# The Rufford Foundation
# Final Report

Congratulations on the completion of your project that was supported by The Rufford Foundation.

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. The Final Report must be sent in **word format** and not PDF format or any other format. We understand that projects often do not follow the predicted course but knowledge of your experiences is valuable to us and others who may be undertaking similar work. Please be as honest as you can in answering the questions – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please complete the form in English and be as clear and concise as you can. Please note that the information may be edited for clarity. We will ask for further information if required. If you have any other materials produced by the project, particularly a few relevant photographs, please send these to us separately.

Please submit your final report to jane@rufford.org.

Thank you for your help.

**Josh Cole, Grants Director**

| **Grant Recipient Details** | |
|---|---|
| **Your name** | Deegoda Gamage Ashoka Ranjeewa |
| **Project title** | The Enigmatic Crop Raiders of Udawalawe: A First Step Towards Mitigating Human Elephant Conflict in Sri Lanka. |
| **RSG reference** | 18477-2 |
| **Reporting period** | One year |
| **Amount of grant** | £ 5000 |
| **Your email address** | dga.ranjeewa@gmail.com |
| **Date of this report** | 2nd of January 2017 |

**1. Please indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.**

| Objective | Not achieved | Partially achieved | Fully achieved | Comments |
|---|---|---|---|---|
| Monitor the Voltage of the park electric fence. | | | | I monitored the park electric fence four times during each field day successfully and found the voltage of the fence dropped by midnight. Gathered vital data on the fence will be analysing in the near future. |
| Evaluate the effectiveness of the electric fences located on different boundaries to understand whether the fences are located at the most suitable places. | | | | I found minimal damage to the park fence by elephants at the ecological boundary compared to the administrative fence. Apart from that, seven locally built private electric fences were monitored and found no damages in majority of the lands which indicated very strong protection against elephants. |
| Study fence breaking and crop raiding behaviour of the elephants to determine methods used to break the fences and to determine if fence breaking is done only by specific elephants - Habitual fence breakers. | | | | The experimental fence was strong enough to protect the paddy land from raiding elephants except few occasions elephants managed to break the experimental fence by toppling nearby trees on the fence. On the other hand, the most popular, traditional elephant footpath to the experimental land was blocked using a private electric fence and number of sightings in the experimental land was reduced drastically compared to first year of the project. |
| Establish the Young Conservationists' Society to raise awareness on wildlife conservation while | | | | The awareness campaigns in the Sunday schools helped to develop interest on wildlife and the environment among the children hence became a successful event. |

| | | | | |
|---|---|---|---|---|
| exploring nature based career opportunities for the youth. | | | | Apart from that, I could build an excellent rapport with villagers as a result of the strong awareness campaign. Pokunuthanna has become one of the most discussed latest destinations among most of nature lovers in the country now. Therefore, nature based tourism will be one of the best alternative income generating methods among the villagers in the future. |

**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).**

N/A

**3. Briefly describe the three most important outcomes of your project.**

The most important outcomes of the project were collecting voltage data on the park and private fences to assess the effectiveness of each type of fence, identification of Pokunuthanna as an important biodiversity interest area in the country, and identification of private electric fences as an effective alternative barrier for elephants.

Collecting voltage data to evaluate effectiveness of the park electric fence is a milestone in human-elephant conflict (HEC) mitigation in the country. Approximately 3000 km of electric fences have been erected around protected areas in the country and it's not properly monitored. The average cost for construction of 1 km of electric fence is US$ 3500 to 5000. It's clear that huge amount of money has been used on electric fencing in the country for HEC mitigation. Therefore, data on voltage of the park electric fence will be tremendously valuable for assessing the effectiveness and managing electric fences in the future.

Due to awareness and publicity done through the project, Pokunuthanna has become one of the most attractive destinations among birders and nature lovers. More importantly Field Ornithology Group of Sri Lanka (FOGSL) has decided to enter Pokunuthanna in their annual activity calendar for dry zone bird watching after the projects involvement. By 2016, the FOGSL has nearly 50,000 members and it's a nationally and internationally known organisation. The raised interest in Pokunuthanna, will increase potential development for its nature or sustainable eco tourism in the future. Sustainable tourism will provide an alternative income for the

villagers and will help in ameliorating HEC in the area by increasing tolerance of elephants' presence in the area. Furthermore due to the awareness done among the Sunday school children, the knowledge and the interest in elephants, bio diversity and conservation of the environment was generated among teenagers.

Finally, the other most important outcome of the project was finding out that the location and design of the park fence were crucial for its effectiveness. Administrative fence which is built in between forest patches are more vulnerable to damages by elephants than ecological fence which is built near village lands at the end of the forests. Therefore, the information gathered during the project will play a crucial role in placement of electric fences and managing HEC in the future.

**4. Briefly describe the involvement of local communities and how they have benefitted from the project (if relevant).**

With the robust awareness and rapport built with the villagers, they were very much interested in the project. Some villagers helped with monitoring park electric fence and setting night vision camera traps. They insisted on setting more camera traps in their home gardens and along the park electric fence to identify crop raiding elephants. Villagers keep calling me and giving information on crop and fence damages of elephants even at the times I am not in the field. The most important benefit they received from the project was a psychological one. They had a strong feeling that there is someone who is taking care of their ever rising, life threatening problem and they keep hopes for a bright future with our project's involvement.

Apart from that, they got opportunities to discuss their problems with some eminent scientists. Some students in the village received monitory support from the FOGSL members during their field trip to help in their education. One villager was enthusiastic to show a brown fish owl roosting in his home garden to all the visitors to the village after the FOGSL field visit. It seems he has understood the value of having birds in his home garden. Therefore, the project has made positive impact on the community to change their line of thinking and raised interest in wildlife conservation.

**5. Are there any plans to continue this work?**

Continuation of this project is essential at this stage as lost of baseline data on HEC in the area has been collected and the project has embedded in village life. Therefore, I am planning to continue this work to get utmost benefits of all the previous hard work.

**6. How do you plan to share the results of your work with others?**

The results of the work will be shared with the department of wildlife conservation and other local administrative authorities in Sri Lanka by submitting progress reports. Apart from that personal experiences and findings of the project will be shared with general public through newspaper articles and presentations. The research data will be published in national or international scientific journals in the near future.

**7. Timescale: Over what period was The Rufford Foundation grant used? How does this compare to the anticipated or actual length of the project?**

The grant was used over the period of 13 months from October 2015 to November 2016. This was 1 month exceed than the anticipated time of the project.

**8. Budget: Please provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used.**

| Item | Budgeted Amount | Actual Amount | Difference | Comments |
|---|---|---|---|---|
| Food for researcher & an Assistant | 900 | 867 | +33 | |
| Accommodation for the researcher and an assistant | 720 | 694 | +26 | |
| Assistant's wages | 750 | 722 | +28 | |
| Transport | 1020 | 983 | +37 | |
| Cost to lease & cultivate the paddy land | 600 | 650 | -50 | |
| AC transmitter for experimental electric fence | 150 | 117.5 | +32.5 | |
| Cost for construction of an experimental electric fence in a paddy land | 76 | 112.5 | -36.5 | The labour cost was more than expected due to longer duration it took to erect the fence. |
| A Volt meter to measure conductivity of the electric fences | 150 | 99 | +51 | |
| Cost for construction of a | 100 | 164.5 | -64.5 | The labour cost and the cost of |

| | | | | |
|---|---|---|---|---|
| tree hut | | | | materials was more than expected. |
| CFL Bulbs and wires for lighting the paddy land | 50 | 85 | -35 | Had to buy more wires and bulbs than expected because some bulbs and wire had to be replaced due to damages during the field work. |
| Electricity bills for 12 months | 84 | 85 | -1 | |
| Stationery | 50 | 70.5 | -20.5 | It cost some extra money to print a poster and some colour photos to be displayed at presentations. |
| Multimedia projector and a screen | 350 | 350 | 0 | |
| | | | | |
| **Total** | | 5000 | 0 | Conversion rate was £1 = Rs.212.75/= |

**9. Looking ahead, what do you feel are the important next steps?**

It is important to collar few elephants to observe actual home ranges of crop raiding elephants to understand their movement patterns. Continuation and expansion of camera trapping will be crucial to monitor trends among crop raiding elephants, for instance to see whether the number of crop raiding elephants are increasing or decreasing in the village. Establishing private electric fences in other unprotected lands and paddy fields are also essential to provide immediate protection for those properties. It will be useful to change the design of the park fence and test it experimentally to monitor its effectiveness. Finally, it is important to keep raising awareness among the villagers and introduce and train them to run sustainable eco tourism business as an alternative income generation method in the future.

**10a. Did you use The Rufford Foundation logo in any materials produced in relation to this project?**

Yes, I used the Rufford logo in the project poster which I displayed in awareness campaigns held at the village.

**10b. Did the RSGF receive any publicity during the course of your work?**

Yes, the project got a media coverage by one of the most popular national English newspapers. The paper article will be published in the near future and a copy or a

link to the article will be submitted once it released. The Rufford name and the logo were popularised among the villagers and nature lovers as I used them in posters during the awareness campaigns. Apart from that the Rufford name was widely mentioned during many formal and informal as well as scientific discussions held among the stakeholders, colleagues and academics.

**11. Any other comments?**

This is one of the most important and timely projects conducted in the country as human-elephant conflict has become one of the most difficult problems which the country is currently facing. Due to the outstanding findings and progress of the project, many scientists and wildlife enthusiast are praising the project and encourage continuing the work. This significant study could not be done without the support of Rufford small grant. Receiving a grant for a conservation action is a huge encouragement. Therefore, I greatly appreciate Rufford foundation granting me the second Rufford small grant to continue this project. I also appreciate the comments made by the grant committee suggesting to apply for Whitley fund for nature. Further, I greatly appreciate the pleasing cooperativeness of the trust administrator Ms Jane Raymond.