

## Equator Prize 2008 Nomination Form

**Name of group or organization being nominated:** *Sri Lanka Wildlife Conservation Society (SLWCS)*

**Nominee is best described as:**

- *Non-governmental organization*
- *Community-based enterprise*
- *Initiative associated with a community-conserved area or other biological reserve*

**Introduction:** The Sri Lanka Wildlife Conservation Society (SLWCS) is the first organization to be established outside Sri Lanka for the sole purpose of helping to conserve and preserve the dwindling biodiversity of Sri Lanka. SLWCS was established in 1995 by Ravi Corea, (Founder President), who grew up in Sri Lanka and was determined to one day be in a position in which he would be responsible for helping to protect and nourish vulnerable ecosystems and marginalized communities. With this in mind, he made SLWCS's mission to enable communities to balance ecosystem protection and economic development by pioneering a model for sustainable conservation. Following extensive research on Human Elephant Conflict (HEC) in Sri Lanka over the course of one year, in 1997, and his subsequent report written and presented to the Center for Environmental Research & Conservation at the Columbia University, Ravi established the first ever community-based HEC resolution project. This landmark community-based project called "*Saving Elephants by Helping People*" (SEHP) in Sri Lanka, the first of its kind was born, exploring ways to resolve the increasing threats associated with human-elephant conflict and its close relationship with poverty, through community development, capacity building and research.

**Background:** Sri Lanka is an island nation with a human population of about 21 million growing at around 1.2% per annum<sup>1</sup>. Sri Lanka is one of the biodiversity hotspots in the world, (Myers et al 2000), and its globally significant biodiversity values are currently threatened by deforestation, land degradation, and unregulated exploitation of natural resources. A large percentage (78%) of the population is rural and over 80% of the natural forest cover has been decimated due to agriculture, irrigation, industrialization, urbanization, and logging. The urgent need for sustainable conservation can be assessed by the following data from the Sri Lanka Department of Census & Statistics:

- 34 species of mammals, 61 species of birds and 627 species of higher plants are declared as threatened.
- Landslides in the highlands and flooding in the plains of the Eastern and North-Central Provinces in 2006, 2007 and 2008 relate to soil erosion caused by deforestation and destruction of wetlands that act as flood retention areas.

The Asian elephant (*Elephas maximus*) is one of the most endangered mega-herbivores in the world and to conserve viable populations of elephants in the wild is an enormous challenge. Over the last four decades the Asian elephant population has declined precipitously, and the biggest threats to its survival are habitat loss and conflict with humans over crop raiding (Sukumar 1989, Santiapillai & Jackson 1990, de Silva 1998, Corea 2001 & 2006; Blake & Hedges 2004; Hedges 2006). Human-elephant conflict (HEC) today, is one of the most pressing conservation problems in wildlife management in Sri Lanka (Corea 2001 & 2006), and is affecting the survival of many species, including humans. The people of Sri Lanka had reverence for the elephant historically (Jayewardene, 1994) and even today the close bonds in Sri Lanka allow co-existence between nearly twenty million people and two to four thousand elephants (Fernando et al 2005). Recently, however, human settlements have encroached further and further into elephant habitat, and the incidence of crop raiding has increased phenomenally, leading to the destruction of crops, homes, and lives (Corea 2001). As a result according to the Department of Wildlife Conservation (DWC), within the period 1997 – 2006 alone, there were 1,413 elephant deaths and 568 people died in elephant related deaths in rural Sri Lanka. The main reason for the significant rates of elephant deaths is that elephants are simply killed whenever they interfere with agriculture. The extent of crop and property damage caused to farmers by elephants is Rs.1,21.42 million (<US\$10 million) per annum (Bandara & Tisdell, 2004), a substantial cost to bear for a population where nearly seventy percent of people live in poverty.

**The Issues:** Today, human elephant conflict defines the relationship between people and elephants in Sri Lanka. An HEC survey conducted in 1998 showed that:

- Out of 210 households in one village, 64% had experienced crop and property damage.
- In addition, every household at the time spent Rs.5,400 (<\$50) per annum to purchase items such as kerosene oil, firecrackers, flashlight batteries and bulbs to protect their crops and homes.

Subsequent socio-economic surveys helped to identify the following:

- 65% of villagers live in chronic debt
- Villagers are by and large ignorant of park boundaries and laws that protect these resources
- Over 90% of villagers harvest firewood, timber, herbs, spices, honey, poach game,

mine gems, and graze cattle in the protected areas • A high percentage (51%) of villagers set fire to protected forests in the dry season and engage in *Chena*<sup>2</sup> cultivation in a continuing series of ongoing degradation of elephant habitat • Ninety percent of the villagers are willing to support conservation measures provided their livelihoods are not negatively affected • Rural farmers have inadequate or no access to services such as agriculture and veterinary extension services, insurance, logistics and markets • Community based organizations are geared to assist in subsistence activities but have practically no impact at the policymaking level • Gender inequality exists in the wage structure of communities.

These surveys are also useful for obtaining practical “common sense” knowledge of villagers in the matter of HEC mitigation. As an example, the villagers have noticed a relationship between elephant migration periods and increased crop raids and a positive correlation between harvesting periods and elephant raids. This suggests that by making minor adjustments to cultivation timeframes, farmers could reduce the risk of raids and also emphasizes the need for quick processing and sale of crops. This highlights too, that it is essential that alternative crops are grown in the buffer areas and we look at the total landscape using GIS tools and research to develop sustainable solutions.

**The Activities and Innovations:** The SEHP project tested an innovative concept, which was to fence elephants ‘OUT’ of human settlements rather than ‘IN’ protected areas. This concept takes into consideration that 70% of the Sri Lankan elephant population ranges outside the national parks. The project pioneered the use of solar-powered electric fences to protect homesteads and crops from elephant raids. It uses a management model that fully integrates community participation to HEC resolution. The SEHP project utilizes community-based mitigation techniques and GIS-based methodology to understand HEC and design appropriate solutions that are sustainable. At the district level elephant movement and behavior, particularly HEC, is recorded and mapped. At the village level participatory approaches engage communities to construct and maintain solar powered electric fences, adapt alternative agriculture practices, and practice sustainable land use to mitigate HEC and alleviate poverty.

Prior to establishing the SEHP project, the SLWCS conducted the following:

- A comprehensive socio-economic assessment of the communities, including gathering information on education, agriculture practices, global warming and gender issues
- A biodiversity survey to identify the fauna and flora in the area and their endangered and threatened status for conservation action
- A series of meetings and discussions with all the stakeholders, including government officials to ensure participation and community “buy in.”

The first SEHP initiative was implemented in two villages: Gamburu Oya/Pussellayaya and Weheragalagama adjacent to the Wasgamuwa National Park, in the Central Province, which is home to around 600 elephants. The management and maintenance of the fence is entrusted to a Fence Maintenance Committee (FMC) formed under the guidance of the SLWCS, but completely managed, administered and funded by the communities who take responsibility for the operations and maintenance of the electric fences. The FMC officers are selected by the villagers. A panel consisting of local government officers, DWC personnel and officers from other national and regional state bodies who have administrative powers in the area, acts as an advisory body, to guide and oversee the FMC. SEHP invests in capacity building, addressing land use and livelihood development to enrich and empower communities so that they can support the Society’s conservation efforts. The following additional projects work in conjunction with SEHP:

**Field Scouts Program (FSP):** FSP is a community-based initiative with a research objective. It was started in 2003 with the recruitment of 7 local young men and women who were trained to conduct field research under the supervision of a research scientist. The program since then has been implemented at another SEHP site at Lahugala in the Eastern Province. Plans are underway to extend the program from the Knuckles mountain range in the Central Province to Muttur, a coastal town in the Eastern Province.

**Project Orange Elephant (POE):** The POE is a crop diversification project, to develop an economic and physical buffer, for farmers who suffer frequent crop damage. The project uses a variety of grafted orange (*Citrus sinensis*) known as “Bibile Sweet” that had been developed in Sri Lanka to suit the local climatic conditions. The focus of this project is to develop alternative incomes for farmers by cultivating crops that are not susceptible to elephant depredations.

**Home Garden Development Project (HGDP):** The objectives of the HGDP are multi fold: 1. To increase the productivity of home gardens to provide farmers with a sustainable source of food, fodder, timber and firewood. 2. Increase incomes and improve food & nutrition. 3. Minimize harvesting of forest resources. 4. Create biological fences to deter elephants. The environmental benefits are: 1. The increase of diversity of plants in home gardens will create viable habitats for wildlife and improve micro-climate. 2. Improved soil fertility through the addition of organic matter from leaf fall and animal husbandry. 3. Reduced evaporation due to increased shade will increase ground water availability. 4. Protection of fauna and flora.

**Habitat Enrichment Project (HEP):** The HEP is a landscape approach to address land use and elephant conservation issues. The rationale behind the project is that the pressure to open more land for development and human settlements means there is an urgent need to develop *novel and innovative ways* to make the available land productive

as well as harbor wildlife in numbers that will ensure their survival. The primary objective is to develop economic incentives for farmers to manage their buffer zones in a sustainable manner which will be beneficial to them as well as wildlife. The main objectives are to: 1. Increase the forest area in the buffer zones. 2. Provide incentives for villagers to participate in HEC resolution and wildlife conservation programs. 3. Provide alternative incomes that will act as an economic buffer when farmers' main crops are raided by elephants. 4. Provide a livelihood that is not susceptible to elephant depredation. 5. Help to alleviate rural poverty, which will reduce human impact on existing elephant habitats as well as build tolerance for elephants.

The benefits and outputs are:

- An enriched buffer and a managed habitat for wildlife
- A buffer that has economic importance for the villagers
- Community involvement in conservation
- A sustainable livelihood that is not susceptible to elephant depredations
- A higher income to marginalized farmers
- A proven management tool to mitigate HEC.

**Achievements:** The results have been more than encouraging. Through its conservation, research, community development, empowerment, capacity building and sustainable development programs, the SLWCS has had a significant effect in changing the socio-economic dynamics in the villages where the Society has implemented projects. Due to these ongoing efforts, there is a marked difference in the attitudes and knowledge of local villagers and increased involvement in conservation and sustainable development initiatives of the Society. The SEHP project has achieved the following:

- Prior to the introduction of solar powered electric fences, 70% of the land was left uncultivated due to elephants frequently raiding the fields.
- After the fences were introduced, elephant raids have significantly reduced in some villages by 100% enabling villagers to cultivate all their fields. They are now cultivating seasonal and annual crops, which they could not do before.
- Alleviated poverty through increased income.
- Approximately 7 hours per day per farmer has been saved, which used to be spent on protecting crops in the night. Villagers can sleep at night now or use that time for other activities.
- Villagers used to spend on average Rs.5,400 (<\$50) per annum to purchase kerosene oil, firecrackers, flashlight batteries and bulbs to protect crops in the night.
- Since the SEHP project was implemented, the average monthly cost per household to maintain the electric fence is Rs.180 (>\$2) per year. Therefore the average household is saving Rs.5,220 (approx \$48) per annum.
- The environmental awareness of some communities has increased by an average of 23%.
- In two villages, 100% claim their wellbeing and safety has improved since the electric fences were erected.
- Feedback from villagers shows their mobility, especially after nightfall, has increased due to the security from the fences.
- The social life of villagers has vastly improved, increasing their quality of life.
- Reduced stress due to the lower risks of elephant attacks.
- Children do not have to miss school because of elephants and potential damage or deaths in the village.

The project has yielded valuable information as to what improvements and refinements are necessary for the successful duplication of this HEC mitigation method. Through the success of this project, SEHP projects have since been established in three administrative provinces of Sri Lanka at the request of the Department of Wildlife Conservation, provincial governments, temples and communities. The SLWCS has erected over 50 kilometers of electric fencing around villages and temples to mitigate human elephant conflict, and have also been requested to implement conservation measures in other HEC prevalent areas, and most recently, has been asked to undertake a survey of the Lahugala/Pottuvil area in the Eastern Province by another international NGO working in the area.

**Poverty Reduction:** The fences have helped to raise the socio-economic standards of these villages by significantly reducing crop raiding by elephants thereby:

- Enabling 70% of the land abandoned due to frequent elephant raids to be cultivated.
- Reducing crop losses in some villages by 100% and as a result increasing farmers' incomes.
- Eliminating property damage and thereby avoiding expenses to repair and replace.
- Significantly reducing expenditure on materials such as thunder-flashes, firecrackers, kerosene oil, flashlights, bulbs and batteries that are needed to drive away marauding elephants.
- Improving the overall quality of life of villagers by increasing their mobility in the night and early morning by providing them security from elephant attacks.

**Biodiversity Impacts:** The alleviation of HEC has made farmers more supportive of elephant conservation. SEHP has made it possible for humans and elephants to co-exist in areas, where they share space by minimizing the violent interactions. Agriculture is one of the major drivers of biodiversity loss in many ecosystems. With a growing human population to feed, the Sri Lanka government's ongoing efforts to increase agricultural production will have profound impacts on biodiversity and associated ecosystem services. The SEHP initiative promotes that for sustainable development, it requires that biodiversity conservation and agricultural production are reconciled. The various SEHP programs are introducing pioneering and innovative land use practices towards achieving this objective. The POE and the HGDP encourage farmers to practice alternative agriculture to diversify home gardens, to provide food, firewood, fodder, deter elephants, and provide habitats for wildlife. The proposed HEP for degraded buffer areas, integrates free ranging chicken and organic dairy programs as incentives to practice sustainable

agriculture for biodiversity conservation. A species such as the Asian elephant is a good example of the cultural significance of biodiversity, and also of the need for strong regulations and international action, to protect species from extinction. Today, there is strong evidence for the important role of individual species and for positive interactions between the conservation of species, ecosystems and poverty. The Asian elephant, due to its wide-ranging behavior and ecological needs, is an ideal flagship species to promote landscape ecosystem conservation to protect biodiversity. Conservation measures applied for the conservation of the elephant will automatically benefit a wide range of ecosystems, habitats, species, people, cultures and traditions. The positive impacts of the SEHP initiative on biodiversity conservation are tremendous, when evaluated on the basis of these facts and realities.

**Partnerships:** At the international level, the Society is a consultant to the International Elephant Foundation, and the Bengkulu Natural Resources Conservation Agency of the Indonesian Forest Department (BKSDA). Through its international partnerships, the SEHP concept is being promoted to a wider audience, thereby increasing the overall impact of SEHP in mitigating HEC, poverty alleviation, biodiversity, and Asian elephant conservation at a global scale. At the national level, the Society is a consultant to UNESCO Sri Lanka Commission and works in partnership with Central Cultural Fund, World Heritage Preservation Committee Seruwila, the Department of Wildlife Conservation (DWC) and the Mahaweli Authority of Sri Lanka which implements the country's largest irrigation, land and hydro power development program. Furthermore, the Society has had the SEHP project accepted by government institutions as a proven and effective program to address HEC, poverty, land use, livelihoods, biodiversity, and elephant conservation. Through these national partnerships, SEHP is helping to shape policy that will have far reaching effects and long term impacts on communities and the environment. At the regional level, the Society has partnerships with regional and provincial government bodies to implement projects to address HEC, and sustainable land use and livelihood development. At the local level, the Society has partnerships with village organizations through signed Memorandums of Understanding (MoUs), to work together to mitigate HEC. These MoUs are also a tool to empower communities to become better at managing problems and communal facilities that affect their lives and livelihoods.

**Sustainability:** Sustainability is the foundation of all SLWCS interventions and inherent in all initiatives launched by the Society. The SEHP initiatives, as originally intended, once completed are sustained by community resources. The Fence Maintenance Societies (FMS) are responsible for all matters concerning the maintenance, management and operations of electric fences. A Fence Maintenance Society generally consists of a President, Secretary, Treasurer and 16 fence maintenance team leaders who are elected annually. Each leader is responsible for 10 households and every household is responsible for 3 fence posts covering a distance of 40 meters. The villagers' sense of ownership of the fence has contributed significantly to increase their appreciation of the fence for the direct and tangible benefits it brings them. This is aptly demonstrated by their perseverance in maintaining the fence effectively, as well as by the innovative ideas they have developed to sustain the project and to overcome operational challenges. The main focus of SEHP is HEC mitigation for the conservation of the elephant. As a result of the success of the pilot project, the Department of Wildlife Conservation and the Mahaweli Authority of Sri Lanka has requested the SLWCS to undertake similar mitigation measures in other HEC prevalent areas, using the same basic SEHP model, with appropriate modifications to suit local conditions. In the short-term stopping elephant raids motivates villagers to sustain the project. The long-term sustainability however, is dependent upon a more comprehensive understanding of the problems and a broader approach to address the multitude of issues that contribute to creating conditions such as HEC. Foremost among these efforts is the need for ecological balance, which is critical for life on this planet. This is the significance of SLWCS' educational program; an important and integral element of SEHP, designed to develop/instill this appreciation and awareness in the current, and more importantly, the future generations.

**Gender and Social Inclusion:** The SLWCS initiative has developed several interventions to advance gender and social inclusion into its activities. To advance inclusion requires getting an in depth understanding of the traditional gender roles in a given society or community and identifying the socially excluded groups. The SLWCS initiative conducted a series of participatory and rapid rural appraisals specifically aimed to obtain information on gender roles and the socially excluded. Generally, the differential gender roles of men and women in traditional societies have a cultural base to it, whereas, social exclusion generally relates to poverty and inequality. In traditional rural agricultural communities, the roles of men and women are well established. Nonetheless, because of the Society's initiatives, women are expanding into areas that were considered male domains. A good example is the increasing number of women that are managing household finances (90%) and making decisions in regard to agricultural activities (60%). The SLWCS has taken further advantage of this evolving role of women to get them actively involved in other programs of the SEHP initiative, by encouraging them to take leadership roles in the electric fence maintenance societies, establish and operate plant nurseries and to be Field Scouts. The women have proven to be more adept and versatile managers, administrators and field research assistants, gaining respect and acceptance in their communities, greatly improving their status.

**Leadership and Community Empowerment:** Current land use practices have been recognized as being detrimental to the environment, mostly due to bad planning of agriculture and rural development schemes implemented by successive Governments. SEHP, as in the majority of SLWCS initiatives, is designed to bring about reform;

empowering communities, advancing gender and social inclusion, and replacing the existing top-down administrative process with a participatory process where villagers are empowered to make decisions for their common good. Community empowerment should not always be assessed from a perspective of whether it has a successful impact on policy at the local, national, regional, or international level. Community empowerment also includes developing capacity to do the things that community members want to do. Empowerment includes capacity building and strengthening in various dimensions and the degree to which members of a community share values, concerns and needs. Therefore, empowerment is also increasing access to communal services, skills, technology, leadership, organization, and information. The more community members have access to needed communal facilities, the greater their empowerment. The SLWCS SEHP initiative provides technology, capacity building, skills training, and tools which are all communal needs identified by the community, for them to collectively develop economically, socially and politically, by mitigating human elephant conflict. HEC was identified as the primary reason for keeping the community economically depressed and socially and politically marginalized. The SLWCS' SEHP initiative has not only increased the opportunities for potential community leaders to improve their leadership skills and awareness and given the community greater empowerment but also helped to resolve human elephant conflict. The SEHP initiative of the SLWCS saves the lives of both Elephants and People.

<sup>1</sup> Department of Census & Statistics, Sri Lanka 2001 Census

<sup>2</sup> Slash and burn or shifting cultivation. Apart from deforestation and loss of biodiversity it causes soil erosion by breaking up the soil structure.

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