage human-elephant conflict near a national park by erecting a solar powered electric fence around a village and its fields. Rather than fence elephants "IN," the project proposed to keep elephants "OUT" from certain areas and leave them room to roam unhindered in the land between settlements outside of the national park when they needed to. Another benefit of having a buffer of fenced villages along the boundary of a national park would be to stop illegal encroachers from further settling in and around national parks since they would not be guaranteed safety from marauding elephants.

A major objective of the project was to get the villagers to take an active part in protecting their properties and crops by participating from the inception to erect a solar powered electric fence around their village provided by the project, and learn how to maintain and manage it permanently over the long term. The project provided equipment and material for nearly 9.5 kilometers of electric fencing, and met all the initial expenses involved in erecting the fence. The technical contractor for the project who supplied all the fence material, Sunpower Systems (Pvt) Ltd of Sri Lanka, donated all the control room equipment needed for the electric fence. Sunpower Systems also provided the project with a support staff consisting of: CEO, Ravi Weerasekera, Manager, Thushara Seneviratne; Field Technicians, Sunil Liyanage, Sarath Gunawardene, Gamini Sisira Kumara and K.W. Podiralahamy and Drivers, Wimalaratne and C. Kaluarachchi.

The total cost of the project so far has exceeded US \$50,000. A Sri Lankan team was assembled to coordinate and oversee the project work. Project Field Officers, Mr. Jayantha Jayewardena, who is a Managing Trustee of the

Biodiversity and Elephant Conservation Trust (BECT), and Mr. Chandeep Corea who is a Field Officer of the Sri Lanka Wildlife Conservation Society (SLWCS) oversaw and administered the ground operations, and helped coordinate the project work. The individual and combined experience and knowledge of Jayantha and Chandeep was a major asset to the project. BECT and SLWCS which are both committed to the conservation of the Sri Lankan elephant provided office space and facilities for the administration of the project in Sri Lanka. BECT Managing Trustee, Jayantha Jayewardene is also an internationally renowned expert and author on the Sri Lankan elephant and a member of the IUCN/AESG. His contributions to the project has been invaluable. Mr. Thushara Ranasinghe who was recruited from the Hadungamuwa village in Wasgomuwa coordinated all the work at the village level and acted as the local liaison for the project. Since one of the main objectives of the project was to ensure that the money from the project contributed to the village economy, building material for the control room and concrete posts for the fence was contracted from the village. September, 2000, marked the end of the first phase of the project, which was the completion of the fence. The 2nd phase will be the monitoring of the fence for one year and observing the ability and commitment of the villagers to maintain and manage the fence as part of their day-to-day activities. The success of the fence mainly depends on how well it is maintained. Before the fence was erected over 70% of the village land was abandoned due to high incidence of crop depredation by elephants. Since the fence was completed the villagers have been cultivating one hundred percent of the land. According to the DWLC personnel at the Wasgomuwa National Park there has been no complaints of elephant depredation from this village since the fence was completed. The fence initially has proven to be very effective and there have been several requests from adjoining villages to provide them with similar electric fences. At the request of the villagers from the neighboring village of Hadungamuwa, additional fence material has been made available to extend the fence one kilometer along the western boundary up to the Hadungamuwa Junction. This section of the electric fence will be built entirely by the combined efforts of the villagers of Gamburu Oya/Pussellayaya and the Hadungamuwa villages. A testimony to the success of the project so far. Though the project was not without its' setbacks, the commitment and dedication

of all who were involved in it ensured that the project achieved its goals and objectives. This is proof of how people from widely different backgrounds such as; technical contractors, rural farmers, elephant experts and international funding agencies can communicate and work together, and thereby reach the common goal of saving such a critically endangered species as the Sri Lankan elephant.

At the end of August 2001 a socio-economic survey of the village will be taken and this information will be compared with information of the initial socio-economic survey conducted in 1999 prior to establishment of the fence. If there are significant improvements in the socio-economic life of the villagers, including reduction of crop and property losses to elephants, and no incidence of harassment, injury or death to elephants by these villagers, it will prove the ability of rural villagers to maintain and manage electric fences as a part of their day-to-day life. This also supports the idea of establishing a buffer zone of fenced villagers along National Park Boundaries as a deterrent to crop raiding elephants, and to reduce conflict in the more intense areas. Such buffers can also be used in areas that offer the best opportunity for the long-term conservation of the Sri Lankan elephant.

The Project Initiator and Manager, Ravi Corea; Field Officers, Jayantha Jayewardena and Chandeep Corea; Field Liaison, Thushara Ranasinghe and all of the villagers of Gamburu Oya/Pussellayaya are very grateful to the Wildlife Trust and the Disney Wildlife Conservation Fund of the U.S.A. for their financial support. The project team also gratefully acknowledges the support given to the project by the Member of Parliament for Wasgomuwa, the Honorable Monty Gopallawa, all the local and regional government officers, Pradeshiya Sabaha officers, engineers of the Road Development Authority and the Irrigation Department of Wasgomuwa, the Department of Wildlife Conservation, especially Deputy Director, Dr. Nandana Atapattu; Assistant Director, Vasantha Ratnayake and Senior Game Ranger, Jayatilleke of the Wasgomuwa National Park, the Venerable Maragamuwe Gunananda Himi of the Gamburu Oya/Pussellayaya Temple, the villagers of Gamburu Oya/Pussellayaya, Drs. Raman Sukumar and Charles Santiapillai of the IUCN/AESG; and Messrs. Ravi Weerasekera and Thushara Seneviratne of Sunpower Systems (Pvt) Ltd. For further information about the project Ravi Corea can be contacted at: RaviCorea@aol.com