

## The Rufford Small Grants Foundation

### Final Report

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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](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

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Grant Recipient Details	
<b>Your name</b>	Tarsh Thekaekara
<b>Project title</b>	Living with Invasive Species - a bottom up approach to mapping and monitoring <i>Lantana camara</i>
<b>RSG reference</b>	16098-2
<b>Reporting period</b>	May 2016 to June 2016
<b>Amount of grant</b>	£5000
<b>Your email address</b>	<a href="mailto:tarsh@thesholatrust.org">tarsh@thesholatrust.org</a>
<b>Date of this report</b>	20 June 2016

**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
Fine scale map of <i>Lantana</i> spread in the Bandipur Tiger Reserve			X	<i>Lantana</i> in Bandipur was mapped, and was very well received by the forest department.
Creating a documentary on <i>Lantana</i>			X	Over 30 field staff were interviewed, and the results compiled into a documentary about <i>Lantana</i> .

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

There were significant difficulties in walking about 1300 km through forests, but none of them were unforeseen.

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

(a) The fine scale map of the spread of *Lantana* was created for the Bandipur Tiger Reserve. This has never been mapped before, and it was extremely well received by the Karnataka Forest Department. An 'indicator' for this is perhaps that we have had the forest department email and chase us to submit the results as soon as we had completed the work. This may not sound like much, but I believe it is quite significant in the Indian context; researchers always push to have their findings incorporated into management plans, but I think this is one of the few studies where the forest department had pushed us to complete the analysis and submit our final report.

Based on these results along with the previous mapping results from the Mudumalai Tiger Reserve, the neighbouring Tiger Reserve of Sathyamangalam requested us to also undertake the same mapping exercise there. This was also successfully completed, with financial support from WWF-India. A map of the *Lantana* infestation across the three Reserves (Mudumalai, Bandipur and Sathyamangalam) is attached.

(b) From our mapping work across the landscape, we have for the first time, an estimation of the area that has been taken over by *Lantana*. About 30% of these

three reserves, or about 1000 sq km, is taken over by *Lantana* and only about 15% is completely *Lantana*-free. Currently the management effort is to manually cut and uproot the plant in patches, at a cost of at least 25,000 rupees (263 pounds) per ha, 25 Lakh rupees (26,300 pounds) per sq km, or 2.5 billion rupees (over 26 Million pounds) for just these three reserves. Or if we continue spending about 50 Lakhs per reserve per year like we are now doing, it will take 160 years to clear the just badly affected areas. So this is clearly not working, and we need to think of some other ways of dealing with *Lantana*.

(c) The Documentary film on the effect *Lantana* is having on forests has also been completed, and is now being reviewed by the Karnataka Forest Department. Over 30 forest department field staff were interviewed about their views on *Lantana*, with the same 10 open ended questions. A shorter documentary on what we are doing about *Lantana* was also compiled, and is being circulated.

The documentaries are not yet open to the public, but can be viewed by clicking on the links:

<https://youtu.be/OBDLGtypcpM> - A 10 minute video based on interviews with field staff highlighting the impact *Lantana* is having on South Indian Forests.

<https://youtu.be/OwKjQOmPvfE> - A shorter 4 minute video that describes the work The Shola Trust is doing around *Lantana*.

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

While much of our work around *Lantana* does involve local communities, this particular project did not directly involve local communities. However, the majority of the 30 field staff interviewed in our video are from local indigenous groups. This is perhaps the first time their views and opinions are going to be passed on directly to head of the forest department and to the general public, where the narrative is not dominated by outside 'experts'.

#### **5. Are there any plans to continue this work?**

Yes. There are three major strands that I would like to continue with.

(a) To continue with the mapping in the Wayanad Wildlife Sanctuary, so that the *Lantana* infestation is documented at the landscape level, across a significant gradient of rainfall, elevation, slope, temperature, forest type etc.

- (b) Once this landscape level mapping is complete, I hope to run a multivariate analysis across a range of variables like rainfall, elevation, soil type, canopy cover, proximity to roads/streams etc to find out what exactly is driving the spread of *Lantana*. This is relevant so that management interventions can be targeted in particular areas to prevent the further spread of the plant.
- (c) We are convinced that the best way to deal with the plant is to get local communities to all find a use/need for the plant. The removal will then be economically self sustaining, and will not need to external funding. We are experimenting with furniture, briquettes, etc. to see if local communities can remove the plant at a scale where it makes a difference. This work will continue.

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

The majority of the work is described in the films, and this will be used to share the results through social media and on a range of environmental platforms/groups.

A paper is also being compiled (for an open access journal), that describes the mapping methodology in the hope that it will be adopted by the Government/Forest Department to carry out an ongoing mapping exercise.

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

The RSG period and project timescale matched reasonably well – they were both planned over a year, and that is more or less the time it took. The mapping activities were completed a little earlier, but then a new mapping exercise was undertaken in the neighbouring reserve - Sathyamangalam.

#### **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.**

<b>Item</b>	<b>Budgeted Amount</b>	<b>Actual Amount</b>	<b>Difference</b>	<b>Comments</b>
Part time remuneration for project lead for 12 months	967	967	0	
Stipend to volunteers during field work (@ £120 per range)	1325 with 525 from RSG	1600, with 525 from RSG	0	Actual amount was higher even in the initial budget, with

				the expectation of this being partly covered by the RSG
Fuel cost (@ £64 per range)	710	950	-240	Since camping was not an option in some parts we ended up travelling more than anticipated.
Vehicle maintenance	818	1200	-382	The jeep hit a big stone and broke the crankcase, costing more to fix than anticipated.
2 GPS units and 1 Camera	322	290	32	GPS costs came down a bit.
Food and other travel and miscellaneous cost (@ £86 per range)	946	910	36	Food ended up being a little cheaper.
Documentary production cost	1612, with 900 from RSG	2400 with 900 from RSG	0	We ended up making two short videos, and the cost went up slightly.
<b>TOTAL</b>	6700 with 5000 from RSG	8317, with 5000 from RSG	-1617	This project was a part of ongoing work around lantana, so additional funds were used from The Shola Trust.

Local exchange rate at the start of project was INR95/1GBP.

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

(a) Steps towards the mapping of Lantana in Wayanad Wildlife Sanctuary is already underway – we have had preliminary discussion with the Kerala Forest Department, and even conducted a training for some of their field staff.

(b) Discussions with academics/modelling experts to collaborate on a paper in a peer reviewed journal are also underway.



**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 RSGF logo was used in the acknowledgements of the videos, and this will receive considerable publicity in India when the video is shared publicly.

Results of this work were presented in poster competitions at the University of Cambridge, UK and the Open University, UK, where the poster won the 3<sup>rd</sup> and 2<sup>nd</sup> prize respectively. Support from the RSGF was acknowledged in both posters.