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	Renzoandre De la Peña Lavander
Project title	Ecology-based and multi-purpose management of the tropical dry forest in Northern Peru
RSG reference	11102-1
Reporting period	April 2012 – April 2013
Amount of grant	£4811
Your email address	rzdelander@gmail.com
Date of this report	8th April 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 produce a model at economic and ecological level for the seasonally dry tropical forest of northern Peru		X		We could only produce a relevant ecological model that predicts the long-term production of the dry forest of northern Peru. The economic part was not included.
To propose a multi-purpose management model based on the ecological characteristics of the dry forest	X			Since the economic part was not added, we could not propose any management option. Our basic platform projected the total biomass (timber) production and it was designed to receive additional programming to include different management scenarios.
Compare the proposed model with the actual management model	X			The comparison was not possible. First, we need to implement the alternative management option to make the comparison with the current situation.

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

The most unexpected event faced by this project was the presence of heavy rains in all the northern coast of Peru. These rains affected the Panamericana highway and other accesses roads to the points of interest. The main consequence was a big delay in the access to some of our areas of interest. Moreover, some other areas were not visited by the team due to impossible access either for the close vegetation produced by the rains or by damage in the roads. For the unvisited areas we relied on existing bibliography and expert knowledge. There are very few publications available about the seasonally dry forests of northern Peru. Most bibliography in Spanish about this ecosystem is found as 'grey literature' and it is of difficult access. Our team made an exhaustive search in public libraries and expert's private collections.

The socio-economical setting in the region was much more complex of what we thought initially. The recent favourable economic situation in Peru has triggered the appearance of new activities in the members of different communities settle in the dry forest. Again, we found very few reliable studies (only one actually) of the complex and dynamic socio-economical setting of the dry forest.

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

The dry forest is very complex from the ecological point of view. During our fieldwork we found 21 tree species. Due to this significant diversity a simplification of this complex reality was necessary for modelling purposes. In this regard, the first output from our project was the creation of a

classification system that categorises the tree species into different 'dynamic' groups. These groups are based on the biology of the tree species. For example, all fast-growing tree species are contained in the same group. We created four groups with two categories each.

The creation of a predictive model that accounts from the natural dynamics of this ecosystem. This model predicts the biomass (wood) production of the dry forest under certain climatic conditions which includes the cyclic occurrence of El Niño. This is a null model and therefore no extraction scenario was implemented. The production is calculated in a hypothetical scenario of no human intervention. The simple platform (NetLogo) on which the model was created, allows the possibility to program different management scenarios that could be tested before being implemented. We mainly focused on the creation of the null model and therefore no other management scenario, not even the current situation, was programmed.

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

From the beginning local communities were involved in the project. Members of the different communities visited by the team were participated in the field measurements. They were also our guides through the forest.

We planned explanatory meetings explaining with key members of the communities, namely community president, president of the women's organisation and other relevant figures in the community.

There will be a test phase to validate the robustness of the model and local people will be asked to give their opinion about the prediction power of the model.

5. Are there any plans to continue this work?

The main objective of producing an alternative option to manage the dry forest and compare it to the actual situation was not achieved. We could only achieve the creation of the production model based on the natural dynamics of the ecosystem, but no economic model was added. There are future plans to complete our ecological part with an economic model that acknowledges the impact of the current use of the dry forest. From that point, alternative management options would be proposed using the models as testing platform.

It is very important to have solid basis in which the management option could rely, and that is our predictive production model.

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

When the ecological model is completed (hopefully by August of 2013) a short informative document will be presented to the communities involved in the project. Also, we will give them a copy of the model and instructions for usage. The document will be available in Spanish and English. The Peruvian Ministry of Environment and the natural resources management office of the regional government of Piura-region will also receive a copy of the model with the instructions for usage. A copy of the document in English will be send to the RSG Foundation, as well.

The model will be freely available on the internet hosted in the webpage of the Ecosystem Modelling Institute of University of Göttingen.

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 exclusively during the field phase of the project. The field work was conducted between mid-April and mid-June 2012. This was according to the initial plan. Only the number of areas visited was reduced in comparison to our initial goal. This was due to the heavy rains that occurred last year in the northern coast of Peru. Bibliography search in public libraries and some visits to experts were conducted at the beginning of April. The expenses derived from these activities (very few) were covered by the team members.

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
Flight Tickets Germany – Peru (round trip)	1000	987.13	12.87	
Haglöf Vertex IV with Transponder T3	1569	1569	0	
Mirror Crown Densitometer	435	0	435	This instrument was borrowed from the CDC-UNALM. There was no need to purchase this item
Steiner Binocular Sky Hawk Pro 10 x 42	332	0	332	This instrument was borrowed from the CDC-UNALM. There was no need to purchase this item.
Spiegel-Relaskop (Bitterlich)	0	1524	- 1524	Initially, this item was not included. We couldn't borrow it from the CDC-UNALM as planned. Therefore, we had to buy one.
Transportation inside Peru	350	227.25	122.75	Due to the rains we limited the number of trips.
Lodging	450	126.32	323.68	Members of the visited communities arranged free lodging for our team. This contributed to an important save on budget.
Food	675	303.16	371.84	Food for the team was freely provided by community members.
Total	4811	4736.86	74.14	

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

Right now, the ecological model is a little slow and needs much computational power to run. The immediate step is to clean the programmed code to achieve more speed. When the model is able to run in any desktop computer a validation phase will start. This validation will include expert's opinions and the opinion from local communities. We expect to complete it by July or August 2013. Then we will prepare a short document explaining the model.

Finally, we would like to host the model in the webpage of the Ecosystem Modelling Institute of University of Göttingen to facilitate public access.

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?

Not yet, but the documents that we will share with the communities and the Peruvian government will carry the RSGF logo. Also, if developed, the RSGF logo will appear in the online version of the model.

11. Any other comments?

I would like to thank the Rufford Small Grants Foundations for its valuable support in this project. We know that there is still much to do, and we will continue working to complete this important tool (model) for the correct management and conservation of the Peruvian dry forest.