

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	Dr. Boni Amin Laskar
Project title	Habitat inventory of threatened Jungha Mahseer fish for conservation area appraisal in Northeast India
RSG reference	8180-1
Reporting period	1 year 4 months
Amount of grant	£6000
Your email address	aminboni@rediffmail.com , boniamin.laskar@gmail.com
Date of this report	30 March, 2012

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
1. Evaluation of present population status in both spatial and temporal scales	no	yes	no	Some selected stretches in six river bodies were surveyed. short period of time for the project along with constraints related to summer sampling have limited to fully achieve this objective
2. Characterisation of habitat features (both physical and chemical) from its natural abode	no	yes	no	Physical habitats are well understood. Chemical and biological characteristics are to be studied in more details, for that, further sampling and investigation are needed.
3. Determination of habitat suitability for the species among different water bodies	no	yes	no	The suitable Mahseer habitats in the hills of Arunachal Pradesh have been mapped. For determination of Habitat suitability throughout North-East India, enough relevant data are required.
4. People's participation to call upon in conservation through awareness campaigns	no	yes	no	Many options for public awareness (through meeting, leisure talk, formal workshops, etc.) have been performed. Two youth organisations have so far been convinced. Few government bodies are convinced and are now fully in agreement to act for conservation of this threatened fish. First ever conservation programme of Mahseer in the form of introduction of seeds in undisturbed lake in North-East India is achieved in collaboration with Government departments.
5. Spotting out of certain itineraries for sustainable Mahseer Angling-tourism in the region	no	yes	no	The ecotourism is not well established yet in the region, it needs more campaign and promotion. Our oral presentation on the theme of Mahseer Conservation in the recently held Conference at Guwahati, Assam has attracted the panel committee who drafted a recommendation for promotion of Angling Tourism in North-East India

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

Most of the local people are ridiculous in biodiversity conservation due to lack of proper education in ecology. People mostly use chemical poisoning in rivers for wanton fish harvest. People remain unattended while talking on control of such illegal activities. In the context, I approached the 'head

man' (Gao bhurra) in villages and convinced them through intellectual discussion. Few head mans were benevolent to run with the team to campaign for conservation.

Employment of local person as a temporary vigilant had helped to check illegal fishing by the local inhabitants in two of the study sites. Help from local news papers through publication of article on such conservation campaign has greatly added value with the article to reach broad spectrum of people.

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

- The range of physical habitat of Jungha Mahseer is well understood, habitat mapping is done for one of the states in North-East India.
- A portion of public, youth organisations, and government bodies are convinced for the active participation in sustainable utilization and Conservation of Jungha Mahseer in North-East India. Special workshops on World Environment Day (5th June 2011) was successfully accomplished in collaboration with the local NGO (Centre for Environment and Development, Cachar, Assam)
- Rehabilitation of Mahseer is achieved through introduction of seeds in two undisturbed lakes within wildlife sanctuary. News of such rehabilitation programs were published in leading newspapers and online news media. All such activities did publicise the involvement of The Rufford Small Grants in Mahseer conservation initiative in North-East India.

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

Local people were involved in many activities. During field study, people from respective locality have helped to identify the Mahseer assemblage sites in the local water bodies. At every new location, whenever the team visited, the team leader interacted with people around. Such interactions helped to exchange thoughts and knowledge of ecological importance of Mahseer in particular and the biodiversity in general. The meetings, leisure talks, workshops, etc. have always benefitted the local people. The youth organisations have got idea and exposure through regular interactions with the team leader for establishment of local tourism agency.

Moreover, the people were paid for their physical help during site investigation, field sampling, and arranging for workshops. Temporary engagements of local person as vigilant at two river sites to check chemical poisoning at the particular locations were paid the remuneration for 4 months. Food and tea are always served to the people during any interactions. The government officials in the department of fisheries in different districts have also been interacted and shared with thoughts. The college teachers and school teachers were also interacted. One college teacher, name Mr. Sorbojit Thousem of Haflong Government College was very keen to help the team leader in arranging meetings with youths and villagers around Haflong (Dima-Hasao) district in Assam. Head teacher of Iduli Government School of Arunachal Pradesh, named Mr. Sibili Lingii, was very keen to help arrange class room interaction by the team leader with class IX standard students.

In this way many local inhabitants at different localities have got benefit from the project. Such activities are indeed needed to be reciprocated in future. Due to such needs, the team leader is willing to submit application for second Rufford grant.

5. Are there any plans to continue this work?

Yes, this project has sprouted certain awareness to public as well as government bodies on the need of conservation of this valued Mahseer. It is lying in the process to remark this species as the keystone in Inland ecosystems. We have been trying to praise the government bodies to declare Mahseer reserve in North-East India. More works, like, biology of feeding including diet breadth, reproductive capacity (Fecundity), artificial breeding, etc. are unresolved issues that need thorough investigation. Future project is targeted for such activities. In fact, the collected samples, the equipments purchased under this project would also have application in the future line of investigation. Indeed, the awareness to mass people for active participation in conservation of the species is essentially needed.

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

- ✓ Publication of popular articles and research article.
- ✓ Presentation in conference/ seminar etc.
- ✓ Publication of DOs and DON'Ts
- ✓ Publication of Final Technical Report (being prepared) in 'The Rufford Website'.

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

The fund was received in November, 2010. The work was proposed for fifteen months. The final report is now submitting after sixteen months. We deeply beg apology for the delay. The start of the work was little delayed, but finally it was met.

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	1170	1419.75	+249.75	Actual travel cost surpassed from the budget because of travel cost was high to cover some distant and remote locations
Camera	732	839.50	+107.5	Actual cost of camera surpassed from the budget because extra lens was purchased
Water flow meter	293	234.57	-58.43	Actual cost of the item was lower than the budget due to fall of rate. The unbalanced amount was utilised for a part of cost of camera
Snorkelling equipment	293	Not purchased	-293	This equipment was not purchased due to non-availability.
GPS	439	271.60	-166.4	Actual cost of the item was lower than the budget due to fall of rate. The unbalanced amount was utilised in awareness programme.
Awareness program	732	987.65	+255.65	Actual cost of awareness programme surpassed from the budget, it was met

				from the budget for GPS and the budget for consumable
Remuneration for PI @Rs.6000/- per month X 15 months	1317	925.93	-391.07	Remuneration was enjoyed at lower rate, because the final received amount for the entire project was only £5219.25 after deducting Forex Txn charges
Remuneration for Co-PI @Rs.6000/- per month X 15 months	1317	592.59	-724.41	Field Assistant was appointed @Rs.4000.00 p.m. for 12 months, as the Co-PI acted voluntarily in the project because of his involvement in government salaried post
Other consumable expenditure	293	85.18	-207.82	Actual consumable expenditure was lower than the budget. The unbalanced amount was utilised in awareness programme.
TOTAL	6586	5356.77	+137.52	The budgeted amount means the actual proposed amount (Actual received amount for the entire project was only £5219.25 after deducting Forex Txn charges)

Note: '+' indicate surpassed amount; '-' indicate unbalanced amount
Local exchange rate= £1.00 equals Rs.81.00

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

Head water river ecosystems are in threat from wanton fish harvest through chemical poisoning and dynamiting. Head waters are important for the natural recruitment of many small to large fishes including Mahseer. Mahseer is important in the head water stream ecosystem where they occupy wide range of food web due to wide diet breadth including occasional carnivorous feeding habits; hence mahseer is responsible for balancing the ecological pyramids. In fact, Mahseer is the charismatic freshwater aquatic fish megafauna as they are the largest among the Cyprinids. It is urgently needed to develop some strategic plan to protect the river ecosystems in general and the important Mahseer fishes in particular. In the context, there is paramount need to create protected areas like Mahseer Reserve. Creation of such reserve would support management and protection to suitable Mahseer habitats including the spawning grounds. Thus, recruitments of Mahseer in the downstream through natural breeding would be augmented.

Further, as the Angling tourism primarily depends on availability of big fish, hence baseline work to develop good stock of big mahseer in a definite river stretch is important. In the context, there is need to organise people in different locality with the aim to protect and raise the stock of mahseer in particular river stretch, so that anglers from outside can contact with the local organisation and make angling trip easily. The leaders and associate from such local organisations should be trained in tourism sector. Government departments like Tourism, Wild Life and Forest, Fishery, etc. should also frame some good policy for such entrepreneurs. Angling tourism is a sustainable tool to protect and manage the Mahseer and the headwater river ecosystems.

Awareness to mass people is most important. In fact, the students should receive awareness of sustainable utilization of Mahseer fishery resources as well as the importance of development of tourism; hence the academic curriculum should include these subjects.

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

- Conservation campaign banners (flex type: 120 cm X 80 cm) were produced in multiple and distributed among public as well as posted at important public places and Government offices where proper RSGF logo was used.
- Background banners (flex type) were always used in different workshops; where the RSGF logo was properly used.
- On the letter head for every correspondence also used the RSGF logo at the right top corner.
- World Environment Day 2011 was observed where mass gathering was arranged including the presence of various interdisciplinary researchers, Assistant professor of Assam University as well as government officials of department of Forest, Assam. Proper RSGF logo was used in the banner of the programme. Besides, it was announced in the program that The Rufford Small Grants Foundation has funded under the nature conservation project and the World Environment Day 2011 was being observed as a work component of the project.
- The rehabilitation of Mahseer in a high altitude lake was accomplished in collaboration with Directorate of Coldwater Fisheries Research of Indian Council of Agricultural research where the RSGF logo was used in all the correspondence, news report as well as the banner of the program.
- In all the slides of oral presentation in conference, the RSG logo was used at the top corner

11. Any other comments?

Besides the proposed work, the introduction of few thousands seeds of Mahseer in undisturbed lakes (one within Wild Life Sanctuary, and the other general) has been achieved in collaboration with Directorate of Coldwater Fisheries Research (ICAR) and Department of Fisheries, Government of Arunachal Pradesh. Such program is also aimed to be done in future.

Publication of materials, like, Bulletin, DOs and DONTs, etc. would need budget. It is hoped that team leader would manage the budget through requesting the Directorate of Coldwater Fisheries Research (ICAR).

We sincerely express our thankfulness towards the referees:

Heather L. Ray, FWO, *United States Fish and Wildlife Service, pacific Southwest region, 1936 California Ave, Klamath Falls, OR 97601;*

Dr. M. Dasgupta, Professor, *Directorate of Research, Fishery Science, Bidhan Chandra Krishi Viswavidhyala, Mohanpur, Nadia, West Benga-741252, India;*

Dr. S. P. Biswas, Professor, *Dibrugarh University, Dibrugarh-786004, Assam, India*

We also express our regards to the Advisor:

Dr. D. N. Das, Professor, *Rajiv Gandhi University, Rono Hills, Doimukh- 791112, Arunachal Pradesh*