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	M. Ananda Kumar
Project title	Living with elephants: promoting human-elephant coexistence measures with community participation in a plantation-forest landscape of the Anamalai hills, India
RSG reference	15717-2
Reporting period	July 2014 - June 2015
Amount of grant	£4994
Your email address	anand@ncf-india.org
Date of this report	18 August 2015

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
1. Tracking of elephants and monitoring human-elephant conflict a) Elephant movements b) Conflict occurrence			✓	Daily tracking of elephants was carried out by the conflict response team. Elephants were noticed across all months between July 2014 and June 2015. However, the number of herd-days (number of days spent by multiple elephant herds or a single herd split into multiple sub-herds which were more than 2 km apart or lone individuals) varied between 60 - 264 herd-days per month. In total, there were 1,832 herd-days' time spent by elephants on the Valparai plateau. Elephants have shown consistent movement patterns which is comparable to previous years. There are two major concerns such as loss of life due to elephants and property damage such as ration shops, school noon-meal centres, Residential places, and others on the Valparai plateau. During the project period, there has been no incident of human fatalities or injuries due to elephants. There were 74 property damage incidents of which a majority of damages occurred to residential places (n = 34) and ration shop (n = 28) which store food grains. Nearly 66% (49 out 74 incidents) of damages occurred in a six-month period between September and February which denotes the sensitive period on the plateau.
2. To expand elephant information network through bulk SMS to avoid human fatal encounters or injuries due to elephants			✓	We have held field meetings with workers in different estates covering six major companies and a host of small tea and coffee estates. Collection of people's mobile phone numbers were carried out by having registration day in respective working sites of estate workers on the plateau. We have also kept open our

a) Strengthening and expansion of Elephant Information Network				dedicated contact mobile phone number for people to avail the facility to share their contact numbers for bulk SMS service. We have increased the mobile phone data base from 2400 to 3000 contact numbers with one mobile phone number per family on the Valparai plateau.
b) Bulk SMS service				During the last one year, we have sent out about 200,000 of SMS alerts about elephant presence to people residing within 2 km radius from elephant location (Number of SMS credits used are more than number of messages sent). This facility has directly benefitted 20,000 people living in tea and coffee estates (At least minimum of 10 people per colony who will spread the alerts to others). Of the total messages sent, about 68% of alerts were delivered (n = 133,663 messages). Of the total undelivered messages a majority of them were due to people's unavailability in mobile network region and mobile phone inbox was full (72%, n = 46,000 SMS alerts).
Experimenting with innovative early warning announcement systems in local bus services to strengthen elephant advance intimation service				We have developed an app for SMS operated elephant early warning systems. The devices comprised of Android mobile phones and speakers have been tested in the field. We have made efforts to officially involve Tamil Nadu State Transport Department (TNSTC) and Tamil Nadu Forest Department (TNFD) for uninterrupted use of these devices in buses. The Forest Department has agreed in principle to be part of this initiation. A final official announcement is awaited.
Sensitization programmes for local communities on precautionary measures through interaction meetings and workshops				We have carried out 16 sensitisation programmes to workers in tea and coffee estates. Plantation company management has agreed not to chase elephants but facilitate uninterrupted elephant movements through tea habitats to nearest rainforest fragment. We had also communicated the importance of pro-active measures such as shifting tea estate workers to tea field

				areas devoid of elephants as a measure of safety, if that part of the fields was not being harvested for the day. We have been encouraging estate workers not to involve directly in chasing and to avail the support of the Rapid Response Team of Anamalai Tiger Reserve (TNFD) to safeguard the lives of people and property.
Assessing efficacy of early warning systems in the human-elephant conflict management a) People's reception of SMS alerts				People's acceptance of early warning systems such as bulk SMS alerts is apparent from the response calls received from people. There were 802 response calls received with an average of 66 calls per month. People's response calls to advance alerts were high between September 2014 and February 2015 (81%, n = 652 calls), a period of highest elephant movements and conflict occurrence. Response calls from people about conveying elephant locations (43%, n = 344 calls) have doubled from calls enquiring about elephant presence areas (21%, n = 167 calls) to the bulk SMS centre than. This indicates the importance of SMS alert systems in providing safety measures to people. There was also a significant increase in number of people sharing their mobile phone numbers to avail SMS alerts (27%, n = 218 calls) Early alerts enabled people to take adequate precautionary steps to either avoid moving through elephant presence areas or safeguarding property by seeking help from the Rapid Response Team of the Forest Department or plantation company management.
b) Reduction in incidence of conflicts				The on-going efforts of advance alerts resulted in no human fatality or injury due to elephants occurred as compared to previous years. There was a gradual decline in occurrence of property damage incidents over years reaching the lowest during the past one year. This was

				particularly due to early intimation about elephant presence has also facilitated the Rapid Response Team to be stationed at critical conflict prone-areas to protect people's property.

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

One of the difficulties we have experienced in obtaining people's mobile phone numbers due to hesitation in sharing the information. The SMS operated early warning announcement devices is an innovative technique, the research and development had taken about 4 months' time and delayed the process of applying for permission from the government departments. Other kinds of delay is due to official procedures involved in pursuance and coordinating between government departments to obtain necessary permissions and involve the concerned agencies in the on-ground conservation actions.

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

The most important outcomes of the project are:

1. Elephants have shown consistent movement patterns which reiterate the earlier findings that elephant's exhibit strong fidelity to their ranges. Though the number of elephants using the Valparai plateau have not increased contrary to popular belief, but number of days spent by elephant in the human-use areas have gone up tremendously as compared to previous years. This will indicate that they have not been stressed due to pressures from people in terms of chasing or harassment and their adoption to modified landscape.
2. No incident of human fatality and lowest number of property damage incidents by elephants can be attributed to timely intimation of early warning messages and pro-active steps taken by the local communities, corporate sector, and Tamil Nadu Department. The Valparai plateau is one of the few places where number of property damage incidents and fatal incidents have been minimized as compared to many other places in India.
3. The results of the study clearly indicate that the early warning systems have been positively received and impacted local communities and also reduced pressures on elephants from people. The study also reveals that there are no *problem elephants* but there are *problem locations* which require identifying suitable measures based on scientific understanding of conservation issues.

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

The project is a part of long-term programme on Asian elephants in the Anamalai hills. Local communities have been part of project activities in extending their cooperation in terms of positively responding to and conveying elephant alert

messages and sharing the information to their neighbours, colleagues, and friends who perhaps have not subscribed to SMS alerts.

There was an incredible increase from enquiring about elephant whereabouts to conveying about elephant presence locations to SMS centre for speedy communication of alert messages to large number of people clearly indicate the benefits of early warning systems.

Advance elephant presence intimation has played a key role in tea and coffee estate management to take appropriate steps to provide adequate safety measures to workers and facilitate easy passage for elephants through plantations.

Early warning systems also helped Rapid Response Team of Anamalai Tiger Reserve, Forest Department to plan positive strategies not only safeguarding people lives and property but also in curbing activities of reactive measures of harassment of elephants due to firing crackers, use of four wheel vehicle to chase, pelting stones etc.

Early intimation systems have also facilitated local community to plan their outdoor activities or seek help from concerned authorities of company management and Forest Department in times of emergency.

5. Are there any plans to continue this work?

The present work is a part our long term programme on Asian elephants in human dominated landscapes in India. We have been planning to expand Elephant Information Network to other interspersing areas of people and elephants. Implementation of SMS operated announcement devices in buses which is not fully executed in the field during this project period. This will be carried out as soon as final announcement is received from the state Forest Department.

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

Work results will be shared with the Forest Department in the form of technical reports. Technical report will be uploaded on Nature Conservation Foundation website to reach out to many people who are interested in Asian elephant conservation. We are planning to organise meetings with respective companies to convey results of the study pertinent to adopt pro-active management strategies in the company management framework. We have presented the results of the study to the Field Director of Anamalai Tiger Reserve regarding positive outcome of the study. The work results along with long-term effects of Anamalai Elephant Programme will be shared in Elephant Conservation Group (ECG) which will be held from 21st – 24th August 2015 in Singapore.

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 amount was used between 1 July 2014 and 30 June 2015. However, the project activities will be continued to implement partially achieved objective in near future. Progress on achieving this objective will be intimated to the Rufford Foundation authorities. The grant has been extremely and timely helpful in obtaining desired results to promote human-elephant coexistence on the Valparai plateau.

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
Salaries and *Per diems* for staff				
Project coordinator	1485	1485	0	
Field assistants	713	713	0	
Cost of activities				
Bulk SMS credit purchase	1112	959.41	152.59	To support our efforts in reducing human-elephant conflict, GUPSHUP Enterprises offer to provide us with SMS credits with a discount. Hence, the difference amount was spent on other project field activities
Elephant warning announcement devices	594	109	485	Purchase of one phone was made for field testing purpose. We decided to hold on to the balance amount until we received the final government permits on paper to execute the project.
Accessories for announcement devices	74	0	74	Accessories are readily available in the market and will be purchased once the permits come through.
Fuel and maintenance of motor bike	475	569.31	-94.31	Rise in fuel and maintenance prices and usage in tracking elephants resulted in expenses higher than expected. A part of the saved amount from the

				purchase of SMS credits was utilized here.
Local bus travel for field assistants	178	207.92	-29.92	There was a marginal increase in expenses of local travel than budgeted. The saved amount from the saved SMS credits was used.
Field accommodation	119	119	0	
Communications				
Internet and telephone charges	119	148.51	-29.51	There was a change in the base internet tariff and also 3G dongle was used to send out elephant messages even when on travel to other places.
Mobile top-up for field staff	125	123.76	1.24	None
Total	4994	**4434.91**	559.09	The unspent amount is intended to be used to complete the objective as proposed in the application.

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

The following are the important steps to be followed

- Implementation of automated announcement systems in buses on the Valparai plateau.
- Finding sustainable mechanisms to make SMS alert systems independent and self-sufficient with the involvement of stakeholders.
- Replication of SMS alert systems in other critical landscapes such as Coimbatore Forest Division through Forest Department and local conservation organisations.
- Identification of suitable and appropriate human-elephant conflict mitigation measures in hard-edge boundaries of forest-farm habitats through community involvement.

10. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the RSGF receive any publicity during the course of your work?

No material has been produced from the project activities. However, we have acknowledged Rufford Foundation in public talks, conferences, and meetings with stakeholders and local communities.

However, the project has been covered by the print and news channel and the links for which are provided below.

- Indrani, R. Living with Elephants, Body & Beyond magazine. July 2014

- Rashmi, S and Rishi, K. S. Making peace with Jumbos, Tehelka.com, 25 October 2014 http://www.tehelka.com/2014 /10/tamil-nadu-valparai-elephants-conservation-man-animal-conflict/
- Agence France-Presse, news report on 'SMS alert cuts deaths from elephants in rural India', 18-Nov-2014, Agence France-Presse, http://www.dailymotion.com/video/x2ahhy0_sms-alerts-cut-deaths-from-elephants-in-rural-india_news
- Indulekha, A. 'In Valparai, SMS alerts on wild elephants helps reduce deaths' 21 February 2015. http://www.business-standard.com/article/beyond-business/trunk-call-115022001290_1.html