

## The Rufford Foundation

### Final Report

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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](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

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Grant Recipient Details	
<b>Your name</b>	Phuntsho Wangdi
<b>Project title</b>	Occupancy study of tigers through camera traps under Paro Dzongkhag
<b>RSG reference</b>	20108-1
<b>Reporting period</b>	December 2016 – December 2017
<b>Amount of grant</b>	£5000
<b>Your email address</b>	Pwangdi91@gmail.com
<b>Date of this report</b>	December 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 generate habitat occupancy status of the globally threatened Royal Bengal tiger under our district				The objective had been achieved due to good detection of tiger signs and evidence.
To generate the habitat map of flagship animals for future streamlining and focus anti-poaching activities				Sign survey and camera trap survey had generated good data on prey species inhabiting in the study area.
To document the presence of various prey animals in the habitat areas				The record of the presence of various prey animals had been well documented.
Awareness education to field staffs and local community				<p>The supporting field staff were familiarised with different use of camera traps and their importance for wildlife survey. They were also trained in installation of camera traps in field.</p> <p>The awareness programme was conducted to communities on conservation importance of such flagship species in the region. However, there is more need of awareness in schools and community conservation groups need to be formed in the future.</p>

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

The implementation of this project didn't face any major unforeseen difficulties; instead it went very successfully because of cooperation and support from all the stakeholders. However, issue with the camera traps are the main challenge faced during the survey. Camera traps with our office had been purchased during the 2012 National tiger Survey and were quite old. This created many issues like unpredictable battery life, blank shots and photos being not taken within the set time due to sensor problem. However, sign survey in combined with camera trap had really paid off with good amount of information.

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

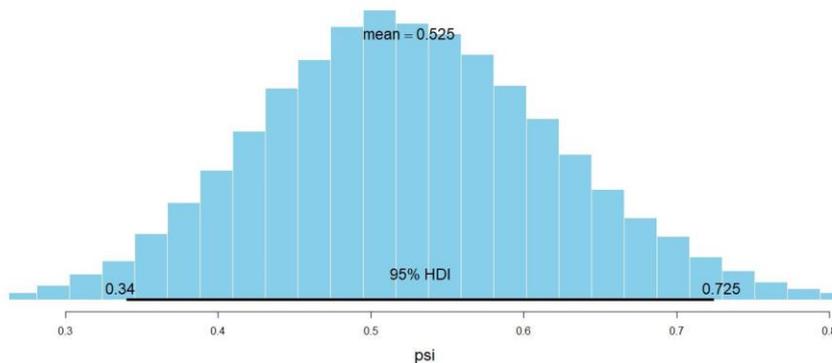
#### 1. Occupancy status of the tiger

R-software with *wijid* r-package was used for the analysis

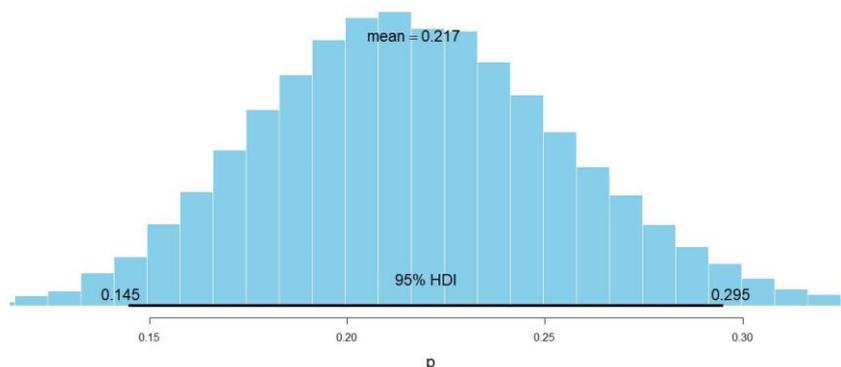
Probability	Estimate	Lower Interval	Class	Upper Interval	Class
psi	0.5149	0.3276		0.6981	
p	0.2158	0.1491		0.3017	

AIC: 208.7881

The estimation was done at 95% confidence interval which estimated *psi* (Probability of occupancy) probability that tiger is there in the study area at 0.5149 (51.49%) and *p* (If tiger is there, the probability of detection ) at 0.2158 (21.58%). The result clearly states that the area inhabits a good number of tigers and there are certain chances of detection. However, low detection possibility during the field visit is limited which is supported by the remoteness and ruggedness of the terrain as well as due to their elusive nature.



Graph 1. Illustrates the probability of Tiger occupancy in the study area  
The graph shows that the probability of Tiger occupancy in the study area ranges from a minimum value of 34% to a maximum value of 72.5% with an estimated mean value of 52.5%.



Graph 2. Illustrates the probability of Tiger detection in the study area  
The graph plotted against *p* (probability of detection) shows that the value of

probability of detection of tigers ranges from minimum value of 14.5% to a maximum value of 29.5% with an estimated mean value of 21.7%.

## 2. Habitat mapping

A detailed habitat mapping of both tiger and its prey had been generated which will serve as a baseline information for future survey and anti-poaching activities.

## 3. Awareness

As local communities share the habitat for use of forest resources there is a continuous conflict between humans and wild animals. Participatory approach for conservation and importance of such endangered animals was initiated to communities. Through this project we have not only linked with the local governments but also with the community groups from each village within the tiger habitat. The communities were introduced about the fines and penalties related to wildlife crime and endowment fund for depredation of livestock.

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

The communities were not aware of the rules and regulations related to wildlife crime before the project. However, through the project the herder communities were made aware through their involvement in the public consultation meeting. They were informed of the wildlife endowment fund of the government from which they can claim compensation of livestock depredation by Tigers and Snow leopards.

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

The current study had helped us to know the occupancy status of tigers in the area and generated a detailed habitat map. The next step is to monitor the tiger individuals and prey species in the area regularly. Streamlined anti-poaching activities will be carried out on regular basis based on the information generated through this study. Efforts on building human-wildlife relation in the area will be continued.

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

Besides, project report PowerPoint presentation was made in several communities and schools to share the findings. I am also planning to prepare a short documentary film on Tiger which will be distributed to schools and institutions. Likewise the posters and brochures are been designed to share information with people who are interested to know and conserve the species at region. Sharing of the result through Rufford website will be hugely beneficial to reach the conservation activities worldwide.

## **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 fund was used from December 2016 to December 2017, for about 12 months.

The project was executed in the projected timeframe.

**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 description	Budgeted Amount	Actual Amount	Difference	Comments
DSA to carryout field evidence survey of tigers and installation of camera traps at probable sites across the study area (Expected to take 25 days by six people in two groups)	£1,600	£1,000	£600	The estimated proposed budget had been reduced to carryout awareness meeting which was found to be very important during the field visits
Continuous monitoring of the camera traps twice every month by three groups of two people each for a period of 7 months	£1,450	£1,300	£150	
Camera trap retrieval (Expected to take 14 days by two groups)	£450	£450	£0	
Hiring of local guides for 25 days, one with each group during the initial field survey	£450	£650	£200	
Hiring of potters and ponies to carry camping equipment and logistic supply for 25 days for each of the two groups during the initial field survey	£1,050	£1,050	£0	
Public awareness campaign	£0	£550		
<b>Total</b>	<b>£5,000</b>	<b>£5,000</b>		

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

After the completion of the current study some of the most important steps that needs to be taken are: 1) Awareness among the public need to be initiated to bring the communities at the centre of conservation; 2) Studies on predators and prey

dynamics need to be initiated; 3) Human-tiger conflict need to be properly assessed and proper compensation needs to be initiated and 4) Since the area inhabits good population of endangered species the area needs special conservation status.

**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 have used RF logo in various media. The presentation, posters and banners with RF logo had been used during public awareness and presentations.

**11. Any other comments?**

I provide my heartfelt gratitude to the Rufford Foundation for providing the critical financial support for such conservation project. The outcomes of project had been very useful to the Divisional Forest office, Paro with good amount of information generated by the study. Tiger as a flagship species under our jurisdiction as well as being a species with special protection status, rigorous monitoring activities to establish zero poaching status for the species is needed. Therefore, it is my solemn request to the RF to continue supporting conservation research projects in Bhutan, which is a stronghold for conservation of many globally, threatened wildlife.

