

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	Jambay Dhendrup
Project title	Preliminary Assessment of Water Birds Community along Chamkhar River, Bumthang, Central Bhutan: Sensitization of the community people on Hydropower Impacts
RSG reference	19825-1
Reporting period	
Amount of grant	£ 5000
Your email address	jdhens@yahoo.com
Date of this report	04/07/2017

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
1. The ecological importance of water birds in environment				<p>1. Foresters of Bumthang division were fully involved in the field work as well during awareness to community people and they were very supportive.</p> <p>2. Presentations were carried out to many conservation stakeholders and school students of local vicinity of Chamkhar River.</p> <p>3. The project was presented to students and conservationist in College of Natural Resources, Lobesa under Royal University of Bhutan.</p> <p>4. The project was also presented to Divisional heads of Department of Forest & Park Services (DoFPS), Thimphu to help in framing more practical regulations in issuing environment clearance for commencing any developmental activities along the river.</p>
2. Community structure of water birds				5. The bird count was done with point count method and individual points were randomly designed and accessed each of them individually. The data collected was analysed to calculate abundance based on encounter rate. The flying water birds were excluded from the count to avoid overlapping/double count.
3. The habitat use by water birds				6. The river was identified into four reaches within 10 km described by Bremen (2004) and birds were counted for 15 minutes to see most used river habitats. River riparian were also considered from same point and water birds were counted for analysis.
5. Water birds				7. Conservation education was

conservation awareness to local communities				<p>carried out in local level to raise the awareness and conservation importance on water birds and hydropower impacts.</p> <p>8. The industry owners along the river were called for the awareness and information were shared on the concern and proper management of industrial waste. Thus, water bird habitats managed.</p>
5. Pamphlets and Brochures				<p>9. The colourful picture cost was much more and printed only black and white pamphlets and brochures for educational programmes.</p>

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

The rugged terrain with harsh climatic condition in winter is one of the major limiting factor during the bird survey. Some of the water birds being shy in nature, it was difficult to include in count. Since, the plots are stretched along the river and snow fall in winter made it difficult in running out of food translating to high financial cost.

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

1. Ecological importance and conservation awareness

The conservation education programmes conducted for institutions and locals were to discern the importance and vital roles of water birds, not only in the river but terrestrial ecosystem. Thus, they were motivated to conserve and management of water birds and its habitats which are home to some of the endangered species like Blyth kingfisher. It is also expected that the awareness programmes conducted will furnish the community attitude and encourage the people in management of water birds along the river.

2. Community structure of water birds

This study was first of its kind in Chamkhar River on assessment of water birds community which makes this study vital in providing baseline data for water birds. With the data sampled we are able to estimate population size and diversity which is valuable information for species and habitat management. The area occupied was also defined and the extent of occurrence now reflects a better approximation of the reality. Although data were limited for some species like little forktail, wallcreeper, white collared black bird and white throated dipper, we hope that future data will improve.

3. Habitat use and species monitoring

Water birds conservation seems to be taken for granted in the study area which can be related to poor awareness and study on water birds and its habitat use. Thus, these studies have provided to know and document different types of habitat use

by water birds along the river and avenue of conservation strategy and monitoring programmes for water birds along the Chamkhar River. Furthermore, the study will provide baseline data for water birds enthusiasts in future, gaining conservation attention not only in Chamkhar River but in entire Himalayan river range.

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

During the development of study many stakeholders were involved, specially the Bumthang Forest Division personnel. The clearance for the study is sought from Chief Forest Officer, Bumthang and he generously provided 10 foresters to be accompanied during the field survey. The foresters were very much relevant and helpful throughout the survey with depth knowledge of field situation and technical parts. The main inhabitants of disturbed area were the agriculturist and few industrialist owners. They were interviewed during the reconnaissance survey to understand their encounters of the water birds now and before. They were also educated on importance of conserving water birds and hydrological impact on its habitats. Local residents were very much concerned on such impacts on water birds and helpful in sharing information. Several institutional heads and school kids were closely involved during the educational programmes and they participate with enthusiasm of all activities for the management of wildlife as whole and water birds in particular.

5. Are there any plans to continue this work?

Yes. In future I am hoping to intensify the study with advance technologies to improve conservation efforts in the area. Similar study will be also carried out in other places to create awareness on conservation of water birds and hydrological impacts where the plans are in pipeline. This information will help in policy and planning for issuing clearance in construction of hydropower dams.

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

- Presentations were carried out to College of Natural Resources students under Royal University of Bhutan.
- Presentations were carried out to school students of Bumthang.
- The project was presented to students and conservationist in Ugyen Wangchuck Institute for Conservation of Environment and Research the only principle research institute in Bhutan.
- The project was also presented to the industry owners and community people of Bumthang who are residing within the vicinity of Chhamkhar River.
- The project was also presented to Nature Conservation Division and Wildlife Conservation Division of Bhutan to help in planning for developmental activities and issuing clearance.
- The research results will be published in scientific international journals.

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

12 months after the release of fund from RSG. Interpretation of anticipated and actual time scale given below:

Activities	Proposed plan	Actual timescale
Literature review and proposal submission	Jan-Mar 2016	
Training of research assistant and reconnaissance survey:	Jun-Jul 2016	
Sensitization and awareness meeting	Jul-Aug 2016	Aug-Sept 2016
Bird survey(3 weeks in each visit):	Sept 2016-Mar 2017	Oct 2016-Mar 2017
Data analysis and final report preparation	April-May 2017	
Educational programmes (2 weeks):	Jun-Jul 2017	
Final report submission:	Jul 2017	

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
Training of research assistants on survey protocols	160	160	0	
Field reconnaissance survey	160	240	80	With the stretched and rugged study area the number of days has increased by one for reconnaissance survey.
Sensitization and awareness meeting on conservation of water birds and their habitats.	1380	1403	23	Five more conservationists were included for the awareness and conservation meeting
Holding seminar with stakeholders	535	535	0	
Field survey and data collection	1440	1800	360	The rugged terrain and snow in winter made it difficult for research assistants to participate without increase in wage.
Vehicle hiring charge	320	320	0	
Pamphlets and brochures for	500	87	-413	The colourful picture cost was much more and printed only black

educational programs				and white pamphlets and brochures for awareness. Thus, the budget became necessary to be reallocated to wages.
Media awareness	100	100	0	
Binocular (1 no.)	160	160	0	
Camera (1no.)	250	200	-50	The remaining budget was adjusted for awareness meeting
Total	5005	5005	0	
<i>All are in £ sterling and used exchange rate for local currency (Bhutanese Ngultrum) to £ sterling 1 £ = 91.60 Nu. (in 17/06/2016 when received)</i>				

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

The important next step I feel are:

1. Continue the monitoring protocols is essential to evaluate community structure of water birds and their habitats.
2. Proper management of hydropower dams to minimise the impacts on water birds and their habitats.
3. Gather more data using advance technologies and different parameters for precise study.
4. Replicate similar study in other region to provide baseline data for other research enthusiasts.
5. Continue conservation education to bring people close to nature and understand the importance of such project.

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?

RF logo was used in every power point presentation delivered during awareness and educational programmes in colleges, schools, communities and institutions. The logo was used on the print copy of my thesis and other digital articles of the research. RF is acknowledged at length either in print or in digital presentations.

11. Any other comments?

Water birds are noticeable group of birds that have not received due attention for conservation in Bhutan, beside of continuous efforts put by many conservationists. Therefore, I will passionately study and work for conservation and hydropower impacts on water birds in wider range. And I will look forward of such support from RF in future endeavour as well.