



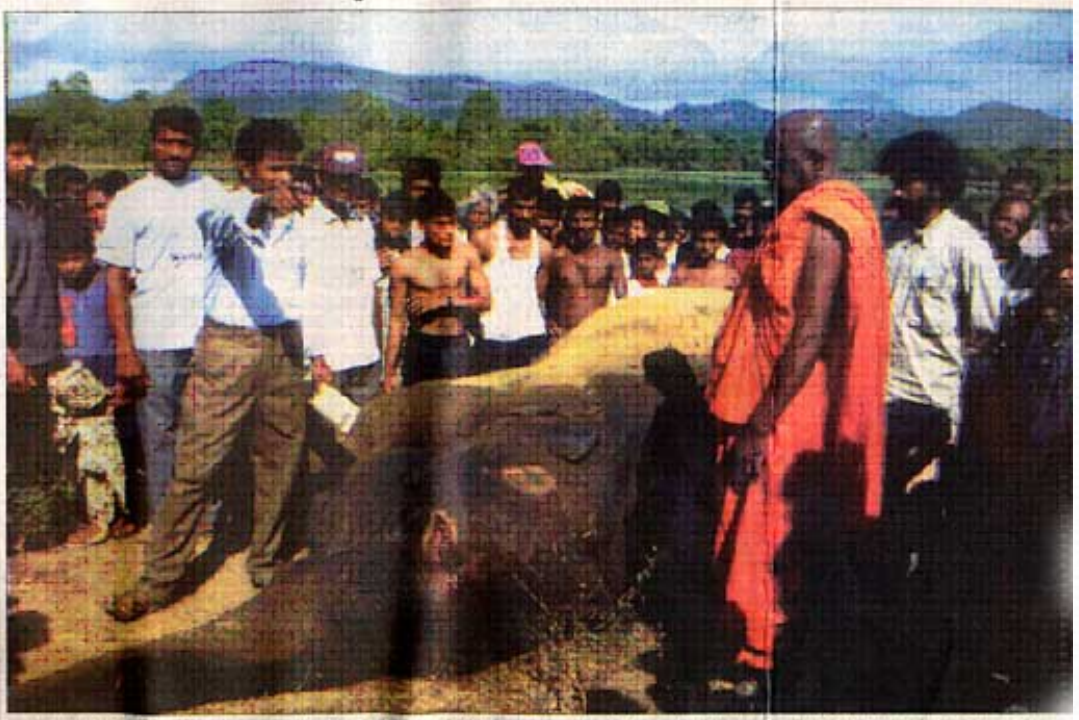
Forming partnerships to preserve Sri Lanka's biodiversity

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## Saving elephants by helping people resolve human-elephant conflict in Sri Lanka

Human-elephant conflict is widespread throughout the elephant's range wherever there are human settlements and elephant habitat. The reasons for conflict too vary from region to region. It is unlikely that a single resolution will help to resolve human-elephant conflict. Now being tried out as pilot projects in Sri Lanka, it is important to involve the people from the very beginning. They should be given to their own to the elephant's if we are to succeed. Public education is crucial not only to resolve human-elephant conflict but also for the long-term survival of the elephant. A farmer who is violent towards the elephant whose life and crops are under threat from elephants.

**Saving Elephants by Helping People** at Gamburu Oya, a village near the national park in the central Province of Sri Lanka, was initiated in 1998 by Ravi Jayasinghe, USA. The project was part of Ravi's Ph.D. thesis at the Center for Conservation Research and Education at the Columbia University.



A cultural and religious icon and a flagship of Sri Lanka's biodiversity lies dead in 1998 at Gamburu Oya/Pussellayaya killed by an irate farmer 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. The project was part of Ravi's Ph.D. thesis at the Center for Conservation Research and Education at the Columbia University. The project was part of Ravi's Ph.D. thesis at the Center for Conservation Research and Education at the Columbia University.

On the average every year about 100-150 elephants die in Sri Lanka due to intense human-elephant conflict (HEC).

**Table 1. Human and Elephant Deaths and Properties Damaged Since 1991**

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
<b>Humans Killed</b>	32	22	60	55	57	47	54	53	81	63	34
<b>Properties Damaged</b>	N/A	N/A	190	418	623	381	165	N/A	N/A	N/A	N/A
<b>Elephants Killed</b>	32	90	103	113	94	130	164	148	107	150	131

Courtesy of Jayantha Jayewardene, 2003 – Biodiversity and Elephant Conservation Trust & The Department of Wildlife Conservation, 1997

[Objectives](#) ; [Background](#) ; [Goals](#) ; [Lessons Learnt](#) ; [Projects](#)

**Conflict is widespread** throughout the elephant's range -wherever human settlements about elephant habitat. The reasons for conflict too vary from region to region. Our efforts are focused on finding ways for people and elephants to co-exist. In 1998, the

Sri Lanka Wildlife Conservation Society (SLWCS) initiated the project: SAVING ELEPHANTS BY HELPING PEOPLE (SEHP) in Sri Lanka with the intention of contributing to the ongoing efforts to resolve human-elephant conflict for the long-term conservation of the elephant.

**The objectives were** by developing solutions at the community level to reduce conflict through a better understanding of elephant biology, human needs, and elephant management technology. Specifically, the project tested the use of a solar-powered electric fence to protect village crops from raiding by wild elephants. We achieved this by establishing a pilot project at Wasgamuwa, which fully integrated community participation into HEC resolution. We applied the concept of fencing elephants “OUT” from certain areas (human settlements, fields, etc.) rather than “IN” in protected areas thereby leaving them more room to range outside of the national parks. This is considering that 70% of the Sri Lankan elephant population ranges outside of the national parks. The solar powered electric fences have significantly helped to reduce human-elephant conflict in two villages as well in some adjacent villages. The fences have helped to raise the socio-economic standards of these villages by significantly reducing crop raiding by elephants. This one fact has made a significant difference to the economic well being of these villagers, and as a result the farmers are more supportive towards the long-term conservation of the elephant. Even though there is still the occasional intrusion by elephants, SEHP has made it possible for humans and elephants to co-exist in these two villages by making the interaction between humans and elephants less violent.

**By establishing a buffer** of similar electric-fenced villages it will be possible to open up more areas for elephants to roam outside of the protected areas without coming into conflict with humans. To identify these villages and develop such a buffer it is necessary to obtain ecological data on the local elephant population. The electric fence project successfully resolved crop raiding. Prior to the electric fence nearly 70% of village land was abandoned due to frequent raiding. After the fence was constructed 100% of the arable land is being cultivated. There has been no damage to property or injury to elephants caused since the fences were constructed. One of the important lessons that were learned, though, is that mitigating conflict does not automatically translate into resolving all the issues or addressing all the factors that continue to drive elephant populations down.

**There are many levels** to this problem and if our efforts are to have maximum effect then we need to approach it with a much broader perspective. The Field Scouts Program was developed with such an aim in mind. To identify and obtain data on the ultimate issues that contribute to the decline of elephant populations and develop solutions to those problems. The biggest issue for elephant conservation is protecting their existing habitat. To achieve this it is important to obtain ecological and biological data and to develop strategies that will diminish the immediate and long-term threats. The immediate threat is human impact. The communities that abut present elephant habitat extract resources to supplement their livelihoods and continue to degrade its environment (see images). A Rapid Rural Appraisal conducted by Sociologist Zeentha Khalid of the Weheragalagama village shows that 65% of the population moves in a constant debt cycle. The economy in Sri Lanka has long depended on agriculture as a major source of its income. However, agriculture is the least dynamic sector of the economy, accounting for only 19.4% of GDP in 2001. Agriculture has done little to elevate rural incomes even though almost one-third of the working population still works in this industry. A concurrent sustainable development program, such as eco-tourism and agriculture diversification projects, must be made available to generate new economic opportunities for these communities.

To make our efforts meaningful to Asian elephant conservation over the long-term, we have to progress from a single-issue focus to a multi-disciplinary approach. What we want to point out is that the traditional focus and efforts of Asian elephant conservation have been on the proximate issues such as reduction, fragmentation and degradation of its existing habitat and in resolving HEC. Although these issues are significant, we are advocating that the recognition of the ultimate causes of Asian elephant conservation is equally important. These ultimate causes are broadly defined as economic, social justice and political inequalities that have marginalized and obstructed rural communities from having access to alternative employment opportunities, diverse economic incentives, information, skills, and technology. Due to these reasons these communities have also not been able to actively participate in elephant conservation efforts. Overlooking such ultimate issues hinders the efforts to conduct scientific research and applied conservation successfully.

We are stressing that community development and sustainable economic development must be ultimate goals that coincide with our conservation efforts and scientific research efforts. The education and sustainable economic development of rural communities is imperative for the co-existence of both elephants and humans over the long-term. In our prior proposals and reports, we have always stressed the necessity that community and sustainable economic development must be integral to the efforts for the long-term conservation of the elephant. In fact many conservationists agree that the only realistic path to conservation in the long term is by ensuring a reasonable standard of living for all people - especially for the marginalized rural people of developing countries who have access to some of the world's biologically rich areas. Lack of empirical data on the local elephant population is a

deficiency that hinders the efforts to address elephant conservation issues successfully at not only our project sites but also island wide. While mostly anecdotal evidence exist, a focused effort to collect empirical biological and ecological data on the elephant populations at our project sites is needed. Such data will be necessary and important for the following reasons:

- 1) to develop conservation management strategies which includes the resolution of HEC.
- 2) To provide ecological data when village expansion is planned at the local level, and at the national level when government authorities enact rural development programs.
- 3) To develop alternative economic incentives to reduce dependency on agriculture.

If we know the population biology and the ecology of the local elephants our efforts can be more effective. Presently there is very little data on the Sri Lankan elephant. The exceptions are the few areas where research work has been conducted. Other than for these efforts, we still do not even know how many elephants we have. The presently accepted estimate of about 3,000-3,500 elephants for the whole country comes from a survey carried out in the early 1980s.

[Objectives](#) ; [Background](#) ; [Goals](#) ; [Lessons Learnt](#) ; [Projects](#)

**Background:** The solar powered electric fences were very effective in stopping elephants from raiding villages. Yet, the fences do not stop the villagers from continuing to have a negative impact on the elephants' habitat. Villagers harvest fuel wood, timber, herbs, spices, and honey, poach game, mine for illicit gems, graze cattle, and set fire to forest in the dry season in a continuing series of ongoing degradation of the habitat available for elephants. Initial cursory observations show that the elephant populations in the Himbiliyakade Forest Reserve and in the nearby Wasgamuwa National Park fluctuate tremendously due to these impacts. The Wasgamuwa National Park and the adjoining Himbiliyakade Forest Reserve enjoy a unique position in the Mahaweli region on account of it being the hub of the Protected Areas system in the Central and North Central Provinces . They are contiguous with the Minneriya-Giritale Nature Reserve (MGNR), the Minneriya National Park (MNP) complex, and the newly declared Kaudulla National Park (KNP) in the northwest and with the Riverine Nature Reserve (RNR), Flood Plains National Park (FNP), and Somawathiya Chaitya Sanctuary (SCS) in the north. The area also provides a contiguous habitat to the south connecting with the Sudu Kanda Forest Reserve and the rain forests of the Knuckles Mountain Range. Ecologically the Himbiliyakade Forest and the Wasgamuwa National Park provide an important corridor that links the Wet Zone high altitude rain forests of the Knuckles Mountain Range and the Intermediate Zone rain forest of the Sudu Kanda Range with the Dry Zone scrub jungles of the Central and North Central Provinces (Map 1&2). This region north of the Knuckles Mountain Range is known as the Lower Mahaweli River Basin System, which includes the Wasgomuwa National Park and the Himbiliyakade Forest Reserve and the whole area is home to about 650-700 elephants. This is the largest concentration of wild elephants in Sri Lanka . This is also an area that has seen an increasing human presence due to government sponsored re-settlement programs. This has resulted in the increase of HEC. There is no data on the biology or ecology of the elephant populations in this region. From a conservation stand point it makes sense to invest resources designed to develop management strategies in this vast population over the long-term. Since our project is situated somewhere in the mid-point of this large land area connecting three distinct climatic zones, the lessons learned, methods and strategies developed from it could be applied throughout this vast region. The Wasgamuwa National Park is 143 square miles in area and has a fairly large Department of Wildlife Conservation field staff for its management and protection. In contrast the Himbiliyakade Forest Reserve is nearly two times as big as the Wasgamuwa National Park but has only a Regional Forest Officer and a District Forest Officer for its management and protection. It is important to assess the amount of impact human induced threats have on these forests as well as on the local elephants for us to develop solutions to diminish these threats and to resolve HEC. We have realized that there is an immediate need to develop a baseline biological and ecological database on the elephants in the area along with a human impact study to obtain a proper understanding of how these threats affect the ecology of the elephants and in turn contribute to HEC. To ensure that such a field study program, once initiated, continues to function over the long term we developed the Field Scouts Program (FSP). The goal of the FSP is to recruit qualifying village youth and train them to conduct field observations and surveys thereby making sure that there is participation and support for the program at the local level. To sustain the program we intend to establish a paying volunteer program that will help fund it over the long-term.

[Objectives](#) ; [Background](#) ; [Goals](#) ; [Lessons Learnt](#) ; [Projects](#)

## PROJECT GOALS AND OBJECTIVES:

**Goals:** The five main project goals are:

- 1) The conservation and protection of the Sri Lankan elephant ( *Elephas maximus maximus* ) and its habitat (especially outside the protected areas)
- 2) Establishment of a sustainable community integrated field research program to gather data about the temporal and spatial distribution of the local elephant population and their habitat, and a database on the plant and animal species of the region to help ascertain their conservation status
- 3) Mitigation of human-elephant conflict
- 4) Creation of support for wildlife conservation and protection through community development, capacity building and sustainable development
- 5) Development of economic incentives to support the long-term conservation of the Sri Lankan elephant and its habitat.

**Objectives:** The two main objectives are:

- 1) To obtain the ecological and biological information necessary to develop a baseline data base on the local elephant populations at our project site in Wasgamuwa and to ascertain their population, composition, feeding including patterns in crop raiding, annual ranging behaviors and seasonality.
- 2) Use this information to successfully resolve HEC as well as develop a management plan for elephant conservation and protection.

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**OBSERVATIONS:** These objectives are based on the lessons learned from the continuing projects established by SLWCS for elephant conservation and resolution of human-elephant conflict in Sri Lanka . SLWCS is the only international non-governmental organization in Sri Lanka presently working to resolve human-elephant conflict and garner support for elephant conservation through community-based efforts. At present, there is insufficient data about the elephant populations and their ecology in the project sites to plan long-term solutions. It is also imperative to establish a baseline database on the ecology and population biology of the elephants in the region if the efforts to resolve human-elephant conflict are to succeed over the long-term. In order to ensure the success of these efforts and develop better management methods it is necessary to obtain information about the elephant population, population density, population composition, annual ranging patterns and feeding behavior. It is also important that the rural people participate in these efforts, not just observe from the sidelines.

#### **LESSONS LEARNED FROM CURRENT PROJECTS:**

1. The urgent need for wildlife conservation and protection. An increasing human population, rapid loss of habitat, and over harvesting of forest products has endangered many species of fauna and flora.
2. While human populations have increased phenomenally, the forest habitats of many species have decreased to remnant patches of their former ranges. One of the animals suffering most acutely from this reality is the Sri Lankan elephant.
3. Focused efforts on the conservation, protection, and resolution of HEC, and the sustainable management of its habitat, are crucial to ensuring the future survival of the elephant.
4. Community Involvement and Capacity Building . It is fundamentally important for local people to be involved in efforts to conserve and protect wildlife. To achieve this, the local peoples' awareness of biodiversity, its functions, benefits and values and their own abilities to help sustain their environment must be developed.
5. Sustainable Economic Development. Local people must accrue economic benefit from supporting local wildlife conservation efforts. Developing economic incentives along the lines of sustainable development will encourage them to protect the forests, elephants and other wildlife in their areas over the long-term.

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**CURRENT SLWCS PROJECTS Sustainable Conservation:**

- **Saving Elephant by Helping People (SEHP)** – A pioneering effort to fence elephants OUT rather than IN. Developing the capacity of villagers to build and maintain solar-powered electric fences. Working with villagers rather than for villagers.
  - Initiated in January 1997.
  - Completed two electric fences totaling nearly 20 kilometers
  - Reduced conflict significantly in two villages.
  - Lessons learned from SEHP have been applied to developing new projects.
  - Currently working in corporation with the local wildlife department officials to coordinate the erection of the 3 rd community based electric fence as an extension to our current fences to reduce conflict in three additional villages.
  - A proposal has been submitted to the Department of Wildlife Conservation to connect the fences proposed by the DWLC for the Wasgamuwa National Park to the SLWCS electric fences so that conflict can be reduced successfully in the whole region.
  - **FMI** – see [www.slwcs.org/projects/sehp](http://www.slwcs.org/projects/sehp) ; also papers by Ravi Corea ([IEF Symposium, November 2002](#)) and Chandeeep Corea ([SHERC Symposium, September 2003](#)). Hiranthi Fernando, [Sunday Times](#) . [Mihisara](#), Young Asia Television.
- **Field Scouts Program (FSP)** – integrating community participation into field research, and using ecotourism as a source of funding to sustain the program.
  - Seven rural youth with A-Level qualifications recruited for the program
  - Completed initial 3-month training period under the supervision of a British volunteer Project Leader with guidance and support from local elephant research experts.
  - Participated in the Symposium on Human Elephant Relationship and Conflicts.
  - Initiated 2 nd phase of further training and field research in December 2003 under the supervision of a Greek volunteer Project Leader with additional guidance and advice from the local elephant experts.
  - **FMI** – see [www.slwcs.org/projects/fsp](http://www.slwcs.org/projects/fsp), also [report](#) by Sharon Brooks.
- **Low Cost Elephant Alert System (LCEAS)** with coir rope, cowbells and noise makers, and growing chili as a deterrent for crop raiding elephants and as a supplementary income for farmers. Cultivating chili as a “green crop” to generate funding for conservation. This project is done in collaboration with the Mid-Zambezi Elephant Project, Zimbabwe .
  - Villagers have been introduced to the concept and have started growing chili during the current planting season.

**Community and Human Development (Ongoing):**

- **Teaching English and Computer skills** to rural villagers. Providing rural youth and young adults with skills and knowledge to join the mainstream work force.
- Teaching English. This project is done in partnership with Travellers Worldwide of England.
  - An initial 3-month pilot period of classes with two British English instructors was completed in April 2003.
  - New classes with six British volunteer teachers will begin in early 2004
  - **FMI:** [www.slwcs.org/projects/com-dev](http://www.slwcs.org/projects/com-dev)
- Teaching Computer Skills (Pending): This program is awaiting funding support.

**Sustainable Development Projects (Pending):**

- **Elephant Walk Thru** - An ecotourism project, integrating wildlife conservation, economic development and human development to ensure the sustainability of community-based wildlife conservation efforts in Sri Lanka .
  - Approval has been received for this project from the national and local government offices, Department of Wildlife Conservation, Forest Department, Irrigation Department, Board of Investment, and Tourist Board. The project is at a stage where the land lease is been negotiated with the Land Ministry.
  - **FMI** – [www.slwcs.org/projects/ewt](http://www.slwcs.org/projects/ewt) ; also see sociological research [study](#) by Zeenath Khalid
- **Village Hospitality Centers** – An ecotourism project where the villagers are directly involved in providing hospitality services and eco experiences to paying guests.
  - Social survey completed to assess the support of the villagers to the project and their willingness to participate in it.
  - **FMI** – see [paper](#) by Zeenath Khalid
- **Apiculture project:** Using honeybees as a deterrent for crop raiding elephants and to generate a supplementary income for

farmers. Funds are needed to start the project.

- **Aquaculture Project** : Agriculture diversification project to reduce HEC while increasing the incomes of rural farmers through alternative industries. Funds are needed to start the project.
- **Home gardens:** Developing home gardens to sustain biodiversity while increasing utility value to farmers.
  - Initial concept proposal completed by Nishantha Dharmasiri ( [www.slwcs.org/research](http://www.slwcs.org/research) )
  - The concept proposal is currently being assessed to develop a project proposal for funding.

### Monitoring and Evaluation Methods of SLWCS's SEHP project.

- Socio-economic surveys
- Participatory Rural Appraisals
- Rapid Rural Appraisals
- Community meetings
- One on one discussions
- See ( [www.slwcs.org/research](http://www.slwcs.org/research) ) for details

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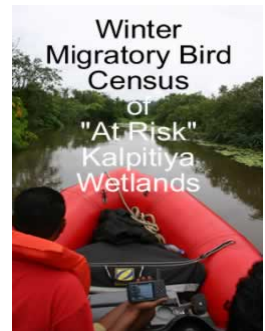
#### Updates to SLWCS website

• [Video](#) and [Image](#) Banks

• VOLUNTEERS NEEDED -[Winter Migratory Bird Census](#), [Elephant and Leopard Research and Teaching English](#)

• [Travel and Support Conservation](#)

[Video](#) and [Image](#) Banks



**VISION:** To help protect and conserve the diminishing biodiversity of Sri Lanka and to make the local and international community aware of its endangered status.

**MISSION:** To enable communities to balance ecosystem protection and economic development by pioneering a model for sustainable conservation.

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