



## The Rufford Foundation

### Final Report

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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](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

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Grant Recipient Details	
<b>Your name</b>	Binaya Joshi
<b>Project title</b>	Sarus Crane, Farm Land and Climate Change: Research and Conservation of Threatened Birds and Wetland Ecosystems in Nepal.
<b>RSG reference</b>	18063-1
<b>Reporting period</b>	December 2015 to December 2016
<b>Amount of grant</b>	£ 4990
<b>Your email address</b>	<a href="mailto:Joshibinaya84@gmail.com">Joshibinaya84@gmail.com</a>
<b>Date of this report</b>	17 December, 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
Collaboration and coordination with relevant agencies to explore primary and secondary sources of data and information.				The research team was granted research permission from the high level authority of the government agencies. Following this the team established strong coordination as well collaborative mechanism with district forest offices of Rupandehi and Kapilvastu district. Similarly, the team also coordinated with national as well as district level conservation organisations such as IUCN, Lumbini Development Trust etc.
Climate change impacts on sarus crane				Temperature and precipitation data of two stations of both districts was collected from Department of Hydrology and Meteorology (DHM). Kendall t statistic was used to derive slope of the climatic trends. Similarly, structured questionnaire was used in order to assess the availability and distribution of sarus crane; and attitudes and perceptions of the local people towards climate change, protected areas and conservation and management efforts of vulnerable sarus crane. Altogether 105 people were interviewed to assess the perception towards sarus crane and climate change.
Population status and impacts of human and agricultural practice on habitat quality of sarus crane				The research team visited the field to collect the information of sarus crane population by direct count in the flock and habitat observation. The counting of sarus was done using binocular and the sarus population were captured in digital photographs in both districts. The geographic coordinates

				<p>of the sarus observed was determined using Global Positioning System (GPS) unit.</p> <p>The team conducted transect survey in the wetland and surround rice fields and monitored for three consecutive days in every month during March to September. A 'road and strip transect' method was used to survey the sarus population. The information regarding feeding habit, preference of site for feeding, foraging, nesting was also collected by using structured questionnaire. Altogether 80 households from the area were identified and interviewed where sarus feeds regularly in their locality.</p> <p>For assessment of habitat suitability and the habitat quality of sarus crane, the wetland and paddy field were selected by research team. The water quality parameter were analysed in four different wetlands and paddy fields in the both districts.</p>
<p>Conservation education programme</p>				<p>The team consulted with the district level government agencies, NGOs, local stakeholders, community organizations, school teachers, and other concerned stakeholders. As per the suggestion and recommendation of the related stakeholders, the team further visited four schools in south belt of the Kapilvastu district and five schools in Jagadispur and surrounding area.</p> <p>The sites were selected based on the suggestion of the district conservation unit and local stakeholders. The south belt of the Taulihawa where most of the poor and marginalised communities reside and most of the students from the low income group study in the local schools.</p>

				<p>A 1-day orientation and discussion programme with school teachers of the two sites of the Kapilvastu district was conducted. The research team briefed and presented the importance of the wetlands, farmlands and existence of sarus crane in the area. They were further informed the importance of the wetland and its role in maintaining the biodiversity.</p> <p>The team consulted with the school teachers to organise the awareness event in the district. They suggested the efficient means of educating the students through the art work about the conservation of sarus crane and its habitat. As per the suggestion of the teachers, the team decided to conduct art competition in the two sites ensuring the participation of students from the primary to secondary level.</p> <p>The research team further discussed with the local eco club and district forest officers about the location of hoarding board. In collaboration and coordination with DFO, the hoarding boards were placed in the Tulsidhawa and proximity of Jagadispur wetland. These sites were identified critical from the perspective of the existence of sarus crane. The team also speeded out the conservation messages through flex print and hoarding board and educating the students in the schools.</p>
Dissemination				

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

The project field activities started in March and completed by September 2016. The only difficulty the team faced during the field activities was extreme weather events because of monsoon. The events include heavy rain, floods and extreme temperatures of about 44°C.

However, in some areas where local people used to collect fish and other wetland products and hunt sarus for meat and steal their eggs were not supportive to the team initially. In the later days, the team became successful to convince and motivate them.

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

- Assessment and analysis of effect of climate change on natural biodiversity and sarus crane and peoples' perception towards wildlife and climate change on sarus crane helped to determine the level of knowledge and understanding of the people. It further helped to develop scenario of climatic parameters on wildlife and develop appropriate adaptation and mitigation option for sarus crane and wetland ecosystem.
- Population count of sarus crane and monitoring and assessment fulfilled the research gaps of previous studies and the data can be used as baseline for the future studies and research on sarus crane and wetland ecosystem.
- Conservation awareness education programme launched in the districts has benefited 24 teachers, 250 students, and 150 community people directly and people residing in the area benefited indirectly through hoarding boards located in the wetland proximity (In public area).

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

The project activities were started from March and ended in September 2016. During this period, extreme weather events occurred in the area. Despite of these difficulties, the communities showed their willingness to cooperate and collaborate and participated actively in the project activities. During the household survey, the local people were informed about the conservation importance of the sarus crane with which they were enthusiastic to get involve in future activities for the conservation of the species. During the course of the research, local people who

participated in project activities, gained knowledge and understanding about the sarus crane conservation and shared their views and ideas with other colleagues. The local communities equally get knowledge on major threats to sarus crane. They also realised that some of the current activities and agricultural practices they are performing are not sarus crane friendly. This awareness and realisation will certainly contribute to change their activities and improve the agricultural practices in the future.

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

This is the first RSG award for us for the research activity in the area. There are several policies and activities put in place to conserve the wetland and wetland species in the area. However, due to the strict policy implementation and continuation of the activities performed to monitor the wetland species and habitat as whole is not enough and effective so far. During the course of work, the potential habitat of sarus crane was explored which is also important from the perspective of conservation of wetland ecosystem in the area. Hence, the team is further planning to engage more local people in conservation activities, launch conservation activities in mass scale, motivate them to take ownership of the programme and activities, and manage and restore of the degraded wetland ecosystems in the area.

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

Since the very beginning of the project activities, the national level conservation organisations and local institutions showed their concerns and interest about the project. Local level media and partners are curious about the activities and showed their interest to engage in some part of the project. Some of the findings have been shared with local government and non-government organisations and local communities. The relevant and most remarkable results and outcomes of the project will be shared and disseminated to larger mass through electronic and printed media very shortly. The outcomes and results of the project will also be shared to the concerned research institutions, academia and students through national level seminar and if possible via participating in the international conferences as well. The final report will also be shared to all conservationists, policy makers and relevant development partners.

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

Although the Rufford Foundation grant was released on time, the activities started from March only due to the arrangement of time and logistics to depart to the research county which took nearly 3 months. The project activities were initiated on time. However, due to the unpredicted weather events and political situation of the country and project areas, some activities were delayed and could not be performed on time and few of them were missed as well. All the activities were on the time as per schedule but the activity on nest counting of the sarus crane could not be carried out due to the flood and erratic and uneven rainfall pattern of the monsoon period in the region and movement pattern by using radio telemetry could not be done due to the insufficient unavailability of fund from other sources. Hence, the monitoring of nesting has been postponed for next time and other activities were performed with anticipated 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	Budget Amount	Actual Amount	Difference	Comments
Preparation of questionnaire	70	88	-18	The expense little bit increased due to preparation and testing of different questionnaire on different timeframe
Transportation, Subsistence cost for Researcher and Cost of Local Guide	2800	2511	289	The transportation cost reduced due to the use of vehicles/bikes of local institutions and persons.
Equipment and field gears	310	592	-282	The expenses increased due to additional apparatus required for water quality testing and laboratory analysis.

Exploratory meetings with the related stakeholders in the district headquarter	130	244	-114	The cost of the meeting increased due to the frequent coordination and consultation meeting with the district level agencies throughout the project
Conservation education programme at school and VDCs of the lake area	1000	990	10	The cost slightly reduced as the field sites were identified in two areas only.
Awareness and promotional materials	250	230	20	Minor reduction in cost is due to the placement of materials in the two sites and production cost also reduced.
Report writing	210	150	60	The cost is slightly reduced due to the collective compilation of the research outputs
Report preparation and publication	150	115	35	Due to collective action in a team
Miscellaneous	70	70	0	
<b>Total</b>	<b>4990</b>	<b>4990</b>	<b>0</b>	

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

There is now growing concerns of the organisations and conservationists to conserve the threatened and vulnerable species and ecosystems in recent years in Nepal. The people seem aware on the activities conducted by the institutions and researchers involved in the conservation activities in the area. From this, the local people have also initiated steps in the conservation activities. This is considered to be a good sign for the researchers, policy makers, and academician and conservation practitioners. There is a need of programme/project that can fill the current policy and implementation gaps of the conservation sector and provide long term positive impacts from the conservation of the species and ecosystems. However, the initiated activities for conservation in the area are not adequate enough as larger population in the area are illiterate and are still unaware about the significance of the conservation of wildlife. Therefore, I believe that there is an urgent need of further expansion of such activities in other areas for ensuring the existence of sarus crane and maintenance and restoration of wetland ecosystem.



**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, we used the logo of The Rufford Small Grant Foundation in communication and visibility materials. We used it on hoarding board, which was placed in the wetland site near the village and in the flex as well. We also informed all the stakeholders including government agencies, teachers, students and concerned people that the grant support for the project is from RSG. Obviously, The Rufford Small Grant Foundation received publicity from these activities.

**11. Any other comments?**

The RSG programme is instrumental for encouraging young researchers to get involved in research works related to conservation activities of threatened and vulnerable wildlife species. This has contributed in conservation and management of such species through policies and programme implementation.