

## 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. 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](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

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Grant Recipient Details	
<b>Your name</b>	Signe Mikulane
<b>Project title</b>	The risks of degradation in tropical forest ecosystems – modelling ecological vulnerability to support conservation in São Tomé
<b>RSG reference</b>	12298-1
<b>Reporting period</b>	February – April 2013
<b>Amount of grant</b>	£4,535
<b>Your email address</b>	<a href="mailto:signe.mikulane@gmail.com">signe.mikulane@gmail.com</a>
<b>Date of this report</b>	Mai 2013

**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
GPS-based ground truthing due to the verification and improvement of sat data analysis made previously			X	I was able collect a lot of new data and the verification of already analysed satellite data showed that the results of these analyses have a very high accuracy.
Mapping and documentation of degraded areas/forms			X	Degraded areas or areas most exposed to degradation I already knew from 2010 weren't changed a lot. I also saw and mapped new places affected by degradation. For example, the palm oil plantation has been expanded, what caused wide loss of vegetation. Large areas of forests and old vegetation are being replaced with new plants of palm oil trees. Old fields with lower production rate are being abandoned by the local population and new ones on the steeper slopes (!! ) towards national park Obo are being created rapidly because of the lack of knowledge how to use an existing agricultural land efficiently.
Identifying vulnerable areas and forces that are driving forest degradation			X	Additional information about geomorphology, soils, vegetation, precipitation and anthropological activities helped me to identify São Tomé's vulnerable areas and driving forces of degradation. There are naturally vulnerable areas and there are areas that became vulnerable because of human interventions. Areas including both factors are most vulnerable.
Creating degradation map and map of geo-ecological vulnerability		X		These maps aren't still created because I came back recently and need to analyse the new data first. But all necessary data has been collected successfully. I also got one recent optical satellite image with low cloud coverage what I can analyse only at the university because of the particular software I need for this task. It is a great opportunity to include the latest optical satellite data with best quality I ever got for São Tomé (there are always very high cloud coverage over São Tomé and it's nearly impossible to get useful optical sat data) in those maps and final results of my research.
Training of local practitioners			X	"Direcção Geral do Ambiente" is creating a new department of Geographical Information Systems (GIS). They already got the ArcGIS software from ESRI, but still

		<p>have not enough knowledge to work with that. Therefore, I performed a workshop for the local users and showed how to work with ArcGIS.</p> <p>I also presented sat data analysed by me and explained what can be done with remote sensing and that produced lot of interest. The only problem remained is that there is no software to work with satellite images.</p> <p>For my fieldworks I had two assistants who learned how to work with GPS and I showed how to do ground truthing. I had a field computer with permanent satellite receiving what showed an exact position where I was at the moment and allowed immediate verification of previously analysed sat data. Not only the assistants were highly interested in this, but also the local people I met during my fieldworks found it interesting and I could explain and visually show what I was doing. Additionally, I always mentioned the meaning of conservation and the special biodiversity they have on their island hence bringing this important topic to the surface.</p>
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**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).**

Apart from exaggerated bureaucracy (it is very difficult to organise things there) and the “leve-leve” (local saying for slow and calm) working style of santomean people (it’s nothing like efficient work of Europeans I used to), what I already knew from 2010, it was difficult to do fieldworks during the days of the last weeks when the precipitation was getting more intensive. There was no possibility to go out to the fields and do the work after a rainfall, because of the heaviness of the torrential rainfalls. Even at the next day some forest roads were in very bad shape and I couldn’t use them. Once I had to turn back the car on three different roads because they were too slippery, and I couldn’t control my car anymore. After some bad experience on the field during these very wet days I decided to use those rainy periods better and meet local stakeholders and create new contacts. Fortunately, during my last week in São Tomé arrived the first part of the biologist-educationalist team of California Academy of Sciences who are carrying out biodiversity expeditions for more than ten years on São Tomé and Príncipe. I already knew Bob Drewes, the head of this team, from the emails, but now I had the opportunity to meet him and some other scientists of his team personally. Because there were heavy rains omnipresent almost every day of my last week, I took part of the educational program about biodiversity what they were carrying out at schools and with it I also contributed a little to the education of schoolchildren.

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

Within this project (1) I verified previously analysed and classified satellite data and carried out accuracy assessment of that. I am very satisfied with the results of this ground truthing. (2) I gathered lot of new ground check points and set test areas for new analyses as well as detected degraded areas and forms of degradation that are present on Sao Tomé, what is very important to create vulnerability map. (3) I could contribute to the spreading of this important know-how and topic by talking with the local stakeholders, teachers, schoolchildren and people from the

communities about the importance of the intact nature and biodiversity and through the showing and teaching how to use GIS and satellite images and how the usage of these methods can help to improve conservation on Sao Tomé. Additionally, I established new very important contacts (e.g. Bob Drewes; Henrique Pinto da Costa, a brother of the President of São Tomé) that could be useful for future plans to continue conservation work on São Tomé and Príncipe.

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

Two local people were involved in this project as my field assistants.

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

During my field research I got already three work offers (all linked to the conservation, preservation of nature and biodiversity) for São Tomé and Príncipe. I can imagine continuing to work on Sao Tomé as a post-doc after my PhD.

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

I will write publications for scientific journals and will present my work and results I got during the recent field research funded by RSGF at upcoming conferences and seminars. A summarisation of my results in Portuguese will be presented to the government of São Tomé and to the local stakeholders after the completion of my thesis.

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

I started to use RSG with the booking of flights in October 2012 and the duration of my fieldworks on São Tomé lasted from February till April 2013. My anticipated time scale in proposal was between January and March 2013.

**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
International travelling	1300	1433.32	+133.32	Flights (Frankfurt-Lisbon-Frankfurt / Lisbon-Sao Tomé-Lisbon), airport taxes, visa, travel health insurance and malaria medication
Local travelling	2000	2098.93	+98.93	Car rental (4-wheel drive), car insurance and fuel
Accommodation	550	450	-100	I shared a flat with another researcher, that made the price lower
GPS handheld	200	196.12	-3.88	
Phone credit	50	29.71	-20.29	
Printing	35	28.73	-6.27	

Field assistant	400	400	0	
<b>Total</b>	<b>4535</b>	<b>4636.81</b>	<b>+101,81</b>	

The exchange rate of Santomean dobra (STD) to the euro (EUR) is: 24500STD=1EUR (fixed).

The exchange rate used to convert the euros (EUR) to the pound sterling (GBP) is: 0,809GBP=1EUR.

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

The problem in São Tomé is that the particular ministries and departments are not working together; they don't share the valuable information with each other, and this lack of communication and transparency is often leading to misunderstandings and conflicts. Results of projects carried out by different kinds of scientists are not presented to local authorities and therefore have no lasting effects. There should be some kind of a management that combines results of these studies. Only then all those projects would be useful for São Tomé.

I think that the idea of the new department of GIS is really great because this institution should unite the entire geographical information and should be structured. This would be also the right place where data collected and analyzed by me could be used. With the GIS and sat data this department would be a great source for all kind of geo data, especially if there would be a possibility to use satellite data that could show the newest state of the island. It would be possible to manage biodiversity and nature conservation with high quality and exactness in such case. The technicians could do monitoring of the most vulnerable areas; also, the national park could be observed very precisely. It is very important to educate the technicians very well that they could do the data updates continuously.

I think that campaigns about the biodiversity and conservation should be carried out more often and especially in most remote areas. People are interested; I saw that, when I met them during my field works, they wanted to know what I am doing. Many people don't know how special and how vulnerable at the same time their environment is and how important is to preserve what is remained. They love Sao Tomé and they would be more careful with their island if they would be better informed about the uniqueness of Sao Tomé and about threats and dangers what is causing vulnerable areas and are the most endangering for endemic species of the island. Spreading the know-how about the sustainable land use between local people is important also. That would preserve lot of areas (especially steep ones which are more susceptible to the degradation) from conversion into the agricultural lands.

### 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?

In all publications, posters and presentations about my field studies in São Tomé the RSGF logo is been or will be used (I am preparing presentations for upcoming conferences). I always honourably mentioned RSGF at the meetings with local stakeholders, international scientists or on internet platforms.

### 11. Any other comments?

I would like to express my gratitude to Rufford Small Grants Foundation about the chance to carry out these field works! The data I gathered and new experience I got as well as new contacts I established (who can help me in the future to continue the conservation work on São Tomé) are a huge contribution and important part for my PhD and will help to finish my work at the best.