

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	Usham S. Singh
Project title	Developing solutions for leopard-human conflict in Karnataka
RSG reference	32.04.08
Reporting period	12 months
Amount of grant	£6000
Your email address	usham@wildlifesos.org
Date of this report	04.02.2010

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
Current status and distribution of leopards in Karnataka		Partially achieved		Project was initially designed for the whole state of Karnataka. Due to the large geographical area of the study area and the limited budget and time, the study was conducted in the eight districts of the Central Karnataka: Bellary, Koppal, Uttar Kannada, Chittadurga, Gadag, Haveri, Dharward and Shimogha.
Investigation of leopard-human conflict in Karnataka		Partially achieved		Due to the same stated reason, the study was focused in the eight districts of the Central Karnataka. The study was successfully completed in the said study areas.
Capacity building programme for local communities		Partially achieved		The high leopard-human conflict areas were identified, and education programmes were held for the local communities to strengthen their knowledge about the leopards, defending their livestock and the compensation scheme of the Government. The programme was also conducted to educate the students in the schools. However, it was conducted in the eight districts of Central Karnataka only.
GIS mapping of the distribution pattern of leopard and habitat use		Partially achieved		GIS map is prepared for the distributional ranges of leopards, high conflict and low conflict areas. It was successfully done in the eight districts of the Central Karnataka.

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

Obtaining the official letter from the Principal Chief Conservator of Forest (PCCF) of Karnataka for conducting the study took longer time than expected; taking 3 more months since the grant was received. The project finally got started during October 2008. We came to encounter some of the unexpected obstacles from the lower forest officers while conducting the study, not cooperating and reluctant to share the existing data of the forest department. Nonetheless, we tried to gather maximum information and we met many officers who were also co-operative. During one of the field trips in the Western Ghats, the vehicle got punctured in the evening hours. It was in the middle of the mountains and raining heavily. It took hours to fix the vehicle and reach the township.

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

Identification of the critical areas for conserving leopards

We managed to gather information about the distribution of leopards and identify some critical habitats for their conservation in the Koppal district, based on the high frequency of leopard attacks on livestock, frequent sightings of leopards and good habitats. The area was quite large with a long stretch of Rocky Mountains, scrubby vegetation, presence of numerous caves, good prey base, and low human density for the leopards to adapt well. The main disturbance was the mushrooming mining and quarrying; however, the effort has been made legally to stop the mining activities. Leopards are known to use the habitats, especially the caves for successful conservation of foods. This area spreads over approximately 300 sq km. near the Daroji Bear Sanctuary and it serves as the optimal area for conservation of the leopards and its habitats.

Difference in the leopard-human conflict cases, leopard mortality in different forest areas

The scrub forested area in the parts of Bellary, Koppal, Chittadurga has high conflict cases indicating the presence of healthy population of leopards. However, the surrounding areas have less protected area (PA) networks and do not receive due conservation attention mainly due to the lack of mature forest. Even though the area has no good forest cover, it supports some of the endangered species like leopards, sloth bears, wolves and hyaenas. Whereas the records of leopard-human conflict in the forest of Western Ghats with good forest canopy show less frequency of livestock attacks. It may be the result having a good prey base or there is a possibility of low density of leopards.

Despite the high attacks on livestock by the leopards in scrub forest of Deccan areas, we found no cases of poisoning of leopards and only one case of retaliatory attack by humans when a leopard attacked them. Leopards were found to successfully conserving its kills inside the cave thereby giving no time for poisoning the carcasses or snatching back the killed animals by the owners. However, the coastal forest in Karwar in Uttar Kannada district witnessed two suspected cases of poisoning. There was high conflict in the area and the majority of the locals gave the opinion that they wanted to eliminate the leopards. The two leopards died near a temple located in the forest.

Use of livestock guarding dogs as the traditional technique for protecting livestock

One of the most important findings from the study is the use of livestock guarding dogs by the shepherd community. Majority of the people who graze livestock in the forest areas of Koppal and Bellary districts belong to the locals leading the gypsy lifestyle. Their main profession is livestock grazing by using livestock guarding dogs. While they cover different places during the day to feed the animals, they congregate into small groups during the night making it easy for the guarding dogs to chase away leopards. These dogs available in the northern part of Karnataka are not only wise but also extremely ferocious when in pack. They can manage to identify any new individual mixed into the flock of hundreds of sheep and goats. While conducting education programmes in different parts of the study areas, we also encouraged people to keep livestock guarding dogs.

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

We appointed two local persons for assisting the project. They were given proper and adequate training. Their involvement and expertise gained from the project has helped one of them to successfully find a job in another project of the forest department for documenting mega-fauna in the Deccan areas through camera trapping.

We could organise around 10 education programmes mainly targeting the local people. We showed them power-point presentations mainly showing the simple way on how to defend themselves and their livestock. It gave them the interest for conserving the wildlife and they started sharing their knowledge about the wildlife. We also organised school programme and showed the presentation. We were invited to deliver a talk on the event of ‘Scientists-students meet’ organized by the Bellary district Sub-Regional Science Centre and Karnataka Rajya Vijnan Parishath at Basava Bhavana, Bellary, with the help of scientists from ISRO-Bangalore, BARC Trombay to promote basic sciences. More than 100 teachers and 500 students from various schools and colleges of Bellary district, Karnataka participated in the two days event held from 4th to 5th January 2010. The talk titled “Leopard-human conflict in three bio-geographic sites: Semi-arid region of Gir Lion Sanctuary; Deccan region of Central Karnataka and Western Himalayas of Kashmir” mainly highlighted the difference on the reasons of area wise conflicts and hence the need and application of different management strategies in these three different areas.

5. Are there any plans to continue this work?

Yes, I am planning to focus and understand the leopard-human conflict in other remaining parts of Karnataka.

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

I have already shared the findings of my work with other peoples, especially, when I was conducting the education programme for the locals in the villages and students in schools. I had presented the findings in the seminars and conferences in both the national and international level. I had provided the information to the forest department for the necessary actions to be taken for conserving leopards.

I do also plan to share the findings and results with other Indian scientists working in other geographical areas of India to conserve leopards. After the end of the study, I would present the findings in any of the upcoming seminars and share the knowledge with other scientists.

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

The project was expected to complete in 12 months; however, it took 15 months. While working out for a convenient date and negotiating the official channels for the workshop on “Leopard-human conflict management” that was organised for the Forest Department, it took us more time. The workshop was attended by more than 50 forest officials from different districts of Karnataka and it was finally organised in the first week of January 2010.

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
Salary for 1 researcher	£1800	£2100	£ 300	Salary was paid for two more months due to the delay in organising workshop.

Salary for 2 Field Assistants	£960	£1120	£ 160	Same as above
Satellite imagery	£200	£200		
Travel expenses	£1,460	£ 1700	£ 240	Some of the surveyed areas in the parts of Western Ghats were topographically mountainous costing more expenses. Besides, many settlements in the protected areas were located deep inside the forest with no good road network costing more fuels.
Education awareness camps	£800	£800		
A computer		£ 190		A computer was bought primarily for data entry and analysis and storing the soft copy.
Consumables	£200	£ 200		
Publicity material (Banners, posters)	£200	£ 200		
Freight	£100	£100		
Administration Const-communication, stationary, banking, etc.	@ 15 %			
Total	£ 5720 (The total budgeted amount = £ 6000)	£ 6610		The total funds budgeted was £ 6000 and this include the admin. Cost also. The excess amount of the actual cost was supported by the organisation WSOS.

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

As the result of this study, I would recommend that immediate action should be taken to conserve some critical habitats in the Gangavathi and Koppal taluks of the Koppal districts. We should also take up steps to expand similar studies in the remaining areas of Karnataka.

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?

The banners which were designed for education programme in the villages, schools and the forest department have RSGF logo. Due credit to RSGF was given to all the presentations showed in the local, national and international levels. A comparative detail study on the leopard-human conflict in three geographical areas of Gir Lion Sanctuary in semi-arid regions of Gujarat, Deccan areas of the Central Karnataka and the Western Himalayas of Kashmir has been presented one each in national and International Conferences. The first seminar was the “National Seminar on Biodiversity Conservation in Protected Areas: Opportunities and Challenges” organised by Zoology Department, Christ University, Bangalore, 2009. India. I presented the talk titled “Comparison on human-leopard conflict in three bio-geographic sites, Gir Lion Sanctuary, Gujarat: Forested areas of Kashmir, Jammu and Kashmir and Sanapur Reserve Forest, Karnataka”. The other conference was the “International

Conference on Emerging Trends in Environmental Research 2009 (ICETER-09)". I also presented a talk titled "Leopard-human conflict in three bio-geographic sites of India". It was organised by Kerala Research Group and St. Albert College, Kerala 2009.

11. Any other comments?

The detail analysis of the report will be sent soon.