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	Romina Cecilia Torres
Project title	Conservation and restoration of the mountain forest of Córdoba: developing techniques for the native tree *Maytenus boaria* in Argentina.
RSG reference	12534-1
Reporting period	November 2012 to October 2013
Amount of grant	£6000
Your email address	romy.ce2008@gmail.com
Date of this report	12th November 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
To contribute to the restoration of these forest through research about the establishment and growth of the *M. boaria* tree species			x	Improve production techniques of *M. boaria* in a greenhouse. Pre-germination techniques, natural ways of pest control and transplants. We produced 800 seedlings. We study the regeneration of *M. boaria* in an altitudinal gradient through an experiment of seeding/planting in three vegetation patch types in Córdoba Mountains. We have preliminary results of emergence, survival and growth and we will continue monitoring the next 3 years. We study the growth of adult trees in six altitudinal gradients in two regions of Argentine with contrasting precipitation patterns (Patagonia and central Argentina). In a first step we estimated *M. boaria* cover in 12 altitudinal gradients to determine the superior, optimal and inferior altitudes of their distribution. Then, we collected wood samples from 180 trees in Patagonia region and we are collecting a similar number of samples in Córdoba Mountain. We are processing wood samples to analyse growth rings in the next months. Additionally, we estimated the fruit production and collect seeds in altitudinal gradients of Patagonia region. We are carrying out pre-germinative treatments and we will start controlled experiments of germination and growth of seedlings in the next months.
To carry out a reforestation with native species in a degraded area			x	We planted over 500 seedlings and sowed over 60000 in three degraded sites: two in the National Park Quebrada del Condorito and one site in the Natural Reserve Vaquerías, involving volunteers in the field work. In the last site we previously built a fence to exclude domestic livestock.
To train local volunteers in reforestation techniques			x	Over 60 volunteers were training in reforestation techniques and monitoring. Mostly student, teachers and local people interested in environmental topics. Additionally, some volunteers participate in an experimental study of plant invasion that was carried out in the same sites of our plantation by the PhD Julieta Pollice.

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

Due to the difficulties of take wood samples (hard wood and accessibility of study areas) we need more technical support in the field work and due to a higher cost of this item we change the printing of education material for an education web where we actualised the activities, field work trips, preliminary results and photographs of seeding and planting work (https://www.facebook.com/reforestandomaiten?fref=ts).

Additionally, we print a poster to present the main results obtained in a Regional Congress (IV Regional Congress of Forests and Watershed Conservation), an event that brings together professionals, teachers, NGOs, local people to share conservation and restoration experiences in Córdoba Mountains.

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

(1) We have increased our knowledge about restoration techniques with this specie and we will understand much more at the end of our research. It is a very important item because the last two months has been an increment in the interest of reforestation with native species due to the serious ecological and economic damage of extensive fires; one of them affected 90,000 ha this year. Many people are interested in seed collection, seedling production and reforestation with native species and are contacting us for technical assistance.
(2) The trained volunteers who participate in our plantations are promoting the benefits of native species versus invasive non-native species. It is very important because an intense debate is occurring at the time due to an increase of fire intensity due to pine plantations.
(3) Through the experimental reforestation we contribute with the restoration of two natural reserves: the National Park Quebrada del Condorito and the Natural Reserve Vaquerías, two important reserves that protect water sources, which were benefited with the sowing and planting trees.

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

Local people participated of the different stage of the reforestation project. Mostly of them were introduced in recognition of native plants, observation of ecological succession processes, exotic plant invasion, reforestation techniques and monitoring. With RSG we pay for their travelling expenses and some food. We carried out four conferences to tell people our experiences in reforestation with *M. boaria* and we present our main results in the IV Regional Congress of Forests and Watershed Conservation.

The plantations at the natural reserves (National Park Quebrada del Condorito and Natural reserve Vaquerías) contributed to the restoration of water sources, due to National Park Quebrada del Condorito protect the upper basin of many rivers that brings water to Córdoba City population (around 2 million people) and Vaquerías Natural Reserve that protect the basin of the Vaquerías stream which provides water to Valle Hermoso population (around 3000 people).

5. Are there any plans to continue this work?

Yes, in the next years we will continue our research about *M. boaria* and we will add new study areas within the range of distribution of the species. In addition, we plan add other tree species to continue the restoration work involving local people.

In a long term we hope to contribute to the restoration of mountain forest, mainly riparian zone to improve the water balance of the river basins and reduce the soil erosion.

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

We shared the preliminary results of the reforestation experiments at the "IV Congreso Regional de Conservación de Bosques y Cuencas Hídricas" (Regional Congress of Forest and Watershed Conservation), the last October in Cuesta Blanca.

We plan to communicate our work with the scientific community through three scientific publications of our research. We will continue sharing our experiences with local community through our education web and conferences.

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

We used the RSG in a period of 12 months.

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.

Local exchange rate: £1 = $arg 7.48. Please find detailed item per item expenditure list in file Torres RC detail expenses 2013.xls, I also have kept all individual receipts which may be requested.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Seedling production expenses and greenhouse maintenance	£300	334.61	-34.61	
Partial payment of food and travel for volunteers	£800	801.43	-1.43	
Replacement of camping equipment	£320	312.29	7.71	
Planting materials	£500	572.55	-72.55	We acquired aluminium to make labels for seedlings
Fence construction and maintenance	£800	802.13	-2.13	
Payment of a technician for design education material	£200	0	200	We change the printing of environmental education material for an education web in order to cover the payment of a technician for field assistance and other

				items
Printing of education materials	£300	14.44	285.56	We change the printing of environmental education material for an education web in order to cover the payment of a technician for field assistance and other items
Germinator and seedling production expenses	£200	267.51	-67.51	We acquired wood bars to prepare wood samples
Research equipment	£1000	959.32	40.68	
Payment of a technician to process wood samples	£200	534.76	-334.76	We expended more money than expected in technician payment because we need field assistance to take wood samples.
Fuel, vehicle maintenance and repairs	£1280	1268.33	11.67	
General expenses (stationary, telephone, photocopies)	£100	134.12	-34.12	
Total	£6000	6001.49		

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

Continue monitoring the reforestation experiment involving local people, at least for the next 3 years, in order to control survival and growth for the different treatments. Sharing the experience with local governmental and NGO in order to promote the reforestation with *M. boaria*.

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?

We used it in conferences and in a poster with the preliminary result of the reforestation that we exposed at the **"**IV Congreso Regional de Conservación de Bosques y Cuencas Hídricas" (IV Regional Congress of Forest and Watershed Conservation). As well we used at the Facebook group "Reforestando con maitén".

11. Any other comments?

We think that RSG were extremely useful for the restoration and research activities. We are grateful for the opportunity to develop a conservation project that involved local people. Many thanks!