

The Rufford Small Grants 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	Raman Kumar
Project title	Enhancing public awareness to foster conservation of keystone species in human-dominated landscapes: hornbills in Western Himalayas.
RSG reference	15954-1
Reporting period	2015-16
Amount of grant	£4980
Your email address	cyornis@gmail.com
Date of this report	15 July 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
Design and development of interpretive material on hornbills and their relationship with fig trees			*	<p>What was achieved:</p> <p>1. A book for children, titled <i>The Secret Garden</i>, was designed and produced. This book communicates the story of a fig tree and its intricate ecological relationship with hornbills and fig-wasps. This book is being received very well and is being distributed across India through Nature Science Initiative.</p> <p>2. A Hindi translation of <i>The Secret Garden</i> is being planned. A Hindi version is expected to significantly increase the readership and reach. We hope to produce it during a follow-up project to the current one.</p> <p>3. Presentations for schoolchildren and laypeople have also been compiled in English and Hindi to assist communicators during interactive sessions focussed on hornbills and their ecology.</p>
Public events and lectures about hornbills and figs		*		<p>What was achieved:</p> <p>1. Structured interactive sessions focussed on hornbills and figs were carried out in 15 schools in both rural and urban areas. Sessions included a mix of lectures, audiovisual presentations, field outings and small projects. More than 1100 schoolchildren were involved in these sessions.</p> <p>2. Public walks were conducted in urban areas during which laypeople were told about and shown hornbills and fig trees, highlighting the ecological relationships. Between October 2015 and May 2016, eight such walks were organised as part of Doon Nature Walks – a voluntary programme aimed at increasing nature</p>

			<p>awareness in the city of Dehradun.</p> <p>3. A full-day event was organised for rural children in Jhilmil Conservation Reserve on 15 February 2016. It included a series of presentations and talks by our team and invited environmentalists, followed by a nature walk in the reserve. About 150 schoolchildren participated.</p> <p>4. A public Fig Walk was organised in Dehradun city on 5 June 2016 on the occasion of World Environment Day. The aim was to encourage people to appreciate the ecological and cultural importance of fig trees and how they support biodiversity including hornbills. About 80 people participated. The Fig Walk concluded with the formal release of the book – <i>The Secret Garden</i>.</p> <p>Could not be fully achieved:</p> <p>1. The proposed involvement of certain segments of our target audience (e.g. university students, village councils, local government representatives, and forest department) could not be achieved to the levels that we had anticipated.</p>
Hornbill-watching sessions		*	<p>What was achieved:</p> <p>1. Hornbill watching sessions were tried out with schoolchildren but with limited success. The children preferred more general interactions to sessions entirely focussed on hornbills.</p> <p>Could not be fully achieved:</p> <p>1. Hornbill watching could not be systematically attempted with adults, again because they had a preference for broad-based activities like nature walks.</p>
Media events and networking		*	<p>What was achieved:</p> <p>1. The public Fig Walk in Dehradun city and the launch of the book <i>The Secret Garden</i> on 5 June 2016–World Environment Day– was widely covered by the local newspaper media.</p> <p>2. Public events organised as part of the project were popularised by social media platforms of various interest groups. These included Conservation Uttarakhand, Doon</p>

			<p>Nature Walks, Birds of Uttarakhand, Been There Done That. The public sessions were done in partnership with citizen groups like Doon Nature Walks and Been There Doon That, with support from the state government through Uttarakhand Forest Department.</p> <p>Could not be fully achieved:</p> <p>1. Putting online versions of the material and presentations developed during the project, although available in piecemeal form, requires to be done more systematically.</p>
<p>Research on hornbill breeding behaviour</p>		<p>*</p>	<p>What was achieved:</p> <p>1. Data were collected on hornbill food (fruit) availability across seasons. Fruit-bearing tree species used by hornbills for food were systematically mapped in Laldhang (rural) and Dehradun (urban) areas. A subset of these trees was selected to collect detailed behavioural observations (cumulative effort of more than 230 hours) on visitation and use by hornbills and other frugivores.</p> <p>2. Hornbill breeding and nesting observations were gathered during spring and summer season of 2016. Hornbill nests were identified in urban and rural areas, nest characteristics were enumerated, and behavioural observations on nesting were taken.</p> <p>3. We are in the process of analysing the data and are working on a scientific paper from the data gathered during the project.</p>

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

(a) There was an unexpected delay in getting government clearance to receive foreign funding due to which we had to request a partner organisation to receive funds on our behalf. The start of the project was delayed because of this. Some of the original team members listed in the proposal could not be available to join, so replacements had to be found.

(b) There was a great deal of variability in the attitude of school administrators towards participation of their schools in the project. As a consequence, convincing school administrators to join the project required much more time and effort than we had anticipated.

(c) The initial interactive sessions with schoolchildren had to be made more general in order to sustain their interest level. This left lesser time to focus on hornbill-related activities. We therefore had to undertake extra sessions per school.

(d) We had also proposed to engage with other segments of the public such as university students, village councils, local government representatives, and forest department officials. However, a high level of engagement could not be achieved with these groups as each of these required a different approach from the other. Hence, we had to deal with them in a collective, more general way, which meant broadening the context, which diluted the intended focus on hornbills somewhat.

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

(a) *Production of the book for children – The Secret Garden.* There are very few books in India that communicate ecological concepts and conservation importance of keystone groups to children of an impressionable age. *The Secret Garden* is a pioneering initiative in this respect. Not only does it effectively (and interestingly) communicate a complex but fascinating aspect of ecological relationships to children, it does so by providing a familiar context that most Indian children can relate to in real life.

(b) *Scientific data on hornbill ecology in human-dominated areas.* Systematic assessment of habitat and food resources coupled with observations on hornbill nesting in urban and rural areas was carried out. After proper analysis we will publish the results as a scientific paper, which will contribute towards a better understanding of the conservation requirements for hornbills that serve as a flagship for biodiversity at large.

(c) *Networking with citizen groups for conservation awareness.* Because of this project we got an opportunity to establish links with local common interest groups like Been There Doon That and Doon Nature Walks. The interaction has progressed to a more durable partnership with our scientific background complementing their skills at engaging with public. We have started working with these groups to plan conservation outreach activities better and make them more appealing for laypeople.

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

Half of the outreach effort for the project was spent in rural areas where a majority of people belong to the pastoralist Gujjar community, traditionally dependent on forest

resources. Apart from generating awareness about the environment and the importance of conservation, the local communities got some economic benefits as well. One of our core team member, belonging to the Gujjar community, got employment in the project and conducted the awareness education sessions in schools. During the course of the project he emerged as an opinion leader in the community, which we believe is a small but important step contributing to the social upliftment of this otherwise backward community. Also, one of the two main public events conducted during the project was based in this rural area, which contributed to the local economy as we used the locally available services for transport, food, and other logistics.

5. Are there any plans to continue this work?

We certainly plan to sustain the momentum of the awareness programme established during the present project. In future we expect to produce a Hindi translation of *The Secret Garden*, and an activity book for children as a companion to *The Secret Garden*. We plan to continue working with schools and develop a structured yearlong programme of activities focussed nature conservation and help set up Nature Clubs. In the near future we expect to also engage with university students, local government, citizen groups, conservation organisations, and continue engaging with citizen groups to organise public events.

We will continue to generate scientific data on hornbill habitat and nesting, and attempt a citizen science approach to gather data on a larger scale and temporal intensity.

In addition, we hope to expand the geographical scope of work and bring other areas both on the outreach front as well as the scientific one.

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

(a) The outreach material developed during the project – particularly *The Secret Garden* – is being distributed through Nature Science Initiative. It is receiving a very good response. In future, we hope to make the book available to a wider audience by using the formal publishing/distribution channel.

(b) The scientific insights from the data collected during the project will be disseminated through research papers. We also plan to communicate the results in a more 'popular' form (a report, articles in periodicals, social media on internet etc.) and share these with the general public as well as with government officials.

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

The grant was used over a period of 12 months, which is the same as the anticipated time. However, the initiation of the project had to be postponed because of bureaucratic delays.

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
Programme Coordinator	2160	1950	+210	The Programme Coordinator was paid GBP 200 per month for 8 months. The remaining 4 months the coordinator worked part time.
Field Assistant	720	920	-200	One Field Assistant was engaged for 4 months @ GBP 70, and for 8 months @ GBP 80.
Transport and fuel	300	404	-104	In addition to expected fuel expenditure, this also includes transportation of resource persons during public events.
LCD Projector + Case	300	322	-22	The additional cost is because we had to purchase a secure case for the projector (as it needed to be transported frequently for awareness sessions).
Interpretation Material: Design & Artwork	500	750	-250	To produce <i>The Secret Garden</i> book we engaged a designer (GBP 300) and two illustrators (GBP 200 + 250).
Interpretation Material: Printing costs	500	262	+238	The anticipated printing cost for 200 copies of <i>The Secret Garden</i> was reduced by negotiating with the printers.
Public events and media events	500	20	+480	All public events were carried out in collaboration with Nature Science Initiative. Hence, most of the cost was voluntarily borne by NSI.

Field accommodation and establishment expenses	0	251	-251	For carrying out work in the rural area the Programme Coordinator and Field Assistant had to stay on site for logistical ease. Boarding and lodging had to be arranged for this.
Insurance for Field Staff	0	39	-39	This expense was not budgeted but was incurred.
Stationery, photocopy and printing	0	63	-63	Schoolchildren participating in awareness programmes in schools were given notebooks and stationery.
TOTAL	4980	4980	-1	The difference between total budgeted and actual expenditure is due to rounding off during conversion from INR to GBP.

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

(a) Developing a Hindi translation of *The Secret Garden*, to make the awareness material reach a much wider audience and also producing an activity book for children to serve as a companion to *The Secret Garden*.

(b) Continuing our engagement with schoolchildren by developing a more structured yearlong programme of activities focussed on hornbills in particular and nature conservation in general, and help set up Nature Clubs in schools.

(c) Bringing other sections of the public (e.g. university students, local government, citizen groups, conservation organisation) into the ambit of the awareness programme by customising the existing approaches to cater to the interests of various groups, while at the same time continuing active coordination with interest groups like Been There Doon That and Doon Nature Walks to organise public events.

(d) Generating scientific data on hornbill habitat and nesting, and trying out citizen science approaches to gather this data, to help plan conservation of hornbills in human-dominated areas.

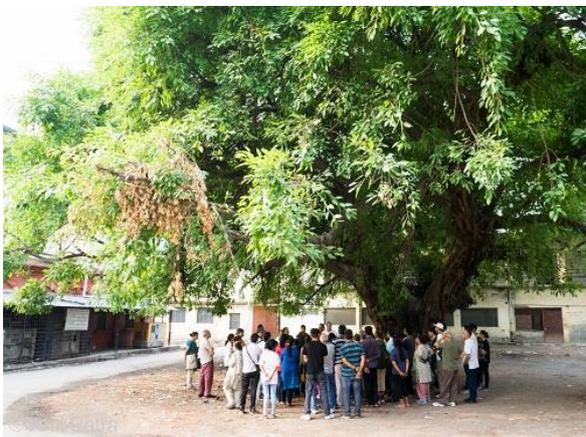
(e) Expanding the geographical area of work to cover other localities and regions.

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?

The children's book produced in the project – *The Secret Garden* – has the Rufford logo prominently printed on the back cover. In all the presentations we used the Rufford logo as a supporting institution. All scientific publications that we bring out in the future will also acknowledge the Rufford Foundation's contribution.

11. Any other comments?

The RSG project was an immensely useful learning experience for the entire team. We all were encouraged to think and work creatively to work towards the project objectives, even as we found some of them to be more challenging than we had expected. The experience has given us confidence to take forward the programmes conceived during the project in future projects targeted at spreading awareness and carrying out credible research for conservation.





WORLD ENVIRONMENT DAY

Heritage enthusiasts celebrate peepal trees' contribution to environment

HT Correspondent
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DEHRADUN: Heritage enthusiasts observed the World Environment Day in the state capital on Sunday with a special 'Peepal Tree Walk' to celebrate the environmental contribution of the grand trees, which often get overlooked beyond their religious value.

About 80 walkers gathered at the back gate of Mahadevi Kanya Pathshala (MKP) PG College and maneuvered a short walk through the Doon Kutchery, holding over 30 fig tree varieties like peepal, pilkhan and banyan among others.

Held under the aegis of local heritage group 'Bein There Doon That', the walk was led by Dr Soumya Prasad, assistant professor of life sciences at Jawaharlal Nehru University, New Delhi.

Experts said fig trees, including peepal, play a critical role in maintaining the ecosystem balance, but yet are largely "taken for granted" due to lack of awareness among locals.

"Different fig trees bear fruits at different time of the year, thus ensuring the supply of food (fruits) for a large number of birds, animals, insects and sits round the year. They are all around us but are fast depleting because we take them for granted," said Lokesh Ohri, heritage expert and founder of 'Bein There Doon That'.

"They are our real environment wealth. They are to foliage what tigers are to our wildlife," he added.

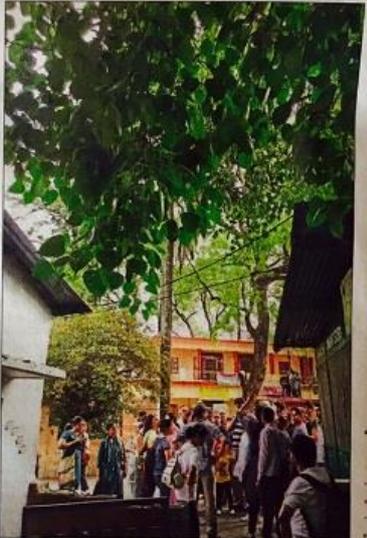
The walk was also marked by the release of book 'The Secret Garden' by Shruti Rao that takes a look at the scientific facts about peepal trees in an interesting way for children to understand.

The World Environment Day (June 5) was also celebrated by a large number of organisations and institutions in the city.

Governor Krishan Kant Paul along with wife Omits Paul planted saplings on the Raj Bhawan campus and exhorted the people to remember that only a healthy environment can ensure a safe future for them.

A tree plantation program was held jointly by the Uttarakhand Space Application Centre (USAC) and the Uttarakhand Science Education and Research Centre (USERC) bodies on the premises of the Doon University.

Asuras Trust, which works for educating street and slum children, celebrated the day by conducting a drawing and painting competition for almost 350 children across four of its learning centres. During the contest, children were taught about the importance of preserving the environment.



■ Fig trees, including peepal, play a critical role in maintaining the ecosystem balance but are largely 'taken for granted' due to lack of awareness among people, experts say.

HT PHOTO

1. Awareness session with rural schoolchildren. 2. Field session field with rural



schoolchildren. 3. Walk for public on world environment day. 4. Project team conducting session in a school. 5. Project team distributing awareness material in a school. 6. The Secret Garden book release under a fig tree Lokesh Ohri. 7. Nest of Indian Grey Hornbill being monitored. 8. Indian Grey Hornbill at nest in an urban area. 9. Oriental Pied Hornbill observed feeding on fig tree. 10. Indian Grey Hornbills observed feeding on fig tree. 11. Article about The Secret Garden in the national daily The Hindustan Times.