

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	Dr Shovan Dattagupta
Project title	Conservation initiative of <i>Dipterocarpus turbinatus</i> : A critically endangered tree species of North East India
RSG reference	15935-1
Reporting period	December 2014 to December 2015
Amount of grant	£4500
Your email address	shovandg@gmail.com
Date of this report	22 nd December 2015

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
Population estimation and habitat characterisation		√		80% of population estimation of <i>Dipterocarpus turbinatus</i> and its associate species has been done in reserve forests of Cachar district of Assam. Only few patches are in exist in Inner line reserve forest, Khatakhal Reserve forest (Part) and Barak Reserve forest of this region. In addition to that some sporadic and scanty population of the species has been identified and enumerated. Phenology study of the species has been done in regular interval in every 15 days. Data developed from 1-year phenology study in 30 replicates has been processed. Topographical feature of the habitat, patches of <i>D. turbinatus</i> has been developed primarily with help of GPS. Initial handling of the topographical features has been carried out with topo sheet published by Survey of India, and also with the help of Google Earth professional. However further processing is required with the GIS professionals. We are planning to get our work done through professionals of GIS laboratory.
Awareness programme			√	Ten awareness programmes have been organised in schools. Effort has been made to organise awareness programme in the schools situated in the near and inside the reserve forest. Looking at the need of awareness among forest dwellers and on request from Forest Department and indigenous people, five micro level awareness programme comprising 15 to 25 have been organised with age group ≤ 18 years.
Training cum capacity building work shop			√	Training and capacity building workshop has been organised involving district forest officers of Cachar Karimganj and Hailakandi district, in addition to that high officials of forest department and range officers also participated in the training programme . Number of forest dwellers, research scholars of Assam University has also participated in the programme.

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

Technical challenges

- ✓ Malfunctioning of LCD projector provided by CiED during awareness programme.
- ✓ Absence of electricity in the school of forest villages has created much problem during audio visual display during awareness programme.

Attitudinal challenges

- ✓ Economic and revenue centric mindset of the government institutes engaged in forest management in the region and also people residing in and around the forest is major limiting factor of conservation project in general.
- ✓ Lack of attitude of biodiversity and its importance at all level the government institutes is also been considered a major hurdle on conservation initiative.

Climatic challenges

- ✓ Untimely heavy rain from August to 1st week of October 2015 has largely influenced rapidity of fieldwork and awareness programme.

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

Most important outcome of the project are mentioned below:

During the research work data on population status of *D. turbinatus* has been generated along with its associate species. Abundance, distribution, stem density and importance value index (IVI) also been calculated. Plan has been made to communicate a research paper in a peer reviewed journal in next few months. One year data on phenology of the plant to understand the movement and expression of the species according to the season has been recorded. Population estimation and phenology study has been done on *D. turbinatus* in northeast India and also in Indo-Burma Biodiversity Hotspot for first time.

Habitat characterisation of the landscape with the target species has been recorded. Topographical feature of the habitat, patches of *D. turbinatus* has been developed primarily with help of highly sensitive GPS. Initial characterization of the habitat has been processed with reference to topo sheet published by Survey of India, in 1972 and also with the help of Google Earth professional. However further processing is required with the GIS professionals to make data communicable to the standard of peer reviewed journals.

Extensive participatory rural appraisal has been carried out in the forest villages near to the patches of the target species, among forest dwellers. Households (n= 521) has been selected on the basis of random number generator. PRA exercise has been done to understand attitude of the forest dwellers towards the species, their economic status, and dependency on forest and conservation mind set. Data generated from the PRA exercise reveals that attitude, economic status, landholding; conservation mindset varies with the economic and social strata of the forest dwellers. This data will help us to develop micro level conservation protocol in future.

350 numbers of school students has been educated regarding the species and its importance in the biodiversity-livelihood nexus. On demand from the head man of the forest villages and from forest

officials we have organised micro level sensitisation programme making a group of 15 to 25 numbers of forest dwellers of age ≤ 18 years. This type of programme has come out with excellent outcome of sensitisation and one to one interaction of the forest dwellers with age group above 18 years.

Training and capacity building workshop has been organised involving district forest officers of Cachar and Hailakandi district, in addition to that high officials of forest department and range officers also participated in the training programme . Number of forest dwellers, research scholars of Assam University also participated in the programme. In this programme decision has been taken to establish the species as heritage species and communication with the government institute is going on.

After wide coverage in the media particularly in print media regarding the conservation project, number of business house particularly tea estate has shown keen interest to go for plantation of *D. turbinatus* in their fellow high land (*Tillah*). We are in the process of making detailed work plan for plantation of target species in tea estate of the region and also involve more and more tea estate in future.

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

Local communities have largely been involved in the project. Ten women workers have been engaged in PRA exercise. In addition to that porter, field guide during population estimation of the target species has been engaged. Knowledge base of the local people on the species in particular and forest ecosystem and livelihood safety net in general has been elevated. Care has been taken to organise local people in collective protection of the forest. Some local people have agreed to form self-help group with a prospective to conserve the species and to ensure sustainable livelihood. Change of mind set of the forest dwellers from consumer to contributor is a major change in the attitude.

5. Are there any plans to continue this work?

Research team has designed the proposal of the 1st RSG with an approach to continuity of the project. Revenue centric policy and approach of Forest Department of Assam since its inception in 1893 has largely depleted forest ecosystem where target species is an integral part. Continue of the project and work for few more years are much needed to ensure conservation of this fast eliminating species. Apart from the Cachar district, Assam, northeast India, reserve forest of adjoining Karimganj District and Hailakandi district of Assam, also harbours some more patches of *D. turbinatus*. In Karimganj district patches are attached to the international boundary of India-Bangladesh. Population estimation and landscape characterisation is required to make comprehensive management plan for conservation of the species in whole southern part of Assam, where only this species are available.

Study relate to phenology requires one to two more years to establish the data generated from the 1st RSG more statistically significant.

Experimental test of the ex situ germination of the species has shown excellent results ($\leq 90\%$ germination). This result encouraged us to go for establishment nursery of 1000 sapling each year.

More and more school students and schools situated in and near vicinity of the reserve forest of south Assam, northeast India to be included in future awareness programme. Regular sensitisation and motivation of the field staff is much required for conservation of the species.

With this above said approach we are going to apply for 2nd Rufford Small Grant.

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

After completion of the project/ work on a comprehensive conservation protocol of the species will be developed and same will be available to the forest department of Assam and its neighbouring states, university library, district library for the researcher and conservationist who plans to work with the species. In addition to that article in the regional newsletter will be published. Peer reviewed research paper preferably with impact factor will be published to get international audience. It is planned by the research group to attend national and international seminar to present paper on *D. turbinatus* in near future.

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

Grant for first phase of RSG has been used for 12 months as anticipated. Activity of the project has been initiated in January 2015. After receiving funds from Rufford foundation, bank has remitted the amount on 15th December 2014. It took 15 days to develop contacts and arrangement of vehicle, receive formal permission letter from Forest Department. Government of Assam and develop other logistic support. However this project has been designed to have futuristic approach to continue the project so is to get long term effect of the project and conservation of critically endangered *D. turbinatus*.

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
Travel	£1100	£1180	£+80	<ul style="list-style-type: none"> • Rent of motor car, power boat including fuel and maintenance charge. Effort has been made to reduce the cost of travel as number of expected travel has been increased from 20 numbers to 25 numbers. Total cost of : £675.00 • Camp expenditure increased by 7 days from estimated 20 days to 27 days X£15 = £405.00 • Porter and Guide charge : £100.00
GPS	£450	£377	£-73	Cost of the Garmin GPS MAP 64 with tax.
Digital Camera	£400	£400	£0	Nikon D 5200 with 18- 105 mm VR kit lens. We got discount from the dealer on actual

				price.
Clinometer	£200	£200	£0	Sunto Professional Series clinometer with compass
Honorarium	£960	£960	£0	Field assistant is been engaged for 8 months :8 months X £ 60 = £480 Community mobilizer has been engaged for 8 months : 8 months X £ 60= £ 480
Publication of poster, booklet and Banner	£400	£410	£+10	Publication of banner, leaflet, folder, small booklets etc.
Awareness programme	£500	£594	£+94	10 numbers of awareness programme has been organised in the School situated near and inside of the reserve forest. 5 no of micro level sensitization programme, also been organised. Average expenditure of the programme is £ 39.6
Capacity Building workshop	£400	£350	£-50	Capacity building workshop has been organised by involving forest officials form three districts of South Assam, University experts, research scholars, NGO personals, and Forest dwellers.
Incidental and unseen expenditure such as printing, postage , computer time etc.	£90	£60	£+30	Photocopy, computer printing, postage un seen and incidental expenditure.
Total	£5000	£4531	£±31	

Exchange value of British starling pound as on 15.12.2014(Date of inward remittance): 97.27 INR

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

Looking ahead for grant proposal that will enable:

- Population estimation of *D. turbinatus* in Karimganj and Hailakandi District of South Assam region of Assam, North east India with landscape characterisation.
- Phenology study of the target species for 1 more year.
- To establish a nursery with a capacity of 1000 saplings for future plantation programme. Meaningful linkage with tea estate for plantation of *D. turbinatus* tea estate s of Barak valley as they have shown much interest to go for plantation in their abundant hillock.
- Planning is going on to link conservation of *D. turbinatus* with livelihood safety net of the forest dwellers.

- More and more awareness programme and publication of leaflet, booklet, banner etc. for mass awareness.
- Establishment of research network with university, non-governmental organisation and forest department of Assam.

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?

Yes, in all published material such as banner, folder, leaflet, booklet etc., Rufford logo has been used. In press release due acknowledgement has been given to Rufford Foundation. In future, paper published in the peer-reviewed journal due acknowledgement will be given to Rufford Foundation. Large scale publicity about RSGF has been received by the regional NGOs, researchers of Assam University, Silchar, Assam. Mizoram University, Aizawl, Mizoram, Manipur University, Manipur India as print media has taken the initiative to publicise the initiative of Rufford Foundation.

11. Any other comments?

Principal investigator and research team is very much thankful to Rufford Foundation for granting Rufford Small Grant for conservation initiative of critically endangered tree species *D. turbinatus*. This conservation initiative is first time of this nature in this part of Indo-Burma Biodiversity Hotspot. This grant and conservation initiative has opened new arena of conservation of this species in particular and biodiversity in general.