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	Bindu Raghavan
Project title	Status and Conservation of the Endangered Ladakh urial (*Ovis vignei vignei*) in India
RSG reference	10.08.06
Reporting period	Jan 2006- Feb 2009
Amount of grant	£5000
Your email address	bindu@gnape.org, vet_wilde@yahoo.com
Date of this report	14-02-2009

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
Survey for Ladakh urial in its entire historical distribution range in Ladakh			Fully achieved	The study was designed with monitoring trails and vantage point counts as the main methods for survey of animals, complemented by vehicle transects. However, due to the extreme weather constraints during the survey period, and issues of terrain, this objective was fulfilled using more vehicle transects than monitoring trails, without compromising the goal of the project.
Estimate current population size, structure, status and distribution			Fully achieved	The current status and distribution of the species has been arrived at using direct sightings, collaborated by local knowledge. There are some areas, however, where no individuals were recorded but where locals have reported presence of the urial. These areas might need to be surveyed more intensively than was possible within the scope of this study, in order to confirm urial occurrence. This is also important because in many cases, especially where urial distribution coincided with distribution of other species like Ibex and Blue sheep, the locals were confused between urial and Blue sheep or female Ibex. This created a lot of ambiguity in the data on urial presence or absence in these areas.
Physical and vegetation characteristics of urial habitats in areas surveyed		Partially achieved		Much of this information was collected on a broad scale (through visual observations rather than systematic sampling) as required by the study. However, in many areas, even this information could not be collected due to a) snow cover b) senescence, or drying up and shedding of leaves, flowers, and other identifiable parts of most plants on the mountain slopes c) lack of time (beyond the scope and period of this study) that would have been needed to carry out vegetation surveys in the summer season.

Information on current threats to urial population through semi-structured interviews (SSI) of locals			Fully achieved	Interestingly, in areas where hunting continues to be one of the threats, most locals ignored, or failed to mention, it completely. Instead, listed various other reasons, including lack of cover (places for urial to hide from predators) as threats to urial populations!
Information on Livestock and human demography, socio-economic data through SSI of locals			Fully achieved	The local human population, in most of the villages I visited, seemed unaware or ill informed about the number of households, human and livestock populations and their own socio-economic standings. I also noticed signs of 'interview-fatigue' probably ascribable to the numerous studies conducted by numerous agencies in this region. Therefore, this information was mainly collected from the concerned government departments. This was a more reliable and accurate method.
Information on Natural resource use patterns through SSI of locals		Partially achieved		This objective was only partly achieved because of the reasons stated above. Villagers were vague about the amount of forage and plant matter they collect from the mountains.
Education of locals, during interactions with them, about importance of urial conservation			Fully achieved	There is great confusion among villagers regarding identification of the different species of mountain ungulates. Most people were confused between Ladakh urial, Blue sheep and female Ibex. This resulted in inaccurate identification and information regarding these species. Through my study, I was able to not only educate them about urial and their conservation, but also about the differences between the three species and means of identifying them in the field. A poster or other means of educating them about these differences would be a great tool for creating more awareness about these species.
Local herders, especially women and youth, will be trained to look for and monitor urial populations in area		Partially achieved		There were three reasons why this objective could not be achieved fully- a) Women tended to go to pastures close to the village and did not have the time or inclination to look for wildlife. b) Unlike their parents, youth these days do not go up on high pastures to herd

				livestock. Most of them prefer to go to towns and cities to get an education and pursue desk jobs. c) Hence, most people, apart from village elders, are confused about different species of ungulates in their area and unable to make out differences easily without binoculars. However, there were some young students and locals who were interested in learning more about wildlife and who enthusiastically accompanied us on our trails. These people were trained to look for and count urial and other wildlife and to record their observations.

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

1. Soon after I got the Rufford grant and started the project, I found out I was pregnant with my first child. This meant a delay of 1.5 years and I was able to start work only in Sep 2008. This I was able to do thanks to the RSG committee agreeing to the delay in my project and their willingness to let me complete the same.
2. There was a rise in expenses, since the initial budget sent to Rufford, due to inflation as well as the unexpected delay in starting the project. However, this was taken care of as detailed in the Budget section.
3. There were lot of unprecedented snowfalls in the area during my study period and the weather became unusually cold in Nov-Dec 2008. This meant delaying fieldwork in many cases and in some, I had to forego my trails altogether and replace them with secondary information collected from locals.
4. In Nubra district, the weather was quite overcast and there was heavy snowfall at the start of the survey in this area. Therefore, fieldwork was hampered for a few days. However, as the survey progressed, the weather became quite warm and this led to most of the animals retreating back up to higher elevations on the mountains, to areas that were relatively cooler. Since these areas were still snow-covered and the terrain was too steep to allow access on foot under these conditions, I had to resort to vehicle transects as the main method of sampling. Therefore, a more intensive survey in this area in snow-free period, and when the animals are likely to come lower down the slopes (Sep-Oct), might be required.

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

My project was able to achieve most of the objectives it aimed at. The important points to be noted from my study are-

a) Urial populations seem to show an apparent increase in the Leh district, a traditional stronghold of Ladakh urial as well as Buddhists. However, there seems to be a major decline in numbers in Kargil district, a Muslim stronghold, where hunting (poaching) is still a threat to the remaining urial.

b) These findings also correspond to a definite *decrease* in the number of domestic sheep and goat in Leh district, and a maintenance, if not increase, of their previous numbers, in Kargil district.
c) There has been a decline in the *extent* of urial distribution in the region resulting in an apparent decrease in the *actual* amount of habitat available to them. This means that though urial populations seem to be increasing in some areas, the decrease in available habitat may actually result in maintenance of *status quo* as far as total urial population is concerned, or even a decrease in numbers over a period of time. Thus, the urial is far from being 'safe' because of decreasing livestock numbers or hunting pressures. Instead it might be in even more danger thanks to habitat loss.

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

My project employed at least 3 people from the local communities- 2 as field assistants, both of whom were women (and mothers), and the third as driver. Of the two field assistants, one was a student who wishes to work in the field of conservation and eager to learn about wildlife and conservation issues in Ladakh. The other was a temporary employee (stock assistant) in the department of animal husbandry and keen to learn more about wildlife and also about veterinary aspects (since I am myself a veterinarian). Both these people were trained to look for, count, age and sex animals in the field, use of binoculars, spotting scope, GPS, compass, altimeter, reading maps, characterizing habitat features, plant identification, general ecology and concepts of conservation during the study. Since I visited several villages and talked about socio-economics and livestock husbandry as well, the assistants were also exposed to interview techniques, livestock related issues and socio-economic issues. The driver had experience in trekking and wildlife tourism and hence, was an asset. He, too, got training in wildlife census techniques as well as awareness on conservation and related issues.

In many areas, youth from villages accompanied us on the trails to look for animals. Sometimes, we accompanied local herders on their trails and during these sessions, these locals were told about our work, its importance, how to look for wild animals, count them, estimate their health status, and how to gauge quality of pastures, etc.

Since I stayed in villages most of the time, I also got an opportunity to interact with the local villagers and tell them about my work and the importance of conservation, especially with regards to the urial. Following up on the concept of homestays (a scheme being practiced by the local government, where tourists, in lieu of expensive hotels run by outsiders, stay in a home in the village and give money directly to the villagers), I stayed in houses of locals and paid them the standard rate fixed by the government for homestays (at present Rs. 350 per tourist) as well as Rs. 200 for assistants). This directly benefited the communities and gave me an opportunity to interact with them.

In some areas, staff from the local wildlife and forest departments accompanied me in the field and learnt about census techniques and use of various instruments and equipment. Early in the study, I had the opportunity to give a lecture on wildlife census techniques to wildlife and forest department staff in Ladakh (during a workshop organized by the department and another NGO, Wildlife Trust of India). This helped me to teach them the same in the field, too. Several staffers approached me with doubts and queries regarding the same when I visited their respective areas.

5. Are there any plans to continue this work?

Yes, there are plans to conduct a more intensive survey in two of the areas that were surveyed during this project. These areas could not be surveyed as intensively as I would have wished due to inclement weather, snow cover and in some cases (areas close to the international borders), lack of permit from the army to visit these areas. Also, some areas did not yield any sightings, though historically Ladakh urial were known to occur here and there were claims of sightings in recent years by the locals. These need to be confirmed and information gathered on current status on Ladakh urial in these areas.
Apart from this, the local wildlife department, too, has shown interest in continuing the work with me, and establishing a longer term (5-year) monitoring plan for Ladakh urial populations. There are also plans to conduct studies on urial ecology in the different habitats that it occupies in Ladakh.

I am also hoping to start an education and awareness campaign to help people identify the differences between the various species of mountain ungulates, and their identification in the field; the importance of nature conservation; the importance of urial to the local ecosystem as also as an animal endemic to the region; and, on the ways in which communities can contribute to its conservation.

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

The results of this project will be shared through a technical report that will be sent to respective departments in the government, as well as other agencies and NGOs working in the area, as also to the RSG. I also hope to publish the major results in the form of a scientific paper in a peer-reviewed journal.

The results will also be communicated to, and discussed with, the local wildlife and forest departments, as well as the livestock husbandry departments through a workshop. This workshop will also discuss ways to conserve and protect the endemic and endangered urial and other species in the region.

I am also planning an education and awareness programme based on the results of the survey, targeting the local people in Ladakh. This programme will hope to use audio-visual medium to disseminate information on Ladakh urial, its uniqueness to Ladakh, its role in the local ecology and need for conservation.

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 over a period of 24 months, as opposed to the anticipated period of ten months. This was mainly due to my unexpected pregnancy and birth of first child. Apart from this, there was an initial delay in the project due to extreme weather conditions in the study area.

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 *** *@Indian rupee 84 per £ sterling*	**Actual Amount*** *@Indian rupee 86 per £ sterling*	**Difference** *@Indian rupee 80 per £ sterling*	**Comments**
Salaries/ Allowances (includes salaries, per diems & food expenses)	1738 (146000)	1556 (133815)	142 (12185)	The field season was presumed to last 8 months but due to extreme weather and logistics, only 6 months were actually spent in fieldwork. Hence, field assistants, too, were paid for 6 months and not 8. However, due to inflation (2007-2008), the salaries were raised from £ 50 (Rs. 4000) to £ 62.5 (Rs. 5000) per month, per assistant. Also, food expenses were taken care of in the fares at guesthouses & homestays. This, too, reduced expenses.
Accommodation (includes hotel/ guest house/ homestay fares)	536 (45000)	617 (53075)	-94 (-8075)	There was extra expenditure mainly due to inflation and because many guesthouses & homestays charged for stay as well as food.
Travel & Transport (includes airfare and taxi charges)	1631 (137000)	2037 (175192)	-444 (-38192)	Airfare accounted for most of the over-expenditure in this category due to an extra trip made in order to visit my child in December 2008, when the field assistants and driver were on ten-day leave for their new year celebrations.
Others (includes equipment, high altitude clothing, film and photography, medical costs, consumables, communications and report writing)	976 (82000)	915 (78730)	38 (3270)	Medical costs had been accounted taking into consideration any accident or unforeseen incident. However, the study progressed without any mishaps and hence, this money was under-utilised.
Miscellaneous	119 (10000)	156 (13415)	-40 (-3415)	There was an extra expense in terms of data entry and accounting work, which has been adjusted here along with other expenses that did not fit into other budget

				heads.
TOTAL	**5000 (420000)****	**5282 (454227)**	**-398 (-34227)**	The main difference in the budgeted amount & money spent can be attributed to inflation as well as airfare for extra trips to and from study area. This difference was adjusted for thanks to an extra Rs. 10,000 that was received due to difference in exchange rate when I applied for and received the grant money[#], the interest earned Rs. 22,857 (@3.5%) on the amount due to delay of 1.8 years in field work[#], and through the per diem I received during the project.

***(Indian rupee (Rs.) figures in brackets)*

*** Note that actual money received into my bank account was Rs. 4,30,300 due to change in exchange rate from Rs. 84 per £ to Rs. 86 per £.*

[#] Total amount budgeted for and submitted to RSG = Rs. 4,20,000 (£ 5,000 @ Rs. 84 per £)

Total money received from RSG on 30 Dec 2005 = Rs. 4,30,300 (£ 5,000 @ Rs. 86 per £)

Total money accrued as interest @ 3.5% per annum over Jan 2006-Feb 2009 = Rs. 22,857 (£ 266 @ Rs. 86 per £ as of Jan 2006, or £ 314 @ Rs. 72.72 per £ as of Feb 2009)

Therefore, total money available in the project as of Feb 2009 = Rs. 4,53,157 (£ 5266 @ Rs. 86 per £, or £ 6232 @ Rs. 72.72 per £ as of Feb 2009)

Total money spent in the project as of Feb 2009 = Rs. 4,54,227 (£ 5278 @ Rs. 86 per £ as of Jan 2006, or £ 6246 @ Rs. 72.72 per £ as of Feb 2009)

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

The important next steps are: -

1. Bring out a full technical report listing out the results of the survey and publish the same in a scientific paper.
2. Conduct an education and awareness programme to disseminate the survey results to the larger public and to encourage steps for urial conservation among locals.
3. Discuss with the wildlife department issues related to urial conservation (as laid out in the survey result), identify areas that need more protection, steps to encourage people participation and prevention of poaching.
4. Carry out intensive surveys in some areas where there are doubts regarding occurrence and distribution of Ladakh urial
5. Carry out a long-term monitoring programme for the Ladakh urial to record the population trend (increasing/ decreasing) and population structure (to ascertain the health and reproductive status of population)
6. Simultaneously carry out studies on urial ecology in areas of good, average, and poor urial abundance in order to understand the factors affecting the population. This also needs to be done in 2-3 representative habitats to understand the role of habitat in urial occurrence and distribution.

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?

I have not yet produced any material in relation to the project but will be doing do shortly. I plan to use the RSG logo in the report to be published soon, on the report on my NGOs website, and on all education and awareness materials (including audio) to be produced in the future as a corollary to this study.

RSG received lot of publicity during my work, especially among the local wildlife and forest departments, animal husbandry department, local NGOs, local people as well as with other NGOs in the country working in the field of wildlife conservation. Everyone wished to know who had funded the project and how I was able to manage to finish the same despite my pregnancy and birth of my child. RSGs support and encouragement of my project, despite the prolonged delay, was especially appreciated by fellow researchers and colleagues who did not expect such consideration from an international donor.

11. Any other comments?

This project was very important for the species, the Ladakh urial, as it is the only endemic large animal in the region and this is one of the few studies ever conducted on this endangered species. Also, considering the changing socio-economic situation and reports of poaching, it was imperative to know the current status of the population. This has been acknowledged by most agencies working in the area as well as international conservation experts working on mountain ecosystems.

I would like to thank RSG and the entire team, especially Josh Cole, for making it possible for me to carry out this study. RSGs patience (agreeing to the delay in the project due to the unforeseen circumstance of my pregnancy, and also the initial delay due to bad weather in my field area) and encouragement is indeed, unprecedented and I could never have managed to finish the project so successfully without their support. I sincerely hope to continue working in the near future with your team.