

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 | Hari Basnet |
| Project title | Bat-Chiuri and Chepang: Maintaining a delicate balance through conservation awareness programme in Chitwan district of Nepal. |
| RSG reference | 18103-1 |
| Reporting period | 26 November 2015-26 November 2016 |
| Amount of grant | £ 5000 |
| Your email address | Haribasnet88@gmail.com |
| Date of this report | December 8, 2016 |

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 |
|--|--------------|--------------------|----------------|--|
| Status, distribution and threats to fruit bats | | | | <p>Field survey was carried out in summer and winter season where hunting of fruit bats is at its peak. We used direct observation to assess the fruit bats hunted by Chepang community and camera traps to record the evidence of pollination of butter tree (<i>Chiuri</i>) by fruit bats during winter.</p> <p>Bat hunting sites and local markets were visited to assess the different threats. Questionnaire survey with local people were carried out as well.</p> |
| Ethno-zoological question survey to assess the relationship of fruit bats, Chepang and <i>Chiuri</i> | | | | <p>There were a total of 256 respondents for the questionnaire survey. In addition, interview to knowledgeable people was done during the conservation awareness programme in different villages. Furthermore we recorded the status of fruit bats /<i>Chiuri</i> plants in the past and present and their relationship with Chepang. We also recorded the intensity of fruit bats hunting on the study area.</p> |
| Awareness raising and outreach programme | | | | <p>There were 1000 copies of brochure, 500 copies of posters, 65 t-shirts distributed to local people and school students, while eight banners were displayed in the relevant public places. We did community awareness in Shaktikhor, Siddhi, Korak and Lothar Village</p> |

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| | | | | Development committee. While school outreach programmes were done in six secondary, lower secondary and primary school in the study area. |
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2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).

We planned to do fruit bats survey, community awareness and school outreach programmes together during the summer season (peak fruiting of *Chiuri* plant), but the schools have their mid-term examination running followed by the summer vacation, thus we postponed the schedule and did the school awareness and outreach activities after the summer vacation, whereas community awareness and bats survey was carried out as scheduled.

Dealing with bat hunters to assess the hunting related question was difficult. They think of us as government officers who will punish them if they say anything related to hunting activities. So we told them who we are and what we are doing. We told them we are collecting data to solve their own problem and will share the findings during conservation awareness programme in summer season.

We used the camera traps to record evidences of fruit bats visiting the butter tree. However, we failed to record these evidences in camera traps, although we have evidences of *Rousettus leschenaulti* visiting the *Chiuri* through direct sighting as people hunts the Bats visiting the *Chiuri* plants.

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

a) Documented the status and threats on fruit bats

Among fruit bats, Leschenault's rousette (*Rousettus leschenaulti*) is the most distributed in the study area followed by the dawn bat (*Eonycteris spelaea*). This is also supported by the Chepang people's hunted fruit bats species as most of them are *Rousettus* species. We did not record any *Pteropus giganteus* and *Cynopterus sphinx* during our survey, although local people mentioned that *Pteropus* visits the area during the ripening of mango fruit.

According to the Chepang people, during fruit bats trapping they occasionally caught insectivorous bats but due to distastefulness they are not eaten and released instantly. One of the major threats to fruit bats is hunting. Almost one person from each house (except some who lives nearby town) go for hunting before the dusk and most of them hunt whole night. They hunt the bats near the *Chiuri* even

they locate the passing route of these bats (in hilly area) where install the locally prepared mist-net during flowering and fruiting of *Chiuri* plant. In the same time, there is reduction of fruit production of these trees which is one of the main source of food to bats. The demand of bushmeat is increasing in the local market as people from Chitwan even Kathmandu visit the area just to taste the bat meat which encourage the local people to hunt more fruit bats. The price of single piece of bat raising from 0.30\$ to 0.70\$ within a couple of years.

b) Relation between fruit bats, Chepang and Chiuri

All respondent know about the fruit bat believe that bat visits the *Chiuri* tree for nectar and fruits; whereas only 7% knows that it helps in pollination and seed dispersal. There were 57% respondents who reported that they have trapped/killed bats for local consumption and 17% killed bats for commercial purposes. Almost all active hunters believe that bats visiting butter tree have declined sharply; 67% of the respondents reported the decline in butter tree production in the last five years. Only 12% respondents believed that killing bats had an adverse impact on the butter tree and their livelihood. Comparing the data based on the questionnaire survey, there is huge decrease of fruit bats hunted by local people from 25-50 bats per person per night 15 years ago and now it decreased to only 4.49 bats per person per night on the average. Similarly, they almost collect 160 kg seeds from the young trees of *Chiuri* in the past and now they hardly collect 32 kg of seeds. This clearly indicates that hunting the bats adversely affected the production of *Chiuri* trees due to lack of primary pollinator which ultimately affect the Chepang people.

c) Community based conservation awareness and school outreach programme

Based on the preliminary result of questionnaire survey, conservation awareness was carried out in most of the fruit bat hunted area. Local people are unaware of importance of fruit bats and hunting impact the *Chiuri* plants. We were able to show to the local people that conservation of fruit bats help them to increase the economic condition by production of more seed. They now understand that conserving fruit bats help in pollination of *Chiuri* and other fruit trees. Conservation promotional materials (such as brochures, posters, t-shirts, banners) help them to understand better the importance of bats.

In six schools, we conducted conservation awareness classes to more than 900 students to let them know about the importance of bats. We believe that they transfer value of conservation to their homes and to their communities. Art and essay competitions entitled "Our Role in Conservation of Bats" was organised in four school and rewarded winner with educational materials, t-shirts, and certificates.

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

Local Chepang (Kaviraj Parja) who was involved in the whole project is encouraged to work further on bat conservation. Local people including bat hunters and students participated during the conservation awareness. This awareness programme contribute to develop positive attitude towards bats, increase knowledge on importance of bats on forest regeneration, fruit pollination and ecosystem services. This helps to reduce incidence of hunting and conserve bat through local involvement.

Furthermore, nature hiking was done with the students to help them better understand nature. Five members of the bat monitoring group (Chamera Nigarani Toli) was formed in each school for monitoring the hunting activities and illegal bushmeat.

5. Are there any plans to continue this work?

There are five more districts where Chepang population is high and hunting is still prevalent, so there is a need to extend conservation campaign to these areas. During our survey, we observed most of the young kids involved in the hunting of bats. They spent whole night to earn just a maximum of \$2. If they use that time in productive work, they can earn more money, which could help reduce bat hunting activities. We are planning to give a technical training like poultry farming or bee keeping so that they can earn some money to support their families and their own needs.

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

The outcome of this research has been disseminated through the presentation entitled "Symbiotic Relation Between Chepang, Butter Tree And Fruit Bats Heavily Affected By Fruit Bat Hunting Traditional Of Chepang Community In Chitwan, Nepal" during the international conference on "Mountains in the Changing World" (MoChWo), 1st-2nd October 2016 organised by the Kathmandu Institute of Applied Sciences and Sciences and Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences during student own research presentation in 27 November, 2016.

Final full report will be published and shared with government bodies, conservation organisation, Nepal Chepang Association and other Bats experts who works on the conservation of fruit bats.

Furthermore, two articles related to intensity of hunting of fruit bats by Chepang people and ethnobiology of Chepang in relation to fruit Bats and Chiuri plant under process, which will be published in international peer reviewed journal.

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

This project was approved in November 2015 and we got the funds in first week of December, 2015 and launched the project in December 2015 as well. It was anticipated to be implemented the project within a year thus, project has actually finished within intended time period. During planning, we proposed summer and winter field visit but due to summer holidays and mid-term exam in the school, school awareness was postponed one month later so we have two summer field visit.

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 and accommodation for Researcher, other team members and local | 2160 | 2230 | -70 | Eight days extended for school awareness due to mid-term exam and summer vacation during schedule time period. |
| Travelling (Two ways three times visit for four persons + local transportation) | 375 | 425 | -50 | Due to landslide, we have to hire a jeep to carry us up to Lothar VDC |
| Equipment and field gears (projector hiring, binocular, headlamp, tents, torches, Sleeping bags etc.) | 300 | 250 | +50 | Binocular, headlamp, tents, torches and other equipment we taken from the Small Mammals Conservation and Research. |
| Awareness-raising materials production and distribution (Booklets, t-shirts, posters, brochures and banners) | 625 | 625 | 0 | We produced awareness material more than we expected and Printing of t-shirt was expensive than expected. Brochure cover all the information so we did not published the booklets which balance the |

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| | | | | over budget. |
| Class materials for conservation awareness (Class materials + prize for winners + snack during the hiking) | 375 | 400 | -25 | We planned to provide prize to the first three, but as requested from principle we give prize to 4 th also and prize was bought more than actually intended. |
| Awareness education programme | 675 | 600 | +75 | We completed the awareness in 12 days. |
| Stationary and Communication | 170 | 170 | 0 | Fully spend |
| Report preparation and publication | 200 | 200 | 0 | Fully spend |
| Miscellaneous | 120 | 100 | +20 | We hire camera trap and bought memory card and batteries which was not intended before |
| Total | 5000 | 5000 | | |

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

Chepang is concentrated in five districts, however they are recorded in 26 districts of Nepal. We almost cover the 27% of Chepang population for the conservation awareness. Fruit bats cover long distance for the foraging and still it is possible that these fruit bats might be hunted in other part of VDCs and districts, so we are looking to extend the conservation campaign along with school awareness in other districts where the distribution of *Chiuri* and hunting of fruit bats is maximum. Furthermore we like to monitor the area and look for impact of our conservation awareness on this area.

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?

The Rufford Foundation logo was used in all promotional materials (brochures, t-shirts, posters, and banners). All the published materials were sent as PDF to the foundation by email.

During the conservation awareness and school outreach programme we give the thanks to the Rufford Foundation which solely supported the research.

During the international conference, we use Rufford logo and acknowledged the foundation. Furthermore during the full report publication and scientific article we will acknowledged the foundation.

11. Any other comments?

The Chepang are well known bat hunter in Nepal but no one did any initiation to educate them as they are facing problem due to decrease of production of *Chiuri* fruits. So the RSGF help us initiate the present study. I highly appreciate and grateful for this support. I am also grateful that grant encourage me to work in the conservation of Bats and other fauna in Nepal. I am thankful to all the team members and Chepang Community who are happy to conserve the Bats through their own involvement.