

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 | Sunil Thapa |
| Project title | Effectiveness of Alternative Energy use in Biodiversity Conservation A Case Study from Shuklaphanta Wildlife Reserve and its Buffer Zone, Far Western Nepal |
| RSG reference | 42.12.09 |
| Reporting period | May 2011 |
| Amount of grant | £3834 |
| Your email address | sunilthapa01@gmail.com |
| Date of this report | May 10, 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 |
|--|--------------|--------------------|----------------|---|
| Assessment of energy consumption pattern | | | √ | Despite the promotion of various alternative energy technologies within the buffer zones of the reserve, locals are still dependent on use of firewood as major source of fuel for cooking. |
| Effectiveness of alternative energy use in biodiversity conservation | | √ | | Effectiveness of alternative energy use in biodiversity conservation has been assessed in terms of reduction in use of fuel wood, kerosene and chemical fertiliser which helped in easing ecological stress and preservation and conservation of reserve forest which is a major habitat of wild flora and fauna. There is reduction in firewood and kerosene use but no reduction in fertiliser use. |
| Awareness campaign | | | √ | Awareness programme within the eight buffer zones of the reserve with participation of more than 1500 locals was successfully completed that benefited locals as well as the conservation authorities. |

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

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

- I. Estimation of effectiveness of alternative energy use in biodiversity conservation
A sustainable alternative energy programme is crucial to mitigate the harmful effects of excessive use of wood for energy. Promotion of alternative energy has been a major component of biodiversity conservation, because it reduces human pressure in the park and buffer zone forests. The study concludes that use of alternative energy, especially biogas, within the study area has been able to reduce the consumption of fuel wood, kerosene by 58 % and 39 % respectively; thus, easing ecological stress and conserving biodiversity.
- II. Finding of the facts
If organic slurry produced from biogas is used as natural fertiliser for crop, enhances topsoil health in agricultural areas promoting terrestrial ecosystem and easing ecological stress. But the study showed that the farmers are less aware about the truth and rely on chemical fertilisers. The average consumption of chemical fertiliser is more than 16.2 kg/ha/year among biogas using households compared to non-biogas users. Similarly, the study also revealed the fact that locals that depend highly on firewood as source of energy belong to

lower income group who cannot afford biogas plant. The economically suitable alternative technology such as improved cooking stove is not available among them. If improved cooking stoves are installed, these could reduce the firewood pressure on reserve forest.

III. Promotion of alternative energy technology among locals

Effective outreach and awareness are essential for promoting conservation policy, changing people's behaviours. As part of the awareness campaign, various programmes were held in between September and December 2010 within eight buffer zones of the reserve. The direct beneficiaries of the awareness campaign were the households using traditional cooking stoves and households with lower income which are unable to install biogas. Low income households were made aware about the availability of improved cooking stove as suitable replacement for traditional cooking stoves.

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

In this project, one local was hired as local guide. Besides, the project also raised the conservation awareness and importance of use of alternative energy in conservation of biodiversity in different groups such as local buffer zone management group, community forest user groups in and school children and around the reserve area.

5. Are there any plans to continue this work?

Yes, I have plans to work for the long-term promotion of alternative energy technologies in other buffer zones the reserve as well as in other protected areas also and subsequently help in conservation of biodiversity.

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

Report produced from this work will be disseminated to the Department of National Park and Wildlife Conservation (DNPWC) which is the sole authority for the management of hunting reserve. Copy of report will be made available in the central library of Tribhuvan University, library of Alternative Energy Promotion Centre for the wide use by the students and other, who wants to pursue their research work in the related field. A part of the research will be used as primary data for the master's dissertation work in Central Department of Environmental Science, Tribhuvan University. The result will also be tried to publish in different printed and online journals.

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

The RSG was used during the field study period of the project from May 2010 - March 2011. This covers the major field study period of this research and outreach activities around the actual length of the project.

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 |
|-----------------------------------|-----------------|---------------|-------------|--|
| Transportation | 221 | 250 | +29 | Increase in transportation cost |
| Accommodation | 2397 | 2328 | -69 | Completed the work in lesser days than planned |
| Stipend for Local Field Assistant | 552.5 | 510 | -42.5 | Completed the work in lesser days than planned |
| Stationery and Communication | 290 | 276 | -14 | Managed in low budget |
| Awareness Materials | 340 | 425 | +85 | Increase in printing cost and Published more copies of awareness materials |
| Report Preparation | 32.8 | 44 | +11.5 | Increase in printing cost |
| Total | 3833.3 | 3833 | +0.3 | Exchange Rate: 1 £ = 116.66 Rs |

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

After the completion of this project, I am feeling the need of promotion of alternative energy technologies that are affordable and within the reach of lower income households. Majority of the households that highly depend on fuel wood as their source of energy belong to the marginalised group, who rarely can afford technologies like biogas. Programmes that reach out those people are necessary to reduce the fuel wood pressure on reserve forest. Intense conservation programme that strengthen the capacity of local community groups and mobilize them are essential. This will help to build ownership in local community and stewardship for long-term conservation biodiversity.

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 the RSGF logo to produce awareness raising materials such as flex, poster and banner in easily understandable Nepali language. RSGF received publicity during the course of work.