

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	Nima Gyeltshen
Project title	Distribution ecology and conservation status of threatened <i>Paphiopedilum fairrieanum</i> in Ngala, Zhemgang District, Southern Bhutan.
RSG reference	16460-1
Reporting period	March 2016-March 2017
Amount of grant	£5000
Your email address	nimss409@gmail.com
Date of this report	March, 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 population structure of <i>Paphiopedilum fairieanum</i> .				A year of study in a particular site, 20 individuals were recorded in three study plots (Plots 3, 4 and 5) out of 10 plots. Only six out of 20 were mature individuals in full bloom.
To assess the population size, threats and conservation status of <i>Paphiopedilum fairieanum</i>				<p>In the study area, three critical population sites with less than 50 individuals were recorded (In P-3,6nos. P4, 9nos. and P5, 5 nos.), and one new population site were also recorded in that locality.</p> <p>The main threats in the study areas were collection of non-timber forest products (NTFPs), timber collection, human disturbances (footpaths, shifting cultivation) and construction of farm and feeder roads.</p> <p>Despite being a critically endangered orchid species, no importance was given to conserving this plant in the proposed project area. The local community and forest officials were informed on the importance of conserving this critically endangered orchid species in the area with the fund support from RSG.</p>
To evaluate people's perception on <i>Paphiopedilum</i>				Through interviews and awareness among the local communities, most of them are

fairrieanum				not aware of this orchid species and only few local people have seen this species. With the Fund support from RSG, the local community and other institutions were alerted to the importance and presence of the threatened orchid species.
To assess the habitats and distribution/extent of occurrences of <i>Paphiopedilum fairrieanum</i>				<i>Paphiopedilum fairrieanum</i> seems to prefer to grow on open limestone area ranging pH from 7.1 to 7.8 and on slopes facing in a SW to NW direction.
To raise Conservation awareness among local communities and Institutional				The community education regarding the importance and conserving of the species has been conducted using different methods. The local people residing near the project area, school children and local forest official were interviewed and selected for awareness programme.

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

Since my project area is in southern part of county, surveying in the monsoon season due to road blockage like landslide, heavy continues rain and wind thrown trees was difficult for fieldwork and was compensated for in the following season.

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

- 1.The population status, habitat type preferred, threats of *Paphiopedilum fairrieanum* in the proposed project area are known. Therefore, this study has helped in generating enough scientific baseline information on this species.
- 2.Through the fund support from RSG, local communities, institution and forest officials were able to known the importance of this species and the immediate need of the conservation of this species.
- 3.The finding of the *Paphiopedilum fairrieanum* and *Paphiopedilum venusutm* growing in same locality in one of the plot and finding of the additional locality

of the *Paphiopedilum fairrieanum* in the study areas, *Paphiopedilum* growing healthily in the limestone ecological niche.

Plots	Altitude (m)	Aspects (°)	Inclination (°)	Plot size (m ²)	Total RA/na (m ² /ha)	Diversity (H')	SR	Soil pH
P1	602	SE 5	15	100	32032.358	0.373	11	5.4
P2	1180	NW 20	25	100	113917.383	1.910	24	7.5
P3	1052	NW 25	65	100	63317.715	2.337	42	7.8
P4	1038	NW 30	70	100	63128.077	2.199	27	7.1
P5	987	NW 40	75	100	54030.213	1.568	29	7.8
P6	801	SW 15	95	100	63929.375	1.691	26	7.5
P7	865	NW20	115	100	84407.498	2.223	35	7.9
P8	707	SW20	20	100	144294.865	1.747	22	7.6
P9	1238	NW 30	45	100	86696.778	1.477	26	6.6
P10	1140	SE30	55	100	76255.317	1.720	30	6.2

Figure 1: Summary Plots showing important parameters (The highlighted plot shows the *Paphiopedilum fairrieanum* favourable habitats); SR: species richness.

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

The local people were involved while collecting the additional data on *Paphiopedilum fairrieanum* and the local guide were hired during the field survey. People were provided daily allowances and providing porter pony services during field trips and those engaged in survey were paid daily allowances and service charges.

5. Are there any plans to continue this work?

Yes, I have a plan to continue the study in rest of the places in Bhutan, as there are many places in Bhutan where *Paphiopedilum fairrieanum* might exist and yet it is not explored and likewise other *Paphiopedilum*. Therefore, I look forward for another grant from RSG in future that we can make a small contribution to the conservation of nature in a national level as a whole to the world in holistic way.

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

A scientific paper will be submitting to the Journal of Threatened Taxa. The information gathered and data collected during this project will be available to all relevant authorities nationally and internationally.

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

My project duration was 12 months, from March 2016 to March 2017. The fund was used for about 12 months.

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
Community Awareness (To raise Conservation awareness among local communities and Institutional)	900	1000	-100	Before the budget was proposed to procure the digital camera but later the proposed budget was allocated for awareness programme.
Procurement of GPS Trimble Juno	500	500	00	
Extension Kit (Trekking boots, Tents, and Rain Gear)	600	500	+100	One more team member joined
Stationary and Publication (Information brochures, Pamphlets and Journal paper)	200	300	-100	Instead of brochures and pamphlet publication the poster/ photo of <i>Paphiopedilum fairieanum</i> were printed.
Daily allowances for field assistants, local guide and meals during filed works	1300	1200	+100	Took more days in the field undertaking both social and vegetation survey. Spotting the plant was tough during the vegetation survey which took spending more number of days and also Increase in one team member.
Vehicle hiring for the entire trip or project	1500	1500	00	
TOTAL	5000	5000	00	

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

The next important steps are:

- Continuing the study, survey and search of new locality or population of the *Paphiopedilum fairrieanum*.
- The protection of the *Paphiopedilum fairrieanum* habitats and relocation of the plants through ex-situ conservation by rescuing and documenting of the affected sites like road widening, landslide prone site and developmental activates areas.
- Sensitisation activities through publication of scientific paper, by declaring the Critical Terrestrial Orchid Sites, developing monitoring guidelines and workshop could be another important program to be prioritised.

10. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did The Rufford Foundation receive any publicity during the course of your work?

Yes, Rufford Foundation logo was used in every presentation and awareness campaign. During course of education programmes RSGF was acknowledge and mention.

11. Please provide a full list of all the members of your team and briefly what was their role in the project.

12. Any other comments?

Overall, the project was successful and fruitful. Further fund support will be explored to continue the study of *Paphiopedilum fairrieanum* in Bhutan and also with RSG in future to continue the study.



Figure 2: (1) *P. fairrieanum* in bloom during study. (2) Vegetation Survey (3) Awareness with the local communities in project sites. (4) *P. fairrieanum* rescued from affect sites in project area and ex-situ in Royal Botanical Garden, National Biodiversity Centre.