

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	Dago Dorji
Project title	Distribution, habitat use, threats and conservation of the critically endangered Chinese pangolin (<i>Manis pentadactyla</i>) in Samtse District, Bhutan
RSG reference	20287-1
Reporting period	August 2016 to September 2017
Amount of grant	£5000
Your email address	ddorjee@moaf.gov.bt
Date of this report	August 20, 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
To determine the current distribution of the Critically Endangered Chinese pangolin in the project area				
To determine the general habitat types and specific habitat characteristics used by pangolins in the project area				
To assess the conservation threats of <i>Manis pentadactyla</i> in depth including human awareness of and attitudes toward pangolins				
To use the information collected to develop conservation recommendations for the Chinese pangolin in the District				

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

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

A total of 181 burrows were recorded from 48 plots (100 x 100 m). Burrow density for the study area was 0.104 per ha. These were mostly distributed in the habitat dominated by *Schima wallichii*, *Castanopsis hytrix* and *Viburnum* sp. Preferred habitat ranged from 1300 - 1700 m, with highest feeding activities recorded within the periphery of cardamom plantation and adjacent forested area. A higher burrow density was recorded in humid soils, high termite presence, and in the vicinity of human settlements.

We have prepared detailed mapping of the pangolin distribution in the Dorokha sub-District under Samtse District and found that 23.57 km² of the study area was highly suitable and 37.88 km² as suitable habitat for the species. This suitable area was designated as pangolin conservation area by the Forest Division and was under strict monitoring to reduce illegal poaching and hunting of the species. One of the main threats to Chinese pangolin in the study area was habitat destruction due to developing activities like farm road, transmission line and land lease activities followed by hunting for local use and international trade in skin and scales.

We successfully carried awareness on ecological importance of Chinese pangolin to local communities, Community forest members, School student and local leaders through presentation and broadcasting in national radios. Most of the communities understood the ecological importance of the species and developed keen interest in conservation of the species. The community forest members had developed plan

to conduct monthly patrolling to reduce illegal poaching of pangolin and restoration of potential habitat in their CF areas.

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

The total of 124 local people was involved for questionnaire survey and focus group discussion. Well-designed questionnaires with both close ended and open ended questions were used for gathering information on conservation threats of Chinese pangolin.

Local people from Dophuchen, Dumtoed and Denchukha County were involved in the awareness programme. Most of them understood the ecological importance of pangolin and were involved in pangolin conservation activities. Since most of project areas falls under community forest, the community forest members have started patrolling in their community forest area to reduce illegal poaching of pangolin and started participating in the pangolin conservation works as well as protecting the habitats of pangolin.

The involvement of local leaders and village key person from three county in advocacies and public meeting on importance of conservation of critically endangered Chinese pangolin had changed their belief of seeing pangolin as bad omen and now they have no longer believe that seeing of Chinese pangolin is bad luck/bad omen. Local people having good knowledge on pangolin were hired as local guide in different study sites during the data collection time.

5. Are there any plans to continue this work?

Yes, I have plan to continuous with this work in future. Potential Habitat of Chinese pangolin were identified and mapped. Using this information, I am planning to find an actual population status of Chinese pangolin in wild through the use of camera traps. Further, dietary analysis of Chinese pangolin is felt important which is still unknown in Bhutanese context.

The current project had identified the potential habitat of Chinese pangolin in study area and this had helped the local leader to avoid or minimize the developmental activities in these potential areas. Forestry staff under District Forest Office had planned to conduct patrolling in these areas frequently to minimise the illegal hunting of Pangolin. Therefore, similar research need to conduct in others District like Royal Manas National Park under Sarpang District and Jumotshangkha Wildlife Sanctuaries under Samdrup Jongkha District where Chinese pangolin occurs and record of illegal reported. This will finally prepared an occupancy modelling of Chinese pangolin in Bhutan.

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

- The copy of detailed report will be submitted to District Forest Office, Samtse for addressing the problems through development of appropriate

conservation strategies. It will also be shared with relevant government department and with other District Forest Office where pangolin are known to occur.

- Manuscript will be developed from the report to publish in one of the reputed journals.
- I had also incorporated some of our results in awareness education activities and capacity building workshop.
- I am working on detailed report of the project which will be made furnished to The Rufford Foundation.

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 for the period of 1 year as anticipated. The activities of project started after we received the grant in September 2016.

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
Expenditure incurred for procurement of extension kids (field boot and four men tent)	337.26	337.26		
Expenditure incurred for procurement of field equipment (GPS and camera)	909.55	850	+59.55	
Expenditure incurred for training on survey protocol and field data collection (includes working lunch and allowance)	1727.14	1727.14		
Daily Subsistence cost for two researchers	613.18	613.18		
Transportation cost (includes Fuel and pony charges)	214.62	274.62	- 60	Increase in fuel prices made transportation cost more expensive.
Expenditure incurred for awareness training (Includes working lunch, daily allowance)	817.58	817.58		
Expenditure incurred for Poster, banner and brochure preparation	380.76	380.76		

and printing and designing of sign board.				
Total	5000	5000		

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

The most important next step is

- To find out the actual population status of pangolin in wild through use of the baseline data from the current project which are still to be done in Bhutan.
- The baseline data on some ecological parameters and spread conservation awareness in local community in Dophuchen, Dumtoed and Denchukha County under Samtse District was done. It is also important of extending work in other areas of Royal Manas Park under Sarpang District and Jumotshangkha Wildlife Sanctuaries under Samdrup Jongkhar District where, information on baseline ecological data is lacking and Chinese pangolin is being killed. Therefore, there is great need of educating local communities to save Chinese pangolin throughout its distribution range.
- Dietary analysis of Chinese pangolin is felt important which is still unknown in context to Bhutanese ecology which will help in conservation of pangolin.

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?

Yes, I used the logo of Rufford Foundation in all awareness education material like posters, banners and during workshop/presentation. Furthermore, logo will be used in final detailed report of the project. The foundation will be acknowledged if I share any information or findings related to this study.

11. Any other comments?

I would like to thank Rufford Foundation for providing me funding to carry out this research. With your support, Bhutan has got first baseline information on potential habitat of Chinese pangolin in Samtse District and in future, I am planning to prepare habitat/occupancy modelling of Chinese pangolin in whole southern belt of Bhutan. I hope to receive similar support from Rufford Small Grants in the future.