

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. 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	Mohammad Belal Uddin
Project title	Effects of Land Use Changes and Anthropogenic Disturbances on Biodiversity in a Protected Area of Bangladesh: Implications for Sustainable Biodiversity Conservation and Management
RSG reference	59.08.09
Reporting period	July 2011
Amount of grant	£5770
Your email address	belal405@yahoo.com
Date of this report	01.07.2011

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
Alpha diversity of the study area			√	However, species identification was a hard technical job
Beta diversity of the study area			√	But the beta-diversity assessment methods are complicated
Effect of land uses on diversity			√	Sometimes it was difficult to differentiate the land uses
Effect of disturbances on diversity			√	It was very difficult to collect the temporal data (e.g. history) of disturbances
Identify the major drivers of diversity loss			√	
Baseline information about the conservation of natural resources in anthropogenic landscape			√	These information have already been transmitted at different levels of stakeholders and will continually be spread
Community engagement		√		Great challenge what I have faced during working with local communities about their attitudes on protected areas. They were not aware of the conservation strategies of protected areas. They perceived that the conservation efforts affect their own livelihoods as they depend on natural resources for this.

00

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

As a young conservationist and professional from developing country like Bangladesh, I faced some unforeseen difficulties to do my work successfully. One of the greatest difficulties what I faced during my work was the local peoples' knowledge about the protected areas. They were not aware of the conservation strategies of protected areas. They perceived that the conservation efforts could affect their own livelihoods. They were afraid of any conservation worker, researcher to disclose anything. Another difficulty was the attitudes of forest personnel towards the researchers. Sometimes they did not take us easily for investigation, as they thought the original situation will be published. Time and season for field work were also more severe difficulties as like most of the research works in the tropics. Other difficulty was the sincerity and dedication of the chief researcher as well as the team in the field. However, as I was convinced with the excellent perspectives of my work on landscape ecology and conservation science, I tried myself to make great mental, physical and financial efforts to tackle these difficulties. As I was strongly devoted to the project's agreement; to work for a

shining career as an ecologist and conservationist in future and to work on a better future for my home country, I could able to overcome these unforeseen difficulties.

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

From my project, I have two fundamental research outcomes and one most important policy outcome.

Firstly, distribution and abundance patterns of plant species vary with land uses. There is a clear diversity gradient which indicates highest species diversity in the natural forest and lowest in human induced land uses.

Secondly, distribution and abundance patterns of plant species are largely driven by the disturbance regimes. The plots which were dominated by surrounding areas (i.e. tea gardens and fallow lands) with more number of disturbances and consequently fewer portions of species i.e. less diverse while the plots in national park and reserved forest with fewer numbers of disturbances and accommodate more portions of species indicating high biodiversity in this research project.

Thirdly, based on this baseline information from my fundamental research findings, my project has one of the most important conservation implications. The best way to conserve biodiversity in Bangladesh forest ecosystems is to conserve the natural forests and to develop a framework for biodiversity conservation as an integrated forest area management where one of the primary goals will be the sustainable use of forest biodiversity. It indicates the effectiveness of protected areas for biodiversity conservation in developing countries. Finally, it is enhancing an important policy guideline to ensure both nature conservation and local livelihoods in protected areas in the developing countries especially highly populated countries in a sustainable way.

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

Direct Engagement and Benefit: Since I was investigating land use changes and major anthropogenic influences on biodiversity in my study area, I did arrange some community meetings before starting my work to get overall idea about the land uses and disturbances. At these community meetings, I bought all the things to host the guests attended at those meetings from the shops from community peoples as an encouragement. During my field work I appointed three people from the communities with me who had good knowledge about the study area. They helped me to reach different parts of the study area and also made ease to find out the causes of different land use changes and disturbances. After my field work, I did also arrange some local meetings at my study area with local levels administrators, social leaders, local political leaders and other representatives from the communities surrounding my study area. At those meetings, I encouraged them showing my field experiences and outcomes of my projects to create awareness among the general mass about the conservation of natural resources. I have also given some honoraria to specific local representatives as an encouragement for the implications of my project findings in my study area.

Indirect Engagement and Benefit: The outcomes of my project have assisted the managers, decision makes, conservationists at different levels for community engagement in conservation by providing the following expected suggestions:

- a) It has suggested the difficulties and constraints facing in linking local community and conservation
- b) It has provided valuable lessons to improve the linkage between community and conservation
- c) It has illustrated the importance of developing constructive ways of involving local stakeholders in conservation and sustainable resource use practices based on the goals, interests, and understanding of the people living in and around the protected areas.

Implementation of these suggestions from my RSG project findings will provide sustainable benefit to the local communities.

5. Are there any plans to continue this work?

Yes, I have a plan to continue this work particularly with reference to climate change adaptation and mitigation. As the recruitment, composition and diversity of this tropical forests communities are dramatically affected by drought (natural disturbance). Drought is an important component of climate change in tropical forests.

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

After my field study and data analysis, I have already arranged a workshop at my university campus where I invited forest department officials, conservationists, and social workers etc. to disseminate my project findings. Hopefully, it would help them to take necessary steps as well to design future research. I have already presented my findings in one international conference on conservation science as Student Conference on Conservation Science (SCCS-Cambridge) held on 22-24 March 2011 at the Department of Zoology, University of Cambridge, United Kingdom. There attended young conservationists and researchers from 63 countries around the world. There I presented one poster highlighting the effects of land use changes, anthropogenic disturbances and conservation patterns on biodiversity. I have also arranged some local meetings at my study area to communicate my results with local levels administrators, social leaders, local political leaders and other representatives from communities surrounding my study area. They will make awareness at the grass root level being informed about the importance of biodiversity conservation from my findings. Currently, I am preparing one manuscript based on my project's findings to publish it in refereed scientific journal. Through this publication, I would like to communicate my findings to the scientific community. I am going to attend The 8th IALE World Congress: Landscape Ecology for Sustainable Environment and Culture to be held on 18-23 August, 2011 in Beijing, China to share my findings to the ecological society presenting one poster based on part of my RSG project findings.

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

My time plan was January, 2010 to June 2011 for this RSG project. During this time span I have finished all of my project works (e.g. organizing filed work, data collection, data analyses, report writing) successfully. This time plan was perfect.

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
Expendable Supplies and Project Preparations	240	150	90	I used the rest amount of money to buy some reference books which were much important and necessary
Literature, Documentation, Information	350	440	-90	I provided this amount from the item "Expendable Supplies and Project Preparations"
Local Travel	900	900		More travel amount is needed as it was difficult to stay at research site due to the lack of electricity, security, transport, accommodation and food
Extra Manpower	1950	2250	-300	I provided this extra amount of sum from the item "Post-study activities" as it was very difficult to do this type of extensive field work in the deep natural forest with two persons. Mostly I needed an extra manpower to do it successfully and perfectly.
Post -Study Activities	1150	850	300	I used this access amount for extra manpower as the actual amount was sufficient for such activities.
Other Costs	1080	1080		
Miscellaneous	100	100		
Total	5770	5770		

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

In my view, the important first step will be the dissemination of my project's findings to the scientific community to encourage them further extensive research on these aspects for different conservation areas. Other next and most important step will be to inform the same at the policy and decision maker level to set them as policy guidelines.

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, I used RSGF logo to present my project findings as a poster at SCCS-Cambridge (22-24 March, 2011 at Cambridge, UK). I will also use it at another conference The 8th IALE World Congress (18-23 August, 2011 at Beijing, China) to present part of my RSG project findings. I have sent pdf file of this presented poster with this mail. I will send the second one in August.

11. Any other comments?

I feel heartily that this type of support is crucial to build up a challenging research career as an academic and researcher from a developing country and thereby working for the better future for the country.