



The Rufford Foundation Final Report

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

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. 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. 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	Sangay Drukpa
Project title	Status of Black-Necked Crane and Population Dynamic with Availability of Food (Fallen Grains) in Trashiyangtse Wintering Habitat
RSG reference	18465-1
Reporting period	November, 2015 to October, 2016.
Amount of grant	£5000
Your email address	apshapr2009@yahoo.com or drukpa6060@gmail.com
Date of this report	26 th September, 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
To update the baseline data of BNC in Trashiyangtse wintering habitat			√	BNC counting and conservation works started since 1987 in Bhutan but it was basically done for some logistic reasons. To update the information of BNC in Trashiyangtse wintering habitat, regular monitoring and counting of cranes in the roosting site as well as in three all feeding areas was done from November, 2015 to March, 2016. Weekly counting was done from 0600hrs to 0800hrs in the roosting to keep the track of total arrival on daily basis. The first group (five individuals) arrived at Bumdeling on 2 nd November 2015 and arriving of cranes continued till mid-December. The total arrival of BNC in Trashiyangtse during the project period was 109 individual of which 100 were adults and 9 were juvenile. The total population is on gradual rise compared to last few years.
Mapping of BNC habitat and distribution of foraging areas in Trashiyangtse			√	In Bhutan, as per Inskipp, <i>et al.</i> (1999), BNC is found between 1770 and 3050 meter above seas level. So using this information the habitat range mapping for Trashiyangtse was done. Later all the habitats such as roosting site and feeding areas available in Trashiyangtse located on the map. However, there is no breeding habitat in Trashiyangtse as it is just wintering ground. Through regular monitoring and information shared by the local residents, around 14 foraging grounds were identified and of these 70% are

			<p>in Bumdeling block and 30% in Yangtse block. All the areas are surrounded by settlements and roads. So 25% of feeding areas were categorised as abandoned due to disturbances from human movement, plying of vehicle, stray dogs, visitors etc.</p>
<p>To study the availability of foods and changing trends over the time.</p>		<p>√</p>	<p>To achieve this objective, 79 random plots (2.5 m X 2.5 m) were laid out in three selected foraging areas (Two regular feeding areas, Maidung and Yangteng in Bumdeling Bolck and one in Yangtse Block). Availability of different food types was assessed every 15 days to see the changing trends. The first data was collected on October 30th 2015 before arrival of BNC and this data was used as basis for studying the changing trend. Foods such as roots and tubers, fallen grains, insects, earthworms and insects were found in the feeding grounds. Of these, fallen rice grain was the main food source in this habitat. Insects and worms were encountered for few times only because of cold weather in winter. Usually such types of food surface out in warmer season.</p> <p>The entire plots were visited nine times in 4 months and every time the availability of foods was counted in cover percentage. It was found out that the foods started declining from mid-December because by this time all the cranes reach at the sites.</p> <p>The heavy rainstorm in October 2015, destroyed almost all the paddy fields in Yangtse valley and that is why there was maximum grain fall in Yangtse study sties than Bumdeling. Further, the result showed that the fallen grains in Bumdeling were not sufficient</p>

				for cranes to feed on for whole winter season. The foods get exhausted by January 2016 in Bumdeling. Whereas in Yangtse this one time study showed that the fallen grains are more than sufficient because plenty of fallen grains were observed on the ground even after the departure for summer breeding grounds.
To find out what varieties of rice were grown and which variety of rice gives more grains for BNC.			√	In total 14 varieties of rice were grown by the farmers of Bumdeling and Yangtse valley in 2015. In Bumdeling only four varieties were grown such as Ngurmlingbula, Sonala, Dagpadep and Farampa in local dialect. Of these, the maximum average grain fall was from Sonala variety 41.3% (N=346) and the least was from Dagpadep 23.1% (N=192). On the other hand, the farmers in Yangtse valley have grown ten varieties such as Ruluwa, Mobzangmo, Bartsampa, Karmatekpa, Bepudep, Meydep, Alidep, Parokpa, Moleymo and Kalumalo. Of these Bepudep contributed maximum average grains on ground 20.9% (N=2872) and Parokpa variety contributed least average grains 1% (N=132). The later variety was brought to this locality for the first time as trial by one of the farmer.
Farmers preference over varieties of rice			√	Information on farmers' preference and choice for rice varieties were also collected and the findings showed that the farmers prefer Dagpadep in Bumdeling as it gives more quantity. Farmers can sell the surplus and generate household income. Regarding the taste, Sonala variety is tastier than all other varieties. In case of Yangtse valley, the farmers reported that they prefer Kalumalo

				and Mobzangmo for self-consumption and Meydep for sale in the market. Rice is also considered as one of the cash crop of the farmers of these two valleys.
Creating awareness on the conservation of BNC			√	The project findings are presented to the farmers and institutions in Trashiyangtse. For conservationists, the presentation was done at Bumdeling Wildlife Sanctuary HQ and it was attended by more than 40 participants. Public awareness meeting was conducted for the farmers of Bumdeling. During the meeting the project findings were also presented. In the meeting the farmers were asked to share their views and knowledge on the conservation of BNC and its importance in the locality.

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

There was no unseen difficulty as such except difficulty in getting exact count in each feeding areas because BNC keeps on flying from one area to other. To overcome this, I have counted the bird once a week in each selected feeding areas and averaged to get an average number of cranes in each feeding areas in a month. One difficulty was to cover all the monitoring plots in same day. For this I have deployed more surveyors. Luckily it was in winter and I took help from students during their vacation.

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

1. Identified what type foods are available in Trashiyangtse wintering habitat. Through field survey and monitoring the plots randomly laid out in the foraging habitat, it was found that the foods available are rice grain, roots and tubers, insects, earthworms and snails. But main food source was rice grain.
2. Determined what are the rice varieties grown by the farmers in Trashiyangtse habitat and which variety of rice is good for BNC. From the survey it was found that the farmers in two blocks viz, Bumdeling and Yangtse have grown 14 varieties of rice in total and of these four varieties were grown in Bumdeling and ten in Yangtse. In Bumdeling Sonala variety gave more in Yangtse Bepudep variety gave maximum grains to BNC.

3. Conducted awareness meeting for different level of stakeholders. One of the aims was to advocate the farmers, students, local residents and conservationists on the importance on conserving BNC. Before the field work, awareness meeting was conducted and the farmers residing inside the habitat area attended the meeting. They also helped in cleaning the roosting sites. The findings of the project were presented to local people and the forestry officials.

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

The local communities were involved in many ways; firstly, they were involved in cleaning of roosting and habitat area before arrival of BNC in the area. They attended many awareness meetings and workshops conducted through the project and others. This helped them in getting more information on BNC conservation. Secondly, most of the farmers who own the paddy fields in the habitat area were selected for questionnaire interview on the preference of rice variety and threats of BNC. Some of them worked as local guide, porter and they were paid for their services. The charges paid for their services helped in improving the livelihood of the household. Most of the time, survey teams halt in rural house and paid the charges. Few students were appointed for daily counting of cranes in the feeding and they were paid wages. This helped them in buying necessary items like uniforms, stationaries and shoes for the school.

5. Are there any plans to continue this work?

Yes, the project on this particular topic was first of its kind in Bhutan and finding of this present study set the baseline information on the types of foods available in Trashiyangtse and there availability over the time. Since the rice grain is main food of BNC in this habitat, promotion of agriculture programme (i.e. cultivation of rice) and protection of wetland in the area is very important. However, this can be done through awareness programs but the result of this one time study cannot be used as basis. To be taken as basis for decision making and recommendation, at least more than 3 years data is required. So, same data collection should be continued for 3 – 5 years.

So, if there is continued support from any organisation, the field data collection will be continued for 3-5 years.

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

Sharing of what was found from the study itself is one of the methods of creating awareness to the communities and stakeholders. For this project, firstly I have conducted awareness meetings to local people and later my finding were presented to the forestry officials who is looking after the BNC in the area.

Further step I am going to take up to share the information are; by circulating the report to all relevant stakeholders such as NGOs (RSPN, WWF etc.), conservation institutions like, Ugyen Wangchuk Institute for conservation of Environment, Bumdeling Wildlife Sanctuary, Wildlife Conservation Division and local government.

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

The RSG was used for the period from November, 2015 – October, 2016. The fund was released on time and utilised as budgeted.

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
Consultation meeting with local government and Bumdeling Wildlife Sanctuary: 1. Presentation of work objectives and methods in the beginning of the project. 2. Findings presentation to local communities and forestry officials after the project	1500	1500	0	The amount was sufficient for two times consultation and awareness meeting
Training of field assistance for data collection and field surveys	600	650	-50	Met from other savings from differences
Purchase of equipment's such as Binoculars, measuring tapes, cameras etc.	850	850	0	
Vehicle hiring charge for camp shifting and Porter Poney charge	900	850	50	Difference used for printing of report
Wages of local guide and field exercise	300	300	0	Met from savings from other differences
Communication and connections	200	200	0	

Printing and Other consumable stationaries	300	350	-50	Met from savings from other differences
Other Miscellaneous	350	300	50	
Total		5000	0	The amount was sufficient to carry out the field works.

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

In the short term, these are the important next steps:

1. Since the data collected was for one time and it may not be good basis to recommend the farmers to change the agriculture practices. We cannot even recommend them to grow those rice varieties that gave more fallen grains on the ground from the result. So, for recommending I think that if we have at least more than three year's data it would be very good. Therefore, the same study should be continued.
2. From field observation it was found that the main threats to BNC in this wintering habitat are stray dogs and frequent plying of vehicles and people, more awareness meetings should be conducted to the local people. The population of stray dogs in the habitat should be controlled. This can be done by conducting annual dog sterilization campaign/ programme.

10. Did you use the RSGF 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 the logo in all my presentation and reports but I couldn't not print in large size for meetings and workshops due to lack of printing facility in the region. All the helpers and surveyors also verbally acknowledged the RSGF for supporting this project and paying for them for their services.

11. Any other comments?

I would like to take this opportunity to thank the RSG application committee for recognising the value of my project and committing to support me. Without the support from your organization, the project would not have completed and significance of this wetland icon bird would not have brought in front.

Thank you very much for being part of this project and witnessing the scenarios of black-necked crane habitat in Eastern Bhutan (a small landlocked country). I look forward for some kind of support next time and assure you that I will do much better than the present.



Local people sharing the information on importance of conserving BNC